

THE TOXIC TRUTH

ABOUT A COMPANY
CALLED TRAFIGURA,
A SHIP CALLED
THE PROBO KOALA,
AND THE DUMPING
OF TOXIC WASTE IN
CÔTE D'IVOIRE

GREENPEACE

AMNESTY
INTERNATIONAL



THE TOXIC TRUTH

**ABOUT A COMPANY CALLED TRAFIGURA, A SHIP CALLED THE PROBO KOALA,
AND THE DUMPING OF TOXIC WASTE IN CÔTE D'IVOIRE**

This is a story of corporate crime, human rights abuse and governments' failure to protect people and the environment. It is a story that exposes how systems for enforcing international law have failed to keep up with companies that operate trans-nationally, and how one company has been able to take full advantage of legal uncertainties and jurisdictional loopholes, with devastating consequences.

For the people at the centre of the story – the people of Abidjan in Côte d'Ivoire – it starts with horror and ends in tragedy. It began on 20 August 2006 when they woke up to find that foul-smelling, toxic waste had been dumped in numerous places around their city.

Tens of thousands of people suffered from nausea, headaches, breathing difficulties, stinging eyes and burning skin. They did not know what was happening; they were terrified. Health centres and hospitals were soon overwhelmed. International agencies were drafted in to help overstretched local medical staff. More than 100,000 people were treated, according to official records, but it is likely that the number affected was higher as records are incomplete. The authorities reported that between 15 and 17 people died.

With medical treatment and time, the symptoms abated, but for many the fear remains. Six years on, they still do not know what was in the waste. It had been illegally exported from Europe, illegally brought into Abidjan, and illegally dumped there. Numerous laws – both national and international – had been ignored.

A three-year investigation by Amnesty International and Greenpeace has uncovered the central reason for the tragedy that unfolded in Abidjan: in the absence of effective law enforcement, one company acted to secure corporate profit without regard for the human and environmental costs. That company was Trafigura.

Trafigura made the toxic waste on board the *Probo Koala*. Trafigura knew the waste would be dangerous and require careful treatment and disposal, but it refused to pay for proper disposal when this option was offered in the Netherlands. Trafigura knew – or should have known – that the waste should not be shipped out of Europe and that the company it handed the waste over to was incapable of dealing with it properly. Trafigura knew the waste was to be disposed of in a city dump. And Trafigura gave false or misleading information about the waste to the state authorities and waste-processing companies in several countries.

Although Trafigura was convicted in a Dutch court of illegally exporting the waste from the Netherlands, the company was given immunity from prosecution in Côte d'Ivoire. Trafigura claims the dumping and its aftermath were not its fault.

The investigation undertaken by Amnesty International and Greenpeace concludes that Trafigura's claim lacks credibility. The investigation also establishes that many governments contributed to the tragedy by failing to uphold international human rights and environmental law and the law of the sea. They continue to fail to take adequate measures to prevent such corporate crimes in future, to redress the suffering of the victims, or to hold the perpetrators to account.

Such failures entrench impunity for corporate crimes. Although Côte d'Ivoire responded quickly to the crisis, the then government gave Trafigura sweeping legal immunity from prosecution in exchange for a financial settlement. The Netherlands – the country in the best position to act to ensure that Trafigura's waste was dealt with properly – failed to act lawfully and contributed to the violation of the right to health of the people of Abidjan. Trafigura Ltd., a company based in the UK that directed the operations on board the *Probo Koala* at several critical points, has never been investigated or prosecuted by the UK authorities.

Just as the *Probo Koala* sailed around the seas of Europe and West Africa with its toxic cargo, Trafigura has sailed around the law, evading international law and exploiting jurisdictional uncertainties.

The nightmare inflicted on the people of Abidjan still haunts many people today. The persistent failures – to hold the company fully to account, to disclose information and to ensure compensation reaches all those who are entitled to it – mean that the toxic waste dumping at Abidjan is not only a crime committed back in 2006 but an ongoing travesty of justice today.

CÔTE D'IVOIRE TOXIC WASTE REPORT

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HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
 IF FOUND CONTACT THE NEAREST POLICE OR PUBLIC
 AUTHORITY OF THE U.S. ENVIRONMENTAL PROTECTION
 AGENCY DEPARTMENT OF TOXIC SUBSTANCES CONTROL

STATE

IF FOUND CONTACT THE NEAREST POLICE OR PUBLIC AUTHORITY OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY DEPARTMENT OF TOXIC SUBSTANCES CONTROL

GENERATOR'S COLLECTION

CITY _____
 EPA ID NO. _____
 MANUFACTURER'S NO. _____
 WASTE NO. _____

CONTENTS COMPOSITION
 UNICAL STATE _____
 SOLID LIQUID

HAZARDOUS PROPERTY
 CORROSIVE FLAMMABLE TOXIC

STA. _____ PHONE _____ ZIP _____
 ACCUMULATION START DATE _____

FLAMMABLE TOXIC
 OTHER _____

DO NOT OPEN UNLESS YOU ARE WEARING PROTECTIVE GEAR
HANDLE WITH CARE!
 CONTAINS HAZARDOUS OR TOXIC WASTES

ILLEGAL TRAFFICKING IN HAZARDOUS WASTE

[A]NY TRANSBOUNDARY MOVEMENT OF HAZARDOUS WASTES OR OTHER WASTES:

- (a) without notification pursuant to the provisions of this Convention to all States concerned; or
- (b) without the consent pursuant to the provisions of this Convention of a State concerned; or
- (c) with consent obtained from States concerned through falsification, misrepresentation or fraud; or
- (d) that does not conform in a material way with the documents; or
- (e) that results in deliberate disposal (e.g. dumping) of hazardous wastes or other wastes in contravention of this Convention and of general principles of international law,

SHALL BE DEEMED TO BE ILLEGAL TRAFFIC.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal



THE HUMAN RIGHT TO HEALTH

States must ensure

**THE PREVENTION AND REDUCTION OF THE POPULATION'S EXPOSURE TO
HARMFUL SUBSTANCES SUCH AS ... HARMFUL CHEMICALS OR OTHER
DETRIMENTAL ENVIRONMENTAL CONDITIONS THAT DIRECTLY OR INDIRECTLY
IMPACT UPON HUMAN HEALTH.**

UN Committee on Economic, Social and Cultural Rights

KEY FACTS OF THE CASE

SUMMARY OF THE KEY FACTS OF THE CASE

In late 2005, a multinational trading company called Trafigura decided to buy large amounts of an unrefined gasoline called coker naphtha. Trafigura intended to use the coker naphtha as a cheap blendstock for fuels, but first needed to find a way of refining it. This was done through an industrial process called caustic washing, initially carried out on land, but later at sea, on board a ship named *Probo Koala*.

Internal Trafigura email communications which came to light during court proceedings in the UK in 2009 confirm that the company was aware before starting the caustic washing process that the resulting waste would be hazardous and difficult to dispose of. In June 2006, after several unsuccessful attempts to dispose of the waste, Trafigura contacted a Dutch company, Amsterdam Port Services (APS), and arranged to deliver the waste in Amsterdam. The *Probo Koala* arrived in Amsterdam on 2 July 2006, and APS began to unload the waste on to one of its barges. However, a terrible stench emanating from the waste led APS to test it. They found it was far more contaminated than they had thought, and raised the price for treatment, from €27 per m³ to €1,000 per m³.

Akouédo dump site. This is the location where Trafigura contracted with a small Ivorian company to dispose of large amounts of toxic waste without treatment.

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KEY FACTS OF THE CASE

Trafigura rejected this new quote and asked for the waste to be reloaded on to the *Probo Koala*. After much discussion between the Dutch authorities, this was agreed to, despite the fact that the destination of the waste was unknown.

On 19 August 2006, with the waste still on board, the *Probo Koala* arrived in Abidjan in Côte d'Ivoire. Trafigura proceeded to contract a newly licensed company, called Compagnie Tommy, to dispose of the waste at a local dumpsite. There was no mention, in the handwritten contract with Tommy, of treating the

waste to make it safe. The waste was unloaded into trucks and taken to the dumpsite; however, concerns about the smell led the site to close. Truck drivers then dumped the rest of the waste at approximately 18 different locations around the city of Abidjan.

On 20 August 2006, the population of Abidjan woke up to the appalling effects of the dumping. Tens of thousands of people experienced a range of similar health problems, including headaches, skin irritations and breathing problems. A major medical emergency ensued.

In September 2006 two Trafigura executives, who had arrived in Abidjan following the dumping, were charged with offences relating to breaches of Ivorian public health and environmental laws, as well as poisoning or being accessories to poisoning. Other individuals, including a number of Ivorian port and customs officials, and the head of Compagnie Tommy, were also charged with offences relating to the dumping.

On 13 February 2007 Trafigura and the government of Côte d'Ivoire reached a settlement, under which Trafigura agreed to pay the state of Côte d'Ivoire the sum of CFA95 billion (approximately US\$195 million), and the government waived its right to prosecute or mount an action against the company.

Neither Trafigura nor any of its executives were brought to trial in Côte d'Ivoire. Ultimately, only two individuals were convicted by a court in Abidjan: Salomon Ugborogbo, the head of Compagnie Tommy, and Essoin Kouao, a shipping agent from West African International Business Services (WAIBS).

In June 2008, the Dutch Public Prosecutor brought charges against Trafigura Beheer BV and a number of other parties for the illegal export of the waste from the Netherlands to Africa. On 23 July 2010, the Dutch court handed down a guilty verdict on a number of



KEY FACTS OF THE CASE

counts against Trafigura Beheer BV, a London-based executive of Trafigura Ltd. and the captain of the *Probo Koala*. The guilty verdict against Trafigura Beheer BV was upheld by the Dutch Court of Appeal in December 2011.

The role played by Trafigura in relation to the dumping of toxic waste in Abidjan has never been subject to a full court proceeding.

A large portion of the settlement amount paid to the state of Côte d'Ivoire was supposed to be allocated as compensation to the victims and for clean-up. As of July 2012, clean-up was reported to be complete, but questions remain about the adequacy of the process in some of the affected areas. The status of the compensation fund is unclear, but thousands of people whose health was affected could not access the government compensation scheme.

In 2006, some 30,000 of the victims of the dumping filed a civil case against Trafigura in the United Kingdom (UK). On 23 September 2009, the High Court of England and Wales approved a UK£30 million (US\$45 million) settlement between the parties. However, during the process of distributing this money to the victims in Abidjan, an organization known as the National Coordination of Toxic Waste Victims of Côte d'Ivoire (CNVDT-CI), falsely claiming to represent the claimants in the UK case, gained control of part of the money and approximately 6,000 victims did not receive their compensation.

Côte d'Ivoire was plunged into political turmoil following the November 2010 elections, which led to a political stalemate and to serious human rights violations committed both by security forces loyal to the outgoing President Laurent Gbagbo and those loyal to Alassane Ouattara. All the country's state institutions virtually stopped functioning during that time. The new president, Alassane Ouattara, was sworn in on 21 May 2011. Since then, state institutions have started functioning again.

An investigation into the misappropriation of the UK compensation money was opened in 2011, and in May 2012, Côte d'Ivoire's Minister of African Integration, Adama Bictogo, was removed from his post by the President because of his alleged role in the fraud. The investigation was ongoing at the time of writing.

Despite some action by the states involved to investigate and sanction those who were involved in the dumping of the toxic waste, the victims have not seen justice done. The central actor – Trafigura – has evaded all but a limited Dutch prosecution and the UK civil action. The truth about what happened has never fully come to light. Adequate compensation has not reached all of the victims. The circumstances that allowed more than 100,000 people to experience the horror of getting sick from an unknown toxic waste dumped where they live and work continue to exist.

KEY FACTS OF THE CASE

Chronology

2005

December 2005 Internal emails between senior Trafigura executives discuss the purchase of a large consignment of coker naphtha.

2006

January 2006 Trafigura starts to buy cargoes of coker naphtha.

January 2006 First caustic washing is carried out in the United Arab Emirates, at the premises of the Fujairah Refinery Company Ltd.

January-March 2006 Two caustic washing operations are carried out at La Skhirra, a port in Tunisia, at the premises of a company called TANKMED.

14 March 2006 Gases leak from TANKMED causing breathing difficulties for employees. The waste from caustic washing was implicated.

Mid-April 2006 Tunisian authorities suspend the caustic washing operations at TANKMED.

April-June 2006 Three shipments of coker naphtha are washed on board the *Probo Koala* in different locations in the Mediterranean.

April 2006 Trafigura approaches at least four locations in Europe seeking to offload the waste: Gibraltar, Italy, Malta and France. None are able to take the waste.

19 June 2006 Trafigura contacts Amsterdam Port Services (APS), a company in Amsterdam, to discuss offloading the waste.

Although Trafigura states that it told APS about the nature of the waste, a Dutch court later found that this claim was not credible.

2 July 2006 The *Probo Koala* arrives in Amsterdam and begins to offload the waste on to an APS barge.

3-4 July 2006 The Dutch authorities receive reports of a troubling smell from the dock. APS analyses a sample of the waste. Samples of the waste are also taken by the Dutch police and sent for analysis. The results of APS tests show that the waste has a much higher chemical oxygen demand (COD – one measure of the potential for a material or waste to cause pollution) than anticipated by APS when it agreed to process the waste. It therefore requires more specialized treatment. APS increases its quote for dealing with the waste. Trafigura rejects the quote and requests that the waste be pumped back on board the *Probo Koala*.

5 July 2006 The waste is reloaded on to the *Probo Koala*.

9 July 2006 The *Probo Koala* arrives in Paldiski, Estonia, where it is inspected by Estonian Port State Control. However, nothing is done to prevent the ship and its waste cargo from leaving Estonia.

12 July 2006 In Côte d'Ivoire Compagnie Tommy receives its licence to operate.

30 July 2006 The *Probo Koala* arrives in Togo.

4 August 2006 The *Probo Koala* arrives in Lagos, Nigeria.

10, 15 and 16 August 2006 Several attempts are made to dispose of the waste in Nigeria. All are unsuccessful.

15 August 2006 Trafigura is contacted by the Dutch police, who are trying to track what has happened to the waste. They inform Trafigura that it should be disposed of as chemical waste, and ask to see discharge records.

17 August 2006 Trafigura emails Puma Energy, its Ivorian subsidiary, to inform it of the imminent arrival of the *Probo Koala* and to request that Puma arranges for the waste to be discharged at Abidjan.

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18 August 2006 Shipping agent West African International Business Services (WAIBS) introduces Compagnie Tommy to the head of Trafigura's subsidiary company, Puma Energy. Compagnie Tommy is appointed by Trafigura to discharge the waste in Akouédo, an open-air dumpsite in the city that has no capacity to deal with the waste.

19 August 2006 The *Probo Koala* arrives in Abidjan. The waste is offloaded and dumped at the Akouédo site, as well as across the city, by truck drivers hired by Compagnie Tommy.

20 August 2006 The people of Abidjan wake up to an appalling smell, and thousands experience physical symptoms, including headaches, vomiting, diarrhoea, skin irritations, breathing difficulties and bleeding noses.

22 August 2006 The Ivorian environmental agency, CIAPOL, tries to prevent the departure of the *Probo Koala* so that investigations can take place. They are unsuccessful. The *Probo Koala* leaves Abidjan.

22 August 2006 The Dutch authorities request a discharge report, including an invoice, for the waste. Trafigura executives in London ask Compagnie Tommy to modify its invoice for the disposal job to show a much higher price.

28 August 2006 The Ivorian President sets up an Inter-Ministerial Committee to co-ordinate and manage the emergency response.

15 September 2006 The Ivorian government establishes national and international commissions of inquiry on the toxic waste dumping in Abidjan to identify responsibilities and failings at the national and international level.

17 September 2006 The decontamination process begins. Tredi, a French company, is appointed to undertake the clean-up.

18 September 2006 Claude Dauphin (Trafigura's chairman), Jean-Pierre Valentini (a senior manager of the company) and N'Zi Kablan (the local manager of Puma Energy, Trafigura's subsidiary company in Abidjan) are arrested by Ivorian authorities and subsequently imprisoned by way of pre-trial detention for five months in Abidjan's MACA prison.

26 September 2006 Greenpeace activists blockade the *Probo Koala* at the Estonian port of Paldiski; the Estonian authorities decide to investigate the ship. Greenpeace files a report with the Dutch Public Prosecutor, requesting a criminal investigation into the dumping.

28 September 2006 Claude Dauphin admits during a police interview in Abidjan that Trafigura is responsible for the events in Côte d'Ivoire: "It is the Trafigura Company and, to a certain extent, [Trafigura executive] Monsieur Marrero, who are entirely responsible for these actions."

End of October 2006 The emergency medical response finishes.

10 November 2006 A civil claim is filed by 30,000 Ivorians in the High Court of England and Wales against Trafigura for damages for personal injury.

21 November 2006 The Ivorian National Commission of Enquiry publishes its report.

26 November 2006 The President of Côte d'Ivoire reinstates three officials who had been suspended since 14 September 2006.

2007

31 January 2007 Over 100,000 people are registered as having sought medical consultation between 20 August 2006 and 31 January 2007.

13 February 2007 Trafigura and the state of Côte d'Ivoire reach a settlement. Trafigura agrees to pay CFA95 billion (approximately US\$195 million).¹

KEY FACTS OF THE CASE

14 February 2007 Trafigura executives are released on bail and leave the country.

19 February 2007 The International Commission of Inquiry on the waste dumping publishes its report.

February 2007 Tredi's decontamination work stops, although the clean-up is not yet complete.

24 May 2007 Explosion at a Norwegian facility (Vest Tank) where Trafigura had continued caustic washing processes.

June 2007 The government of Côte d'Ivoire starts to distribute compensation to the victims.

July 2007 Following an audit of the clean-up, a Canadian company, Biogénie, is appointed to undertake follow-up decontamination work.

2008

19 March 2008 The Ivorian court makes a finding of insufficient evidence in relation to the charges against the Trafigura executives and a number of others who have been charged.

April 2008 Trafigura states that the decontamination work is complete.

June 2008 The Dutch Public Prosecutor brings charges against Trafigura Beheer BV, Naeem Ahmed, one of Trafigura Ltd's London-based executives, and Captain Chertov of the *Probo Koala*. Charges are also brought against APS, its director and the Dutch Municipality of Amsterdam.

22 October 2008 Salomon Ugborogbo (the head of Compagnie Tommy) and Essoin Kouao (a WAIBS agent) are sentenced to 20 years and five years in prison respectively by an Ivorian court for their role in the dumping.

2009

May 2009 Trafigura sues the BBC for defamation following the broadcasting of a Newsnight programme on the role played by Trafigura in the toxic waste dumping scandal.

3 September 2009 The UN Special Rapporteur on Toxic Waste and Human Rights publishes a report on the dumping.

September 2009 Following the emergence of new evidence demonstrating that senior managers of Trafigura knew the waste was hazardous before it was dumped in Abidjan, and that they were aware that taking such waste out of Europe was illegal, Greenpeace files a legal complaint in the Netherlands calling for the prosecution of Trafigura for the dumping of the waste.

16 September 2009 The UK civil claim is settled out of court a few weeks before the case is due to go to trial. Trafigura reaches a settlement in which it agrees to pay 30,000 victims the sum of UK£30 million (US\$45 million) but does not admit any liability.

October 2009 In Abidjan, as the UK compensation money is being distributed to claimants in the UK settlement, a group calling itself the National Coordination of Toxic Waste Victims of Côte d'Ivoire (CNVDT-CI) falsely claims to represent them and tries to secure control of the compensation fund.

17 December 2009 The BBC broadcasts an apology to Trafigura following a settlement between the BBC and Trafigura in libel proceedings.

2010

14 May 2010 Greenpeace files a request with the Dutch prosecutor, calling for an investigation into allegations made by several Ivorian truck drivers that they received money from Trafigura in return for making false statements

June 2010 Abidjan Court of Appeal orders the transfer of the UK compensation money to a CNVDT-CI account despite concerns about the credibility of CNVDT-CI's claim to represent the victims.

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23 July 2010 The Dutch court hands down a guilty verdict against Trafigura Beheer BV, a London-based executive of the company, and the captain of the *Probo Koala* at the time of the dumping. Trafigura and the Public Prosecutor appeal the verdict.

2011

14 April 2011 The Court of Appeal in The Hague decides that Trafigura will not be prosecuted in the Netherlands for the dumping of the waste in Côte d'Ivoire.

7 July 2011 The Court of Appeal in The Hague annuls the guilty verdict of 23 July 2010 against Trafigura's London-based executive. The Public Prosecutor appeals this decision.

23 December 2011 The Dutch Court of Appeal upholds the €1 million fine and guilty verdict against Trafigura Beheer BV for failing to disclose the harmful character of the waste and for illegally exporting the waste to Côte d'Ivoire.

2012

30 January 2012 The Dutch Court of Appeal in Amsterdam decides that Claude Dauphin, Trafigura's Chairman, can be prosecuted for illegal export of the waste to Africa. Trafigura appeals this decision.

20 April 2012 The High Court of the Netherlands rejects Trafigura's appeal against the decision of the Dutch public prosecutor to make a technical report on the waste available to UK lawyers acting for victims of the waste dumping.

May 2012 Côte d'Ivoire's Minister of African Integration, Adama Bictogo is sacked by the President over his alleged role in the misappropriation of some of the UK compensation money.

June 2012 The Dutch public prosecutor decides not to start a criminal investigation into allegations of witness tampering brought forward by Greenpeace Netherlands based on testimony of Ivorian truck drivers. The public prosecutor is of the opinion that the Dutch court does not have jurisdiction.

ABOUT TRAFIGURA

Established in 1993 as a private company by Claude Dauphin and Eric de Turckheim, Trafigura is the world's third largest independent oil trader. The company has 81 offices in 54 countries across the world.² It handles every element involved in the sourcing and trading of crude oil, petroleum products, renewable energies, metals, metal ores, coal and concentrates for industrial consumers. Trafigura's clients include BP, ConocoPhillips, ExxonMobil, Total, Shell, Chevron.³ Trafigura Beheer BV (TBBV) is the group holding company, incorporated in the Netherlands. Trafigura Ltd. is based in London and acts as the coordinating entity for a substantial proportion of the group's oil operations, including those relating to the dumping incident in Côte d'Ivoire described here. Puma Energy Côte d'Ivoire is Trafigura's wholly owned subsidiary in Côte d'Ivoire. This report refers to these three interrelated entities, collectively, as the Trafigura Group or Trafigura.

Trafigura operates a fleet of up to 110 vessels travelling at any given time, carrying 6.5 million metric tonnes of liquid and 1.25 million metric tonnes of dry bulk cargo each month.

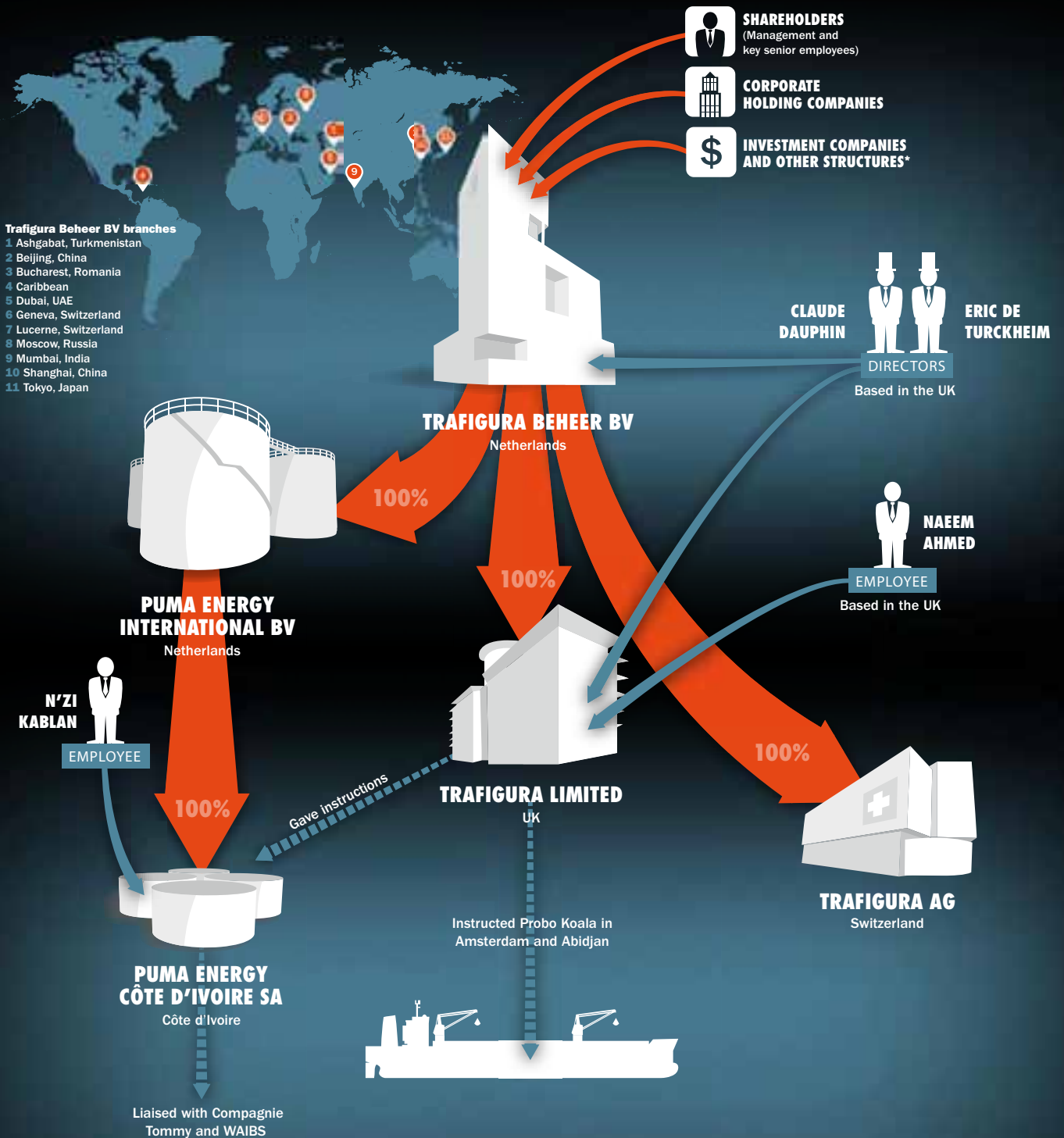
In 2011 Trafigura's turnover was US\$122 billion.⁴

The company traded 110.7 million metric tonnes of oil and petroleum in 2011.⁵

Trafigura's annual turnover dwarfs the gross national product of many states. By way of comparison, in 2006, Trafigura's turnover was US\$45 billion,⁶ while Côte d'Ivoire had a gross national product of approximately US\$18 billion.⁷

TRAFIGURA'S CORPORATE STRUCTURE

Who is behind the toxic waste disaster?



* this is a simplified representation of Trafigura's complex and opaque corporate structure. As of 2006 there are a number of other entities involved which have not been added to this infographic. Trafigura Beheer BV is a subsidiary of Trafrtrade Holding BV, a company registered in Amsterdam. Farringford NV, a company registered in the Dutch Antilles, is the ultimate parent company of Trafigura Beheer BV.

KEY FACTS OF THE CASE

ABOUT CÔTE D'IVOIRE

At the time of the events described in this report, Côte d'Ivoire was emerging from a serious political and military crisis during which widespread human rights violations were committed.

In September 2002, following an armed uprising, the country was divided in two, with the South controlled by the government and the North held by a coalition of armed opposition groups called the Forces Nouvelles. In the following years, both sides committed serious human rights violations, some amounting to war crimes and crimes against humanity, including rape and sexual violence used as a weapon of war.

On 4 March 2007, an agreement was signed by the then President, Laurent Gbagbo, and the Forces Nouvelles. Despite ongoing reports of serious human rights abuses in some areas, the situation in the country was relatively peaceful until 2010. The November 2010 presidential elections led to a political stalemate after outgoing President Laurent Gbagbo refused to recognize the victory of Alassane Ouattara. After months of fighting, where war crimes and crimes against humanity were committed by all sides, Alassane Ouattara was sworn in as President in May 2011 and institutions of government, which had been severely disrupted, began to operate again.

International law on hazardous waste and human rights

The illicit dumping of hazardous waste – often in developing countries – has been recognized in international law as a serious problem both for the environment and for people's human rights. A number of legal instruments are in place at international, regional and national level, which aim to control the movement of dangerous waste. A number of these laws are directly relevant to the events described in this report and are outlined here:

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)⁸

The Basel Convention is an international treaty for the control and regulation of waste material that requires special attention or may pose a hazard to human health or the environment.⁹ At the time of writing, 179 countries are party to, and therefore legally bound by, the treaty. Although the treaty primarily addresses the transboundary movement of hazardous and some defined "other" wastes, it also contains legal obligations to reduce the generation of wastes, recognizing that this is the best way to protect human health and the environment from the effects of such wastes.

The Basel Convention defines wastes as "substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law" (Article 2). The term "disposal" is defined as meaning any operation specified in Annex IV of the Basel Convention; Annex IV includes operations for both final disposal (under Annex IV A) or recycling (under Annex IV B). Consequently, any substance that is intended for final disposal, recovery or reuse destinations is a "waste" under the treaty. In addition to the obligation to reduce the generation of hazardous waste, the Basel Convention creates obligations for the environmentally sound management of any hazardous waste that is generated, in order to protect human health and the environment.

The Basel Convention defines any transboundary movement of hazardous or other wastes as illegal traffic if it is done: without notification to the state to which the waste is to be taken, requesting consent of that state; on the basis of consent obtained through falsification, misrepresentation, or fraud; if it does not conform in a material way with the documentation; or if it results in deliberate improper disposal (such as dumping).¹⁰ The Convention also states that illegal traffic in hazardous wastes or other wastes is criminal.¹¹

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By ratifying the Convention, states accept specific obligations, including: not allowing the export of waste to countries that have prohibited the import of such waste;¹² prohibiting trade in Basel wastes between Parties and non-Parties unless there is a special agreement;¹³ prohibiting the export of waste without prior notification and consent from the state of import;¹⁴ prohibiting the export of waste if there is reason to believe the waste cannot be managed in an environmentally sound manner.¹⁵ An “environmentally sound manner” is defined as “taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment.”¹⁶

The Basel Convention identifies, in annexes to the Convention, certain categories of waste (hazardous and “other” waste) for which movement between states is restricted, and requires the prior informed consent of the recipient state. The Basel Convention makes illegal traffic in hazardous wastes or other wastes a criminal offence, and each state party is obliged to take “appropriate legal, administrative and other measures to implement and enforce the provisions of [the] Convention, including measures to prevent and punish conduct in contravention of the Convention.”¹⁷

International Convention for the Prevention of Pollution from Ships (MARPOL Convention)

The Basel Convention applies to waste and hazardous waste but does not apply to the “wastes which derive from the normal operations of a ship”.¹⁸ These wastes are covered by the 1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL Convention).¹⁹ The purpose of the MARPOL Convention is to stop pollution of the marine environment by oil and other harmful substances. Harmful substances must be discharged to a “reception facility”.²⁰

Toxic waste and human rights

Exposure to hazardous wastes can impact on a range of human rights including the rights to food, water, health and work. This can be due to direct contact with hazardous material or when soil, water, air, or the foodchain are contaminated. In some circumstances exposure to hazardous wastes can lead to a violation of the right to life.

Under international human rights law, states have a duty to protect people from exposure to dangerous substances. It is imperative that states act to ensure that substances that are dangerous to human health, or which would contaminate food or water, are properly regulated and managed. In the absence of such action by a state, people would be unlikely to be able to take precautions as they may be unaware that they are in contact with waste or know what the properties of the waste are.

In the 1980s and 1990s a specific dimension of the issue of dangerous waste material gained prominence: the role of private actors in shipping dangerous waste from developed to developing countries and dumping the waste without ensuring the safety of the environment or population. Several high-profile cases of dumping toxic waste in Africa prompted international condemnation and resulted in the creation of both the Basel and Bamako conventions.

Recognizing the human rights dimensions in 1995, the then UN Commission on Human Rights (now Human Rights Council) appointed an independent expert (known as a Special Rapporteur) with a mandate to examine the issue. The mandate of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights recognized that wastes generated in developed countries were often illegally dumped in developing countries. In 2011 the Human Rights Council expanded the scope of

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the mandate to look at the whole life-cycle of hazardous products, from their manufacture to their final disposal.

The right to health

Article 12.1 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) guarantees “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health...”.²¹ The UN Committee on Economic, Social and Cultural Rights (the Committee), the expert body that monitors the implementation of the Covenant, has clarified that the right to health, as defined in Article 12.1, “is an inclusive right extending not only to timely and appropriate health care but also to the underlying determinants of health, such as access to safe and potable water and adequate sanitation, an adequate supply of safe food, nutrition and housing, healthy occupational and environmental conditions, and access to health-related education and information.”²² The Committee has also stated that the “right to treatment includes the creation of a system of urgent medical care in cases of accidents, epidemics and similar health hazards, and the provision of disaster relief and humanitarian assistance in emergency situations”.²³

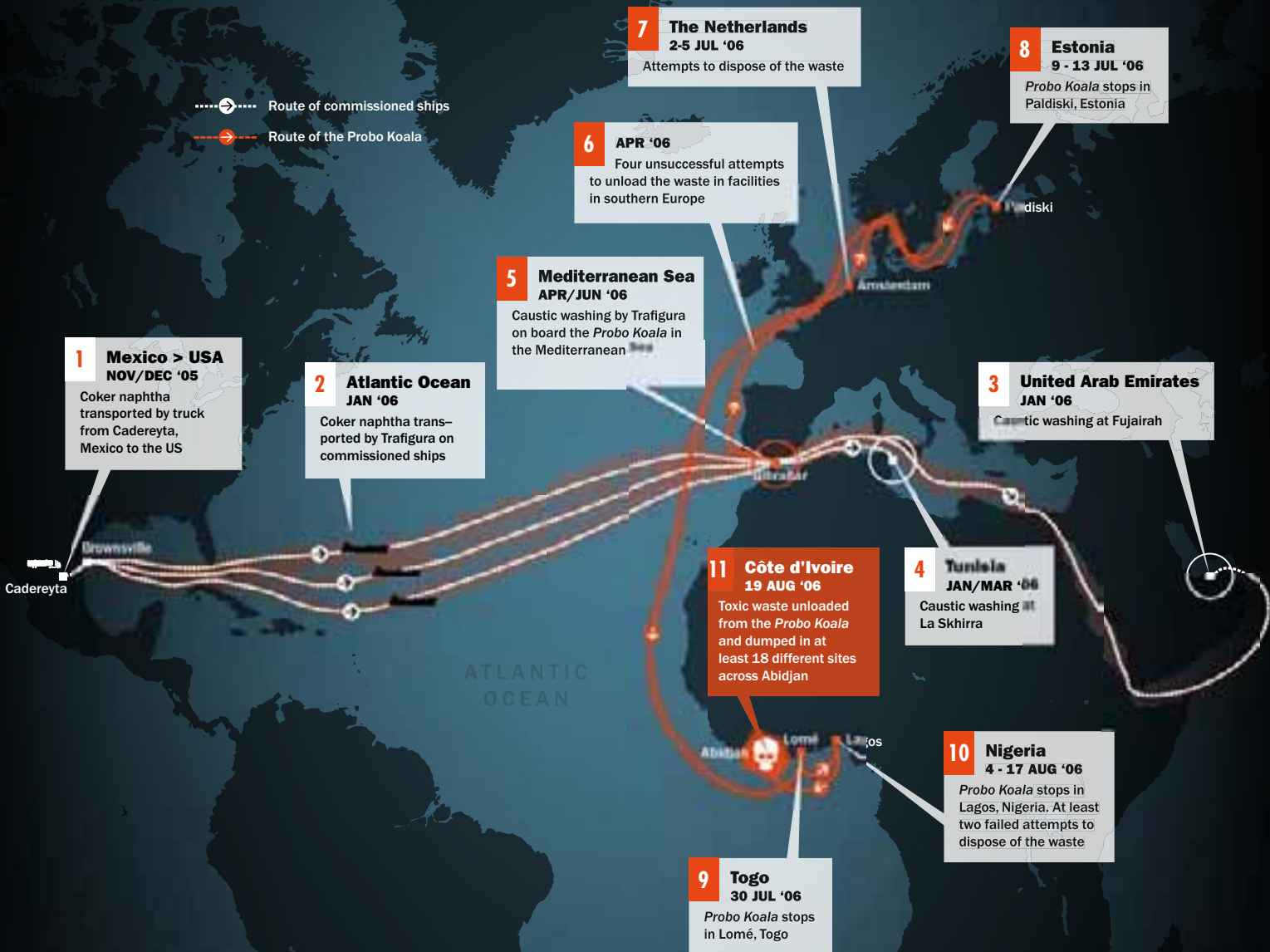
The obligations of states parties to protect the right to health include requirements for “the prevention and reduction of the population’s exposure to harmful substances such as ... harmful chemicals or other detrimental environmental conditions that directly or indirectly impact upon human health.”²⁴ Violations of the obligation to protect the right to health follow from the failure of a state to take all necessary measures to safeguard people from infringements of the right to health by third parties. “This category includes such omissions as the failure to regulate the activities of individuals, groups or corporations so as to prevent them from violating the right to health of others; ... and the failure to enact or enforce laws to prevent the pollution of water, air and soil by extractive and manufacturing industries.”²⁵

The African Charter on Human and Peoples’ Rights also recognizes in Article 24 the right of all peoples to a “general satisfactory environment favourable to their development.” This right is more widely known as the right to a healthy environment.²⁶

KEY FACTS OF THE CASE

THE JOURNEY

Journey of the coker naphtha and toxic waste on board the Probo Koala

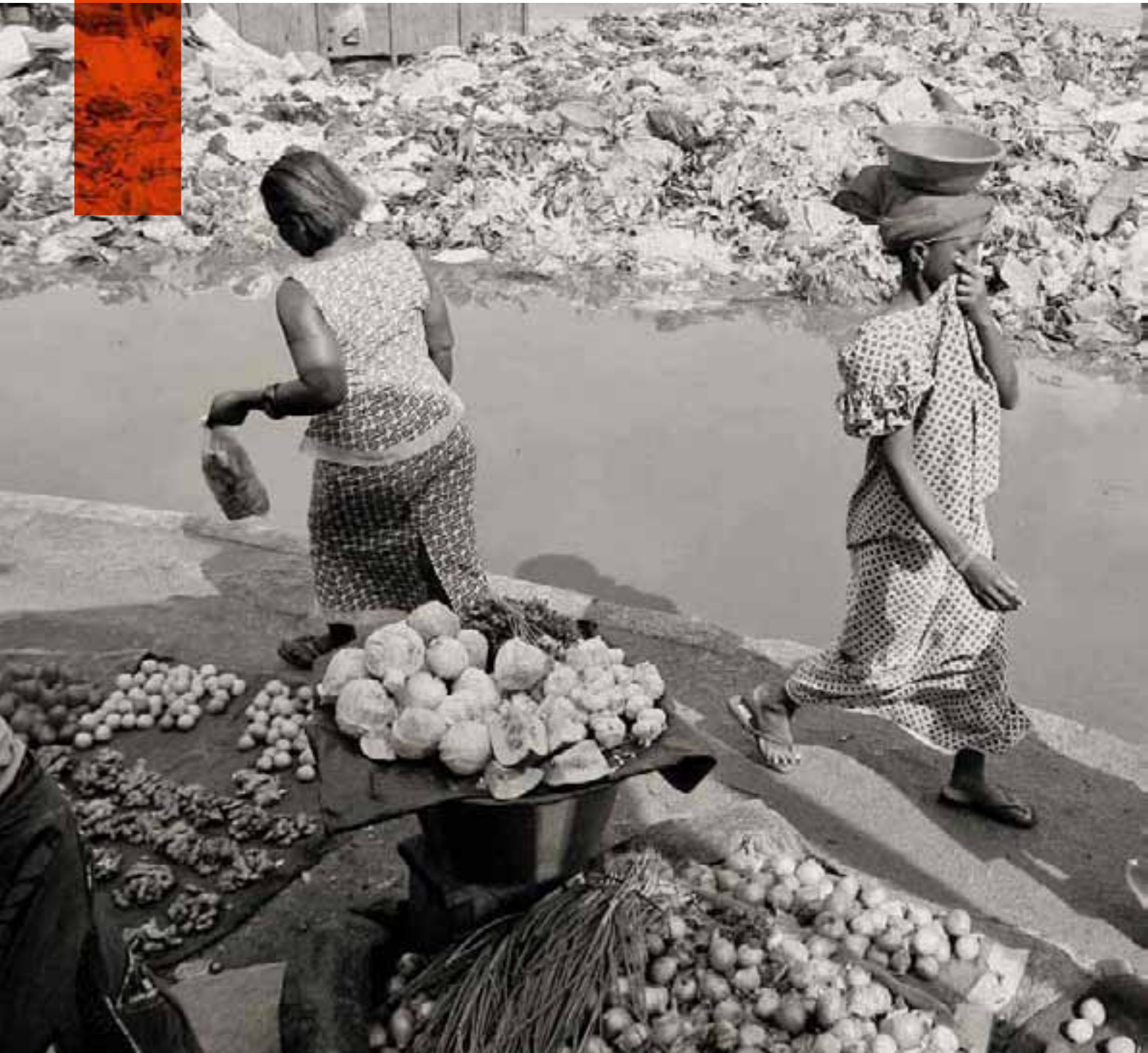


SECTION I

AN UNNATURAL DISASTER

CHAPTER 1

T INTRODUCTION



“ In August 2006, everyone was contaminated, my family, my neighbours. I never want us to have a catastrophe like this one again... The waste was dumped around 8pm. We had breathing problems. First the smell suffocated us and then we couldn't breathe... I had very bad headaches, colds and when I blew my nose, there were blood clots coming out. I had to stop working on 2 September. I was bed-bound for a whole week, and did not go back to work until 11 September. My children had very red eyes, they had a fever, they also had a cold and one of them had diarrhoea. They had a fever for at least two weeks. My family and I suffered from the toxic waste. I told my wife, who was pregnant, to leave the neighbourhood. She had diarrhoea, bloating, palpitations. She left with the children for Yopougon for at least one month. ”

“ The whole neighbourhood fell ill. The most common symptoms were headaches, colds, coughing, chest pains, respiratory problems, itching sensations, pimples, eye problems, vomiting and digestive problems. ”

“ “When you go to a place and you are responsible for a disaster, the least you can do is to visit the victims. No one from Trafigura ever approached me. The government too did not do things properly. I am the leader of a victims' organization and no one has approached me, it is deplorable. This story pains me. At least if you use my testimony, my voice and the voices of the victims I represent will be heard. ”

JÉRÔME AGOUA

President of the toxic waste victims' association of the Abobo-Plaque 1 area²⁷

On 20 August 2006, the people of Abidjan woke up to the appalling effects of a man-made disaster. During the night, toxic waste had been dumped in at least 18 different places around the city, close to houses, workplaces, schools and fields of crops. The city was engulfed in a terrible smell that witnesses have described as thick, suffocating, akin to a mix of rotten eggs, garlic, gas and petroleum.²⁸

While the overpowering smell caused considerable alarm, the associated physical effects triggered widespread panic. Thousands of people experienced nausea, headaches, vomiting, abdominal pains, and irritation of the skin and eyes. In the days and weeks that followed the dumping, medical centres were flooded with tens of thousands of people suffering from similar symptoms.²⁹ By October 2006, more than 107,000 people had been registered by health centres as suffering from the impacts of the waste.³⁰ The Ivorian authorities attributed at least 15 deaths to exposure to the waste.³¹ A number of businesses were unable to operate because of the smell, and many people were unable to work.³²

Although the physical and health effects of the dumping were most clearly recorded in the first few months, some people are reported to have experienced physical effects for a much longer period.³³ Delays and inadequacies in cleaning up the waste and decontaminating sites also led to concerns about the health implications of continued exposure.³⁴ No health monitoring or epidemiological studies have been undertaken to assess the medium- to long-term health impacts of exposure to the waste. Nor has complete information on the exact composition of the waste ever been made public. In the absence of such information, many people remain concerned about the possible impacts on their health.³⁵

The waste that was dumped in Abidjan in August 2006 belonged to an oil trading company called Trafigura. It arrived in the country on board a cargo ship, the *Probo Koala*, chartered by Trafigura. The waste originated in Europe and, under international law, should not have been permitted to arrive in Côte d'Ivoire.

CHAPTER 2



HOW THE WASTE WAS CREATED

In late 2005 Trafigura decided to buy large amounts of unrefined petroleum called coker naphtha from PMI Trading Ltd, which is the commercial arm of Mexico's state-owned petroleum company, PEMEX. Trafigura intended to use the coker naphtha as a cheap blendstock for fuels.³⁶ A series of internal Trafigura emails, disclosed during a UK court action in 2009, revealed that the company expected to make a large profit from the deal:

16:54, 27 December 2005, email from an employee in the London office to several Trafigura executives:

“ [T]his is as cheap as anyone can imagine and should make serious dollar. ”³⁷

23:24, 27 December 2005, email from an employee in London to Trafigura's chairman, Claude Dauphin:

“ FYI- following your lateral thought about cleaning the PMI origin high Mercaptan Sulphur material and paying a disposal company to take the waste away. We will make it happen. PMI showing us more barrels Super Cheap now. Just have to make them more compatible for gasoline blending. ”³⁸

09:30, 28 December 2005, email from an employee in the London office to another Trafigura employee:

“ Claude owns a waste disposal company and wants us to be creative. Graham has worries that it will all turn black. Me and Leon want it cos each cargo should make 7m!! [7 million]. ”³⁹

The coker naphtha offered for sale by PMI contained high levels of mercaptan sulphur;⁴⁰ one of the reasons they were selling it so cheaply was *because* they did not have the capacity to refine it. In order to sell it, Trafigura needed to find a way of refining it.

Company executives had identified two processes by which the coker naphtha could be refined: one called mercaptan oxidation (known as the “Merox process”), and another known as “caustic washing”. Both processes involve mixing caustic soda with the coker naphtha to capture the mercaptans (which creates a waste by-product). The Merox process includes a crucial second step whereby the waste is transformed into stable, and less harmful, disulphides through oxidation. This additional step is normally undertaken in a specialized facility. Trafigura considered establishing a facility to carry out a Merox-style process. One Trafigura executive noted that this option “would not be cheap, but it would work”.⁴¹

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However, for reasons that are not clear, Trafigura decided not to proceed with the Merox process but instead to undertake caustic washing. This is something the company had been considering since at least the end of 2005. An email between Trafigura executives, dated 27 December 2005, stated:

“ We need to list locations that allow caustic washing – if... hadn’t informed us we would [sic] still wouldn’t know about it- as I don’t think we have scratched the surface of caustic washing yet. ”⁴²

Trafigura was well aware that this process would produce toxic waste. This is clear from the company’s internal emails, one of which referred explicitly to the fact that, “US/ Singapore and European terminals no longer allow the use of caustic soda washes since local environmental agencies do not allow disposal of the toxic caustic after treatment.”⁴³

“ US/Singapore and European terminals no longer allow the use of caustic soda washes since local environmental agencies do not allow disposal of the toxic caustic after treatment. ”

TRAFIGURA

THE SIGNIFICANCE OF SULPHUR CONTENT: A CHEAP AND DIRTY GASOLINE

sulphur
16
S
32.065

One of the key factors in determining the price of oil is its sulphur content, particularly for gasoline or petrol used in cars. The sulphur content of gasoline is regulated to protect the environment and human health. Only very low sulphur gasoline can be sold at the pump in the EU and North America, though gas or petrol with much higher sulphur content is often sold in many developing countries.⁴⁶ Coker naphtha contains far higher levels of sulphur than conventional fuels. For example, gasoline or petrol and gasoil/diesel sold in the EU has to have a sulphur content below 10 parts per million (ppm). Coker naphtha can have a sulphur content of several thousand ppm (1,000-3,000 is a range commonly reported).

In an internal email, dated 28 December 2005, sent to colleagues and Trafigura’s chairman, Claude Dauphin, a London-based employee noted that:

“ This operation [caustic washing] is no longer allowed in EU/US and Singapore. ”

Caustic washes are banned by most countries due to the hazardous nature of the waste (mercaptans, phenols, smell) and suppliers of caustic are unwilling to dispose of the waste since there are not many facilities remaining in the market. There is a company in Rotterdam that burns such waste in a high stack chimney and charges are approx \$200/kg and could have upto [sic] 1000kgs of sludge after a treatment operation. Under EU law you [are] no longer allowed to transport such waste across EU borders. ”⁴⁴

Despite Trafigura’s significant international profile, it was able to identify only two companies worldwide willing to undertake the caustic washing process. According to an email sent by Trafigura’s London office on 28 December 2005:

“ I have approached all our storage terminals with the possibility of caustic washing and only Vopak [at] Fujairah and Tankmed [at] La Skhirra our [sic] willing to entertain the idea. ”⁴⁵

So, while senior Trafigura executives were clear that they wanted to buy the coker naphtha because of the substantial profit it would bring, they were also aware right from the start that it would be difficult, firstly to find a facility to carry out the cheaper refining process, and secondly to find a company to dispose of the resulting waste.

Trafigura started to buy cargos of the coker naphtha from PMI Trading Ltd in January 2006, and reportedly undertook the first caustic washing of the coker naphtha at Fujairah, United Arab Emirates, some time that month.⁴⁷

The company continued to purchase coker naphtha from PMI over subsequent months, and the caustic washing process was moved to a facility in Tunisia called TANKMED, the only other location the company had identified as willing to undertake this process.



La Skhirra Port in Tunisia, 15 July 2010, where caustic washing operations were carried out in early 2006, until workers became ill due to the smell of the waste and the authorities prohibited any further washing operations.

© GEOEYE

Caustic washing in Tunisia

Between January and March 2006, two caustic washing operations were carried out at Tankmed's premises at the port of La Skhirra.⁴⁸

On or about 14 March 2006, gases leaked from TANKMED's facilities, causing a serious odour problem. Some of Tankmed's workers experienced breathing difficulties,⁴⁹ and three people were reportedly admitted to hospital following exposure to the fumes.⁵⁰

The odour problem at TANKMED's facilities caused serious concern amongst local officials. A subsequent investigation into the issue by the Tunisian International Center for

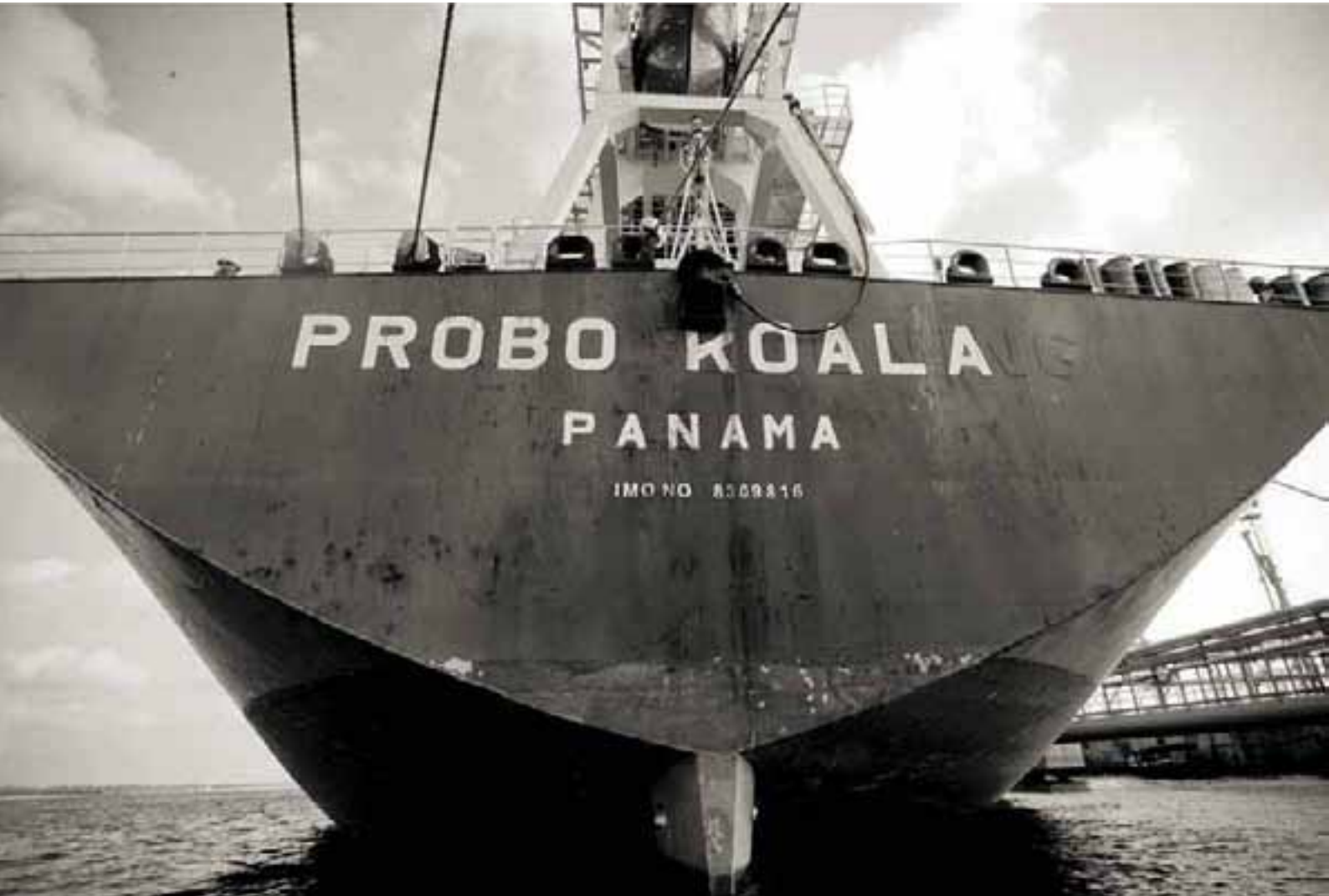
Environmental Technologies concluded that:

“ the abnormal emanation of nauseating smells from the cleaning basins (BD) was mainly due to Tankmed eff uents containing sulphide compounds (water from the petrol washed with caustic soda). ”⁵¹

The Center also noted that “spent caustics should be treated through specialized and specially adapted processes” and that the facilities available at La Skhirra were “insufficient and inadequate” to deal with the waste material produced by caustic washing of petrol.⁵² As a result of the incident the Tunisian authorities suspended the caustic washing operations at La Skhirra.⁵³

CHAPTER 2

The *Probo Koala* at the Estonian port of Tallinn on 27 September 2006, after the toxic waste dumping had occurred.
© ANP/AFP/RAIGO PAJULA



Caustic washing at sea

After caustic washing was stopped in Tunisia in April 2006, Trafigura concluded that it had run out of options in terms of finding another facility to undertake the caustic washing *on land* and decided to undertake the operation at sea.⁵⁴ When a Dutch court later considered the issue, it could not find any record of caustic washing of gasoline on board a ship at sea having been done before. The ship used for the operation was called the *Probo Koala*, a ship leased to Trafigura.

However, there was still no solution to the waste disposal problem. An internal email, dated 18 April 2006, and entitled “PMI Shit”, states:

“ ...we are coming up with some problems regarding treating/disposing of the PMI naphtha out of Brownsville. We are now limited to Caustic washing on a ship. La Skhirra where we were washing/discharging will not let us discharge this material anymore, so the ship we're using for washing is now converted to floating storage ... We also still havent [sic] tackled how we will dispose of the washings on board the vessel washing the cargo. ”⁵⁵

In order to be able to carry out the caustic washing directly on board a ship, Trafigura first needed to purchase caustic soda. In early April 2006, Trafigura approached Univar, a supplier in the US.⁶⁴ An email to Univar dated 6 April 2006 described the process that Trafigura intended to undertake, and gave some details about disposal of the waste:

“ This gasoline component will be washed (removal of mercaptans) with the caustic soda en-route to final destination port (2/3 days), La Skhirra/Tunisia (North Africa). The Caustic Soda will be allowed to settle and will be drained into a caustic suitable sumptank on arrival at disport which will be taken away by a chemical treatment company for re-treatment/safe disposal. ”⁶⁵

The clear implication of this email is that Trafigura intended to have the waste treated in Tunisia. However, Univar was only willing to supply caustic soda on receipt of contact details for the chemical treatment company that would dispose of the waste once it arrived in Tunisia.⁶⁶ Univar also warned Trafigura that the product would be “hazardous” and that Dangerous Goods Certification would be required.⁶⁷

Subsequent internal emails between Trafigura executives suggest that the company was experiencing difficulties in the US with the purchase and loading of caustic soda on to a ship.⁶⁸ One email suggests that this was because ship owners were reluctant to carry out ship-to-ship (STS) operations in US coastal waters because the mooring arrangement of the ship made these operations:

“ too risky in the US with all the USCG [US Coast Guard] attention should something go terrible [sic] wrong. ”⁶⁹

Amnesty International and Greenpeace have asked Trafigura to provide more information regarding the operations it was intending to undertake in US coastal waters. The company did not respond.

It appears the difficulties of purchasing and loading the caustic soda in the US may have been insurmountable. In any event, Trafigura purchased the caustic soda from a Dutch company called WRT.⁷⁰ Caustic washing was then conducted on board the *Probo Koala*.

THE PROBO KOALA

The *Probo Koala* was what is known as a “Products Ore-Bulk-Oil” vessel that transports ores, hydrocarbons or other bulk cargoes.⁵⁶ It was owned by a company based in the Marshall Islands, called *Probo Koala Shipping Inc*⁵⁷ and sailed under the Panamanian flag.⁵⁸ A Greek-based company, Prime Marine Management, appears to have played the role of management company for the ship at the time of the events described in this report.⁵⁹ Trafigura time-chartered (a form of lease) the *Probo Koala* on 25 October 2004.⁶⁰ From 3 April 2006 to 3 October 2006, the *Probo Koala* was under the control of its master, Captain Chertov.⁶¹ A company called Falcon Navigation, Trafigura’s Athens “branch”, was charged with the day-to-day management of the ship and received instructions from Trafigura Ltd and Trafigura Beheer BV.⁶² After the dumping, the *Probo Koala* was renamed the *Gulf Jash*, and in August 2011 it was again renamed the *Hua Feng*.⁶³

FLAGS OF CONVENIENCE

The *Probo Koala* was registered in Panama under a “flag of convenience”. This means that there is no connection between the nationality of the ship’s owner and the nationality of the flag that it flies. Many states that provide flags of convenience have a poor record of enforcing regulations that apply to ships. Greenpeace argues that this must change so that activities on board ships and at sea are better regulated, more transparent and better accounted for.

CHAPTER 2

GENERATION OF TOXIC WASTE DURING OPERATIONS IN THE MEDITERRANEAN SEA BETWEEN APRIL AND JULY 2006

IN AND AROUND MALTESE WATERS

No.	Date	Time	Details
1	April 7/9	-	In La Skhirra no more washing operations. Order for washing process off shore Malta
2	April 10	22.00	Arrival from La Skhirra. Until April 11, 2006 23.30, STS taking in cargo and caustic soda from M/T Seapurha. Caustic soda in Tank 4
3	April 11	24.00	From this point on in motion start washing process in Tank 4
4	April 12	06.00	First known moment inside Maltese territorial waters after start of washing process
5	April 12	10.25	STS with M/T Mario C. after permission from authorities to take in materials
6	April 12	12.50	At anchor. Departure April 13 at 03.45
7	April 13	06.35	5 miles north-east of Fairway Buoy. Rendezvous with service vessel 'Whirl'
8	April 13	06.35	At anchor, expected end-time of washing process: April 15, 2006 01.00
		03.35	Departure of anchor location
9	April 15	06.50	Taking in containers by Maria C. 5 miles north-east of Fairway Buoy
10	April 16	12.54	Arrival at La Skhirra, Tunisia. Cargo not accepted by Tankmed due to stench

IN AND AROUND GIBRALTAR AND SPANISH WATERS

Nr.	Date	Time	Details
1	April 24	22.30	Supply vessel Maritima Estrecho loading 50 IBCs caustic soda
	April 28	-	Slop tanks PK contain 49,016 cbm
2	April 29	09.40	STS with M/T Riza, discharging cargo Prior to discharge Slop tanks PK contain 59,630 cbm
3	May 5	18.00	Start washing process
4	May 5	19.00	At anchor
	May 6	21.00	End washing process
		-	Slop tanks PK contain 148,412 cbm
	May 7	16.00	Departure of anchor location
5	May 8	12.00	STS with M/T Seapurha, taking in cargo
6	May 9	12.00	STS with M/T Seamusic, taking in cargo
7	May 10	18.00	STS with M/T Moselle, taking in cargo
8	May 16	24.00	At anchor, supply vessel Guenda/Maritima. Loading 50 ICB caustic soda
	May 17	00.25	Start washing operation
		00.55	End anchor position as well as end-time of part washing process
9	May 17	15.15	At anchor Gibraltar
10	May 17	24.00	STS M/T Lielupe, discharging cargo
	May 18	-	Slop tanks PK contain 215,137 cbm
11	May 18	24.00	STS M/T Moselle, taking in cargo
12	May 19	15.00	At anchor
		16.00	Supply vessel Sun Swelle, loading material
13	May 23	12.00	Last known position in ship's log prior to start washing process of 16.40
		16.40	Start washing process, expected end-time: May 25, 10.00 (ETC)
14	May 23	18.00	First known position in ship's log after start washing process

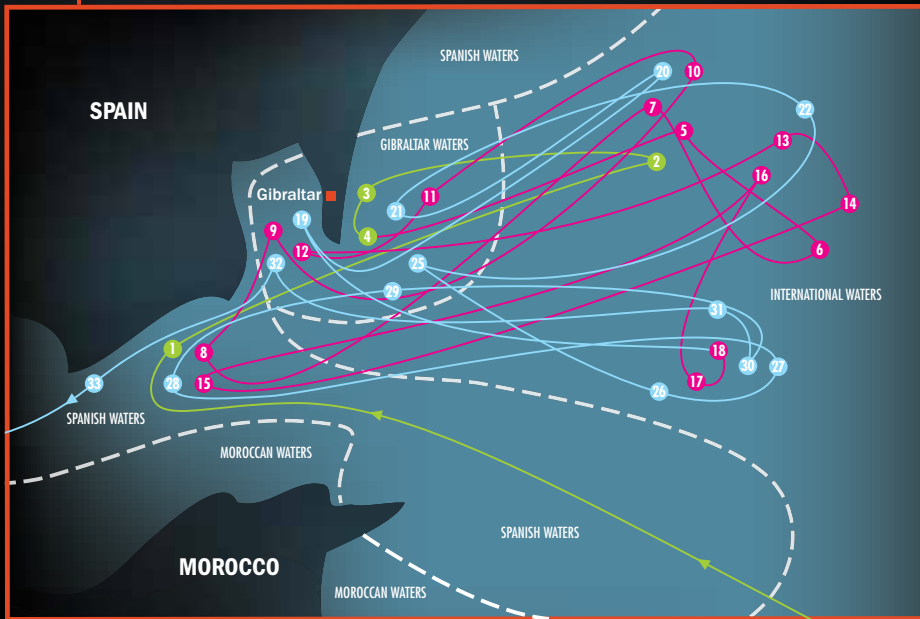
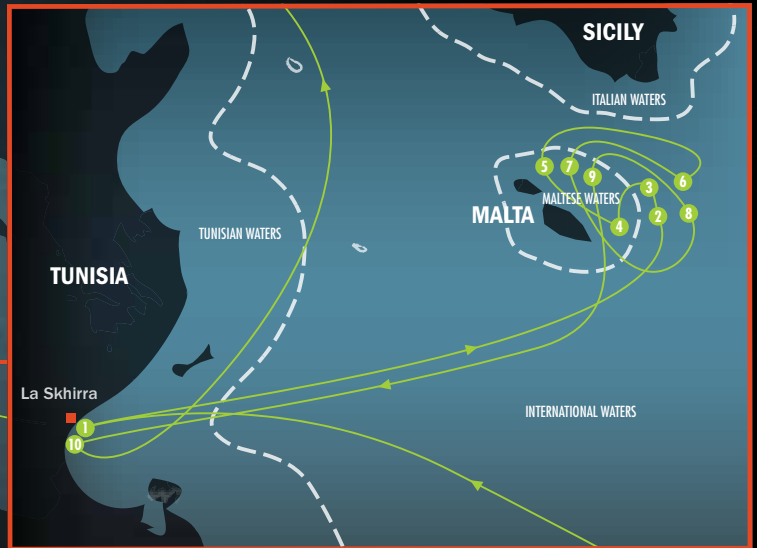
15	May 27	12.00	Rendez vous with Joren Patricia, receipt of additives at 12.25
16	May 27	16.00	Start washing process, expected end-time: May 29 17.00 hours
		16.20	First known position in ship's log after start washing process
17	May 29	06.00	Ready with washing process
		07.45	First known position after end washing process
18	May 30	12.00	STS M/T Georg, taking in cargo
			Slop tanks PK contain 403,030 cbm
19	June 9	13.55	At anchor, material loaded from Sun Swale
20	June 12	18.40	STS M/T High Consensus, taking in cargo
21	June 14	-	Supply vessel Alakoz, taking in material
22	June 14	-	STS M/T High Consensus, discharging cargo
	June 15	-	Slop tanks PK contain 401,092 cbm
23	June 16	11.00	STS M/T Tikhoresk, taking in cargo
24	June 17	00.00	STS M/T Tikhoresk, discharging cargo
25	June 18	12.25	Supply vessel Sun Swale, loading material
26	June 18	21.00	STS M/T Seavinha, taking in cargo
27	June 19	12.00	STS M/T Seavinha
			At 10.40 discharging cargo
			Slop tanks PK contain 401,290 cbm
28	June 20	05.00	At anchor
		07.00	Supply vessel Guenda loading 50 full ICBs caustic soda, discharging 50 empty ICBs
		12.20	Anchor up and start washing process
29	June 20	13.24	Next known position after start washing process in ship's log
30	June 20	18.15	STS M/T Seavinha and drifting
	June 21	03.18	M/T Seavinha, taking in cargo
		10.18	M/T Seavinha, loading finished
		12.20	M/T Seavinha, discharging cargo
		23.25	M/T Seavinha, discharging finished
	June 22	01.45	M/T Seavinha, taking in cargo
		14.36	M/T Seavinha, loading finished
		-	Trafigura gives orders to wash cargo received immediately prior to return-discharge
		17.35	M/T Seavinha, discharging cargo
	June 23	02.15	M/T Seavinha, discharging cargo
		04.06	M/T Seavinha, taking in cargo
		12.48	M/T Seavinha, loading completed
		18.58	PK informs Trafigura that 20 hours will be needed for the operation
		19.05	M/T Seavinha, discharging cargo
	June 24	02.15	M/T Seavinha, discharging completed
		-	Slop tanks PK contain 401,642 cbm
31	June 25	12.00	STS M/T Transport and drifting, discharging cargo
	June 26	03.05	MT Transport, discharging completed
		08.20	Free from M/T Transport
		-	Slop tanks PK contain 493,868 cbm
32	June 26	17.40	At anchor near Gibraltar, bunkering
33	June 27	20.20	Leaving the Gibraltar Strait
	July 2	-	For discharge at APS in Amsterdam
			Slop tanks PK contain 544,496 cbm

STS = Ship To Ship Cargo Transfer Operation

GENERATION OF TOXIC WASTE DURING OPERATIONS IN THE MEDITERRANEAN SEA

Where and when the caustic washing on board the *Probo Koala* took place:⁷¹

- » 11 April 2006: international waters, possibly in Malta waters
- » 5-6 May 2006: Gibraltar waters
- » 17 May 2006: Spanish waters, close to Gibraltar waters
- » 23 May 2006: international waters
- » 27 May 2006: international waters
- » 20 June 2006: international waters
- » End of June 2006: caustic washing may also have taken place after the *Probo Koala* left Gibraltar on 27 June 2006 on its way to the Netherlands.⁷²



- 1st Month (7 April - 7 May 2006)
- 2nd Month (8 May - 8 June 2006)
- 3rd Month (9 June - 2 July 2006)

This map has been copied and translated by Greenpeace into English from maps that were shown during the Dutch court case in June 2010. The maps were developed by the Dutch police and presented by the public prosecutor during the hearings. The map shows the locations of the *Probo Koala* in the Mediterranean Sea during the caustic washing operations. It also shows where caustic washing activities took place. The coloured line has been added by the authors of this report.

CHAPTER 2

The first caustic wash at sea was completed by mid-April 2006.⁷⁹ The *Probo Koala* then returned to La Skhirra, Tunisia to unload the newly “washed” gasoline. Despite having previously told Univar that the hazardous waste from caustic washing would be disposed of at La Skhirra,⁸⁰ Trafigura had no intention of delivering the waste in Tunisia.

In fact, Trafigura specifically instructed the captain of the *Probo Koala* not to disclose the presence of the waste at La Skhirra, stating in an email:

“ PLS ENSURE THAT ANY REMAININGS OF CAUSTIC SODA IN THE TANKS’ INTERFACE ARE PUMPED INTO THE SLOP TANK TO

THE CAUSTIC WASHING ON BOARD THE *PROBO KOALA*

Trafigura decided to carry out caustic washing on board the *Probo Koala* at sea after running out of options to do it on land. To carry out this operation, Trafigura arranged for shipments of the coker naphtha to be delivered to the *Probo Koala*. This took place in ship-to-ship (STS) operations in the Mediterranean. Ships coming from the USA delivered coker naphtha to the *Probo Koala*. Trafigura then organized for caustic soda to be delivered to the *Probo Koala* – again in STS operations. The first washing of coker naphtha on board the *Probo Koala* was carried out offshore near Malta in April 2006.⁷³

A London-based executive of Trafigura later described the process as follows:

“ ... We performed a full STS [ship-to-ship] operation to the Mt Probo Koala, ... thereafter we added 50.000 litres (50cbms) of Caustic Soda (Material data Safety Sheet attached) proportionately across all cargo tanks of Mt Probo Koala (using an injection pump/hoses to the upper level of the coker naphtha from the top of the tank), thereafter circulated for 24hrs (by transferring individual tank quantities to an empty tank to achieve the maximum inter-surface contact between Naphtha and Caustic Soda) and allowed the Naphtha and Caustic to separate/settle and thereafter drained the “Used” caustic to the slop tanks.

In order to ensure that all of the caustic was stripped from the treated coker Naphtha, we stripped more than the quantity of caustic added originally to each cargo tank, to make best efforts that all caustic was stripped thus to ensure this may also strip some of the treated

naphtha or any free water to the Slop Tanks. Thereafter (...) treated Naphtha on board was used as a blendstock to make finished Gasoline. ”⁷⁴

The available evidence shows that some 200 tonnes of caustic soda was transferred to the *Probo Koala* in STS operations over the period between April and late-June 2006. As 50m³ of caustic was added to each of the three batches of coker naphtha at least 150 tonnes of caustic soda was used for the washing operations.⁷⁵

As well as the caustic soda, Trafigura added a catalyzing agent to some of the washes. Internal documents show that Trafigura experimented with the amount of oxidizing catalyst used, probably in an effort to optimize the reduction of the mercaptan sulphur of the naphtha. While no catalyst was used for the washing of the first coker naphtha load, 8kg of an oxidising catalyst was used for the second shipment, and 16 kilo for the washing of the third shipment.⁷⁶

A report commissioned by Trafigura from a consultancy company, Minton, Treharne & Davies Ltd shortly after the dumping, noted:

“ In our view the exercise onboard the Mt Probo Koala was an attempt to replicate this refinery process [Mercox reaction] at sea. ”⁷⁷

This view was later echoed by the Dutch courts, which stated:

“ [...] this essentially boils down to the moving of an industrial process from land to sea. ”⁷⁸



CHAPTER 2

THE BEST OF YOUR ABILITY AND KINDLY DO NOT, REPEAT DO NOT DISCLOSE THE PRESENCE OF THE MATERIAL TO ANYONE AT LASKHIRA AND MERELY DECLARE IT AS TANK WASHINGS. ”⁸¹

However, even the “washed” cargo was not accepted by Tankmed, because of the way it smelt.⁸²

The company continued with caustic washing. By the end of June 2006 Trafigura had “washed” at least three shipments of coker naphtha on board the *Probo Koala*,⁸³ as the ship was heading north from Gibraltar towards Amsterdam. More than 500m³ of waste was now stored in the ship’s slop tanks. And Trafigura still had not found a way to dispose of it.

Example of ship-to-ship cargo transfer operation.
© VANCAMPEN



CHAPTER 3

3



THE WASTE ARRIVES IN EUROPE

“ We need support so that the truth is known. Put pressure on our state and the EU for its environmental overview and to bear responsibility. Africa must stop being the rubbish bin [for the West]. ”

RACHEL GOGOUA

President of the Association of the Victims of Akouédo Extension⁸⁵

As noted in the preceding chapter, Trafigura was aware, before starting the caustic washing, that disposal of the waste would be difficult because there were very few facilities prepared or able to accept this kind of waste. This proved to be the case.

During April 2006 Trafigura approached at least four locations in Europe seeking to offload the waste: Gibraltar, Italy, Malta and France.⁸⁵ The first two locations – Gibraltar and Italy – did not have the facilities to dispose of the waste. A company in Gibraltar told Trafigura that the flashpoint of the slops appeared to be too low, meaning that the waste was too hazardous for them to treat.⁸⁶ Malta Shipyards told the company:

“ Sorry, not even Malta Shipyards can accept these slops due to chemical content. ”⁸⁷

On 19 June 2006, Trafigura contacted Amsterdam Port Services (APS), a company that processed ships' waste, and made an arrangement to deliver the waste to them. APS was an officially appointed port reception facility, which means it was authorized by the Dutch authorities to handle waste from ships in line with the 1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL Convention).⁸⁸ However, it subsequently transpired that Trafigura had not given APS adequate information about nature of the waste.

Although Trafigura has claimed that Naeem Ahmed, an employee of Trafigura Ltd in London, had described the origin and composition of the waste to APS in a telephone conversation,⁸⁹ APS denied this.⁹⁰ A Dutch court later stated that it did “not find Ahmed’s statement, that he had fully informed APS regarding the nature and origin of the slops, credible”.⁹¹

Prior to the arrival of the *Probo Koala* at Amsterdam, Naeem Ahmed sent an email to APS on 20 June describing the waste as “Gasoline Slops (Majority is Water, Gasoline, Caustic Soda).”⁹²

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Marine Waste Collection Netherlands (MAIN), formerly called Amsterdam Port Services (APS). APS was unable to process the waste from the *Probo Koala* and increased the price for handling the waste. © ZEEMAN RECLAME GROEP/ERWIN VADER

On 28 June, Greek-based Falcon Navigation, the company which managed day-to-day operations of the *Probo Koala* for Trafigura, appointed a Dutch company, Bulk Maritime Agencies (BMA), as the shipping agent for the *Probo Koala* while it was in Amsterdam. This is standard procedure. Acting in this capacity, BMA contacted the Port of Amsterdam to

provide it with preliminary notification of the arrival of the *Probo Koala*. This notification referred to the waste on board as “MARPOL Annex 1; oily tank washings including cargo residues”. In another section of the notification, the waste was described as “washwater gasoline/caustic”.⁹³

SLOPS AND WASTE

Trafigura has consistently referred to the waste produced by caustic washing of coker naphtha on board the *Probo Koala* as “slops”.⁹⁴ The term “slops” used in relation to ships generally refers to residues left at the bottom of the tank, which consist mainly of oily water generated after the ship’s tanks have been washed between loads. The 1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL Convention) defines a slop tank as a tank “designated for the collection of tank drainings, tank washings, and other oily mixtures”.⁹⁵ The unloading of such slops is a routine procedure, and one which port reception facilities, such as APS, are accustomed to undertaking.

However, the waste produced on board the *Probo Koala* was not the result of washing cargo tanks; it

was a by-product of caustic washing of coker naphtha, a process which a Trafigura executive had noted was “banned by most countries due to the hazardous nature of the waste (*mercaptans, phenols, smell*)...” (emphasis added).

Trafigura’s use of the term “slops” implies that the waste derives from the normal operation of a ship, and is therefore material covered by the MARPOL Convention. However, an industrial process, known to produce hazardous waste material, undertaken on a ship after land-based options were exhausted, was not envisaged by MARPOL (see Chapter 7 for a fuller discussion on this issue).

Following the *Probo Koala* incident the International Maritime Organization introduced a ban on

blending fuels and carrying out production processes on board ships. The ban enters into force on 1 January 2014.

Throughout this report, Amnesty International and Greenpeace refer to the product of caustic washing of coker naphtha on board the *Probo Koala* as “waste”.

Slop tank: a tank “specifically designated for the collection of tank drainings, tank washings, and other oily mixtures”. (Annex I of the MARPOL Convention)⁹⁷

Wastes: as defined by the Basel Convention: “... substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law”. (Basel Convention, Article 2(1))⁹⁸

Ship-generated waste: “shall mean all waste, including sewage, and residues other than cargo residues, which are generated during the service of a ship and fall under the scope of Annexes I, IV and V to MARPOL 73/78 and cargo-associated waste as defined in the Guidelines for the implementation of Annex V to MARPOL 73/78”. (The EU Directive on Port Reception Facilities)⁹⁹

Cargo residues: “shall mean the remnants of any cargo material on board in cargo holds or tanks which remain after unloading procedures and cleaning operations are completed and shall include loading/unloading excesses and spillage”. (The EU Directive on Port Reception Facilities)



The *Probo Koala* arrived in Amsterdam on 2 July 2006, and APS began to unload the waste on to a barge. By 10pm that evening, approximately half of the waste (around 260m³) had been unloaded. Since the barge was full, it was agreed that it should first be unloaded before taking the remaining waste from the *Probo Koala*.¹⁰¹

Early the next morning, on 3 July 2006, the Dutch authorities received reports of a troubling odour in the area, and the local

fire brigade and the police were called in.¹⁰²

The fire brigade detected hydrogen sulphide gas (H₂S) in the air.¹⁰³ H₂S is a colourless, flammable gas, which can be identified by a characteristic smell of rotten eggs. This gas is considered dangerous, and its effects on health can include: irritation of the eyes, nose and throat; dizziness; nausea and vomiting; coughing and breathing difficulties. At high concentrations the effects can be very serious and include convulsions, coma and even death.¹⁰⁴

THE LEGAL FRAMEWORK ON WASTE: EUROPEAN UNION (EU) AND THE NETHERLANDS

Two international treaties are relevant to the events in Amsterdam: the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) and the International Convention for the Prevention of Pollution from Ships (MARPOL Convention). These treaties have been incorporated into EU and Dutch law through the following instruments:

Council Regulation (EEC) No. 259/93 on the supervision and control of shipments of waste within, into and out of the European Community (European Waste Shipment Regulation).¹⁰⁰ Section 18 of the European Waste Shipment Regulation makes it a criminal offence to export Basel waste from the EU to the African, Caribbean and Pacific Group of States, which

includes Côte d'Ivoire. In the Netherlands this regulation is known as Europese Verordening Overbrenging Afvalstoffen (EVOA). This Regulation is implemented in Dutch law through sections 10.59 and 10.60 of the Environmental Management Act (see below).

Directive 2000/59/EC of the European Parliament and of the Council on port reception facilities for ship-generated waste and cargo residues

This Directive requires member states to ensure the availability of port reception facilities that are capable of receiving the types and quantities of ship-generated waste and cargo residues from ships normally using that port.

Act on the Prevention of Pollution from Ships (1983)

This Act implements the MARPOL Convention in Dutch law. It applies to all ships under the Netherlands flag, as well as all foreign ships in Dutch territory. The Act provides for the designation of port reception facilities that are intended to receive harmful substances from ships.

Environmental Management Act

The Dutch Environmental Management Act covers a range of issues, including management of hazardous waste. Section 10.37 of the Environmental Management Act deals with the transfer of hazardous or industrial waste and prohibits the transfer of industrial or hazardous waste to a person or entity not authorized to receive it.

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A woman working close to the APS facilities explained why she called the authorities on 3 July 2006:

“ It was a very chemical smell. It got me very nauseous in my head and abdomen. I also suffered from a persistent tickle in my throat. I got a terrible headache. At half past nine I was at work and then already I smelled the stench, but at that moment I still felt all right. Around eleven [we] phoned the police. At the time of reporting the smell was very intense, as if a big cloud was passing. ... During the day I didn't have any appetite. When I went home at five o'clock, I still felt nauseous and dizzy and I had headaches. ” ¹⁰⁵

The police took samples of the *Probo Koala* waste.¹⁰⁶ One of the police officers who had taken samples of the waste on 3 July 2006 later testified:

“ We smelt heavy air that stank of gas and oil. Also a rotten smell was observable, which we related to sulphur. Before I had been on the APS premises, I felt in good health during that day and the period before that. During and after that evening/night, in which the sampling had taken place, I began to suffer from dizziness, headache and forgetfulness. Most of the day, on Tuesday, 4 July, I suffered from these complaints. ” ¹⁰⁷

a deviation from the measurement values. The alarm indicates that the safety values set are being exceeded and that the environment is not safe. ” ¹⁰⁸

The samples taken by the police were sent to the Netherlands Forensic Institute (NFI) for testing.¹⁰⁹ However, the initial tests results were not returned until 2 October 2006, after the ship's arrival in Abidjan. The complete results of these tests were not made available until 29 January 2007.

Meanwhile APS also took samples of the waste for testing on 2 July 2006.¹¹⁰ This testing revealed that the waste had a significantly higher chemical oxygen demand (COD, an indirect measure of contamination) than APS had anticipated when it had initially agreed a price for the job.¹¹¹

APS had based its original quote to Trafigura on a COD level of less than 2,000mg/l.¹¹² However, the APS tests revealed a COD of almost 500,000mg/l.¹¹³ This was not only far higher than APS had expected, but was more than APS could process on its premises.¹¹⁴ On the basis of the test results, and because APS would have to send the waste to another specialist, APS increased its quote from €27 (US\$34) per m³ to €1000 (US\$1,300) per m³ (approximately 37 times the original price).¹¹⁵ As a result, it would have cost Trafigura more than €500,000 (over US\$630,000)¹¹⁶ to treat all the waste. As noted earlier, Trafigura's executives had estimated that the coker naphtha was going to make a profit in the range of US\$7 million per cargo (roughly equivalent to £3.8 million or €5.5 million at the time).¹¹⁷ Despite this, Trafigura stated that the APS price was “exorbitant”, and refused to pay the higher charge.¹¹⁸

CHEMICAL OXYGEN DEMAND (COD)

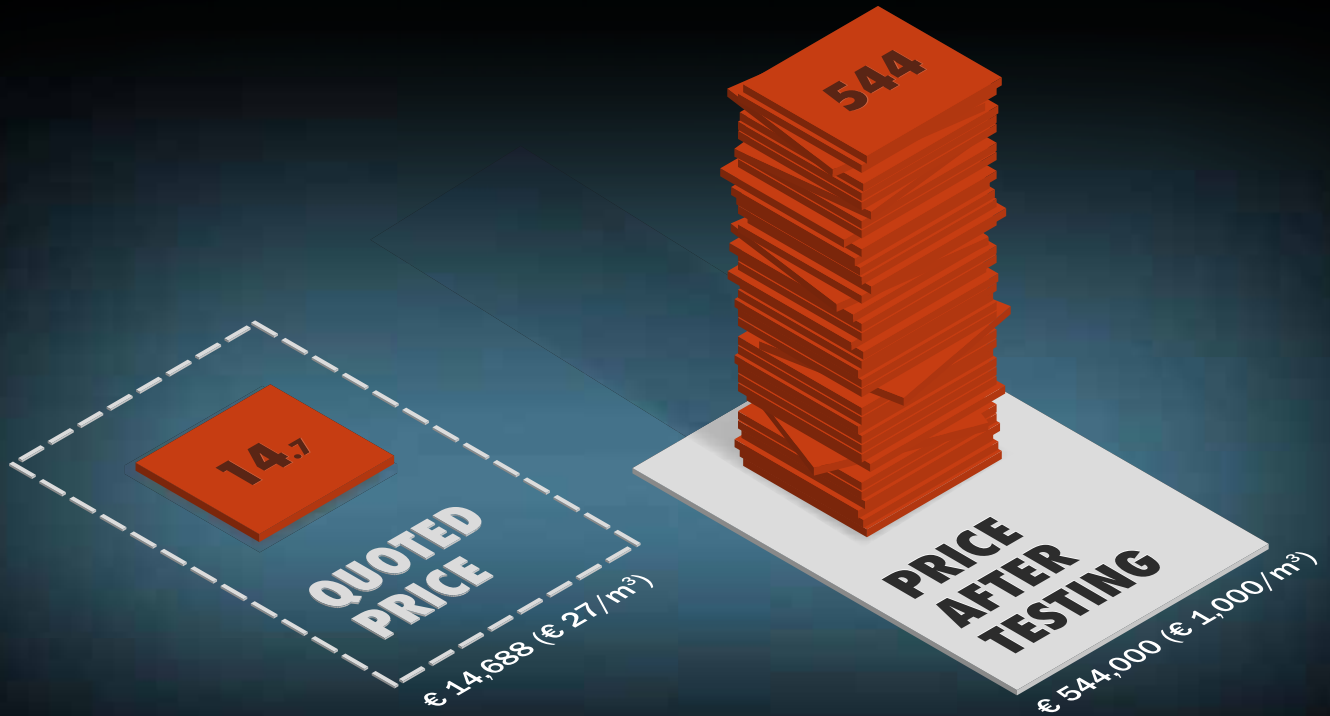
COD is a standard method of indirect measurement of certain types of pollutants in a sample of water. The COD test is based on the chemical decomposition of organic and some inorganic contaminants dissolved or suspended in water. The result of a COD test indicates the amount of water-dissolved oxygen consumed by the contaminants during two hours of decomposition in a solution of boiling potassium dichromate. The higher the COD, the higher the level of these types of pollutants in the test sample.

Another police officer later described what had occurred when he took further samples from the *Probo Koala*'s slop tanks the following day, 4 July 2006:

“ My safety shoes were touching the raised edge of the opening from which the sample was taken. As soon as the [gas detection] meter was positioned above the opening, the device sounded the alarm. Up to that point, the device display had not shown any value indicating

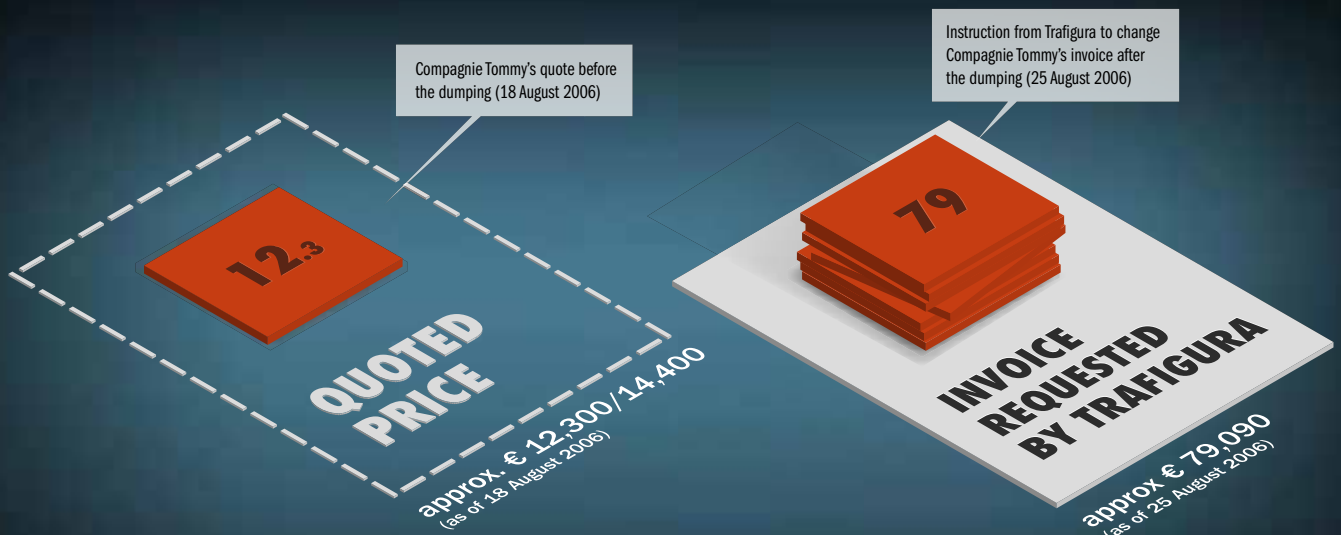
DISPOSAL OF THE WASTE IN AMSTERDAM

Price quoted by APS before and after testing



DUMPING OF THE WASTE IN ABIDJAN

Price quoted before dumping and Trafigura's request to change the invoice after the dumping



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Trafigura asked APS to pump the waste back into the *Probo Koala*'s slops tanks. An email sent from Falcon Navigation, which was managing the operations of the *Probo Koala*, to BMA, the shipping agents for the ship in Amsterdam, stated:

“ ...PLS BE ADVISED THAT WE HAVE INSTRUCTED THE SLOP BARGE TO RE-DELIVER THE SLOP WASHINGS BACK TO THE VESSEL IN SUBJECT DUE TO THE HIGH COST OF DELIVERY AND PROCESSING AT AMSTERDAM. WASHINGS ARE TO BE KEPT ON BOARD AND SHALL BE DISPOSED OF AT NEXT CONVENIENT OPPORTUNITY. ” ¹¹⁹

The smell and Trafigura's request to reload the waste on to the *Probo Koala* were sufficiently unusual to raise the concern of regulators. During 3-4 July, numerous discussions are reported to have taken place amongst local authorities on how to deal with the situation. During the initial discussions about whether the waste could be reloaded, the Dutch Environmental Management Act was cited as an objection by the Department of Environment and Buildings of the Municipality of Amsterdam.¹²⁰ This Act prohibits the transfer of industrial or hazardous waste to a person who is not authorized to receive such waste. Under Dutch law the waste would have been classified as industrial, and should also have been classified as hazardous: this was the conclusion of a subsequent investigation of the events in Amsterdam by the Municipality of Amsterdam.¹²¹

The investigations conducted by the Hulshof Committee, as well as a separate investigation undertaken by the UN Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights (hereafter, the UN Special Rapporteur on Toxic Waste and Human Rights), highlighted that, at the time, there was a lack of understanding amongst the different regulatory bodies in Amsterdam as to which law or regulations applied.¹²²

The Hulshof Committee found that much of the discussion was dominated by the views of the private companies involved. Trafigura wanted the waste back; BMA, acting for the *Probo Koala*, wanted the ship to be able to leave Amsterdam and make its next port of call; APS – concerned about being left with the waste – maintained it had not accepted the waste on the barge in any legal sense, and threatened to take legal action should a “rapid solution” not be found.¹²³

The Port Authority director – under pressure to find a solution – contacted Port State Control of the Inspectorate for Transport, Public Works and Water Management. The Port Director was informed that no legal basis existed under the MARPOL regulations to prevent the ship reloading the slops and delivering them to another port, given the adequate storage capacity on board and the shipowner's free choice in the matter.¹²⁴ As will be discussed later this advice has been strongly challenged.

The view of Port State Control was not sufficient to enable reloading of the waste. This required the approval of environmental authorities. On 4 July 2006, a late-evening meeting was held at the APS premises to discuss the situation; at the conclusion of this meeting, officials from the Department of Environment and Buildings of the Municipality of Amsterdam gave APS and the captain of the *Probo Koala* verbal permission for the waste to be reloaded.¹²⁵ The rationale for this decision is not fully clear.

The various regulators appear to have lost sight of the fact that transferring the waste from the APS barge to the *Probo Koala* would constitute a breach of the Environmental Management Act. They also failed to consider key provisions of both the Basel Convention and the associated EU laws on the export of waste. Instead, on 5 July 2006, the waste was reloaded on to the *Probo Koala*, and the ship sailed for Estonia.¹²⁶

The *Probo Koala* sails to Estonia – but where is the waste going?

Although the *Probo Koala*'s next port of call was Paldiski in Estonia, this was not where Trafigura was intending to deliver the waste.¹²⁷ Under international and European law on movement of waste, there is a requirement for the Port State (in this case, the Netherlands) to know where waste is being taken for disposal and (in some cases) to ensure that the destination state is notified.¹²⁸ Additionally, the export of certain types of waste from the EU to African, Caribbean and Pacific states is prohibited under EU law.¹²⁹ Trafigura had said the waste would be disposed of at the next available opportunity, but there was no information about where this would be.

Both the Hulshof Committee and the UN Special Rapporteur on toxic waste and human rights later noted that the lack of clarity about where the waste was to be delivered should have triggered further enquiries.¹³⁰

The *Probo Koala* arrived in Paldiski, Estonia, on 9 July 2006.¹³⁴ The ship was inspected by Estonian Port State Control.¹³⁵ However, this inspection was limited to measuring the volume of material in the tanks; the Estonian authorities did nothing to prevent the waste on board the *Probo Koala* from leaving Estonia. The ship was next bound for Africa.

From Europe to Africa

On 2 August 2006, while the *Probo Koala* was en route to Nigeria, an agent from Falcon Navigation wrote to Trafigura's London-based executive, Naeem Ahmed, informing him that a Nigerian company, Daddo, had quoted a cost of US\$7,000 (€ 5,500) to dispose of the waste.¹³⁶ This was a fraction of the €500,000 (US\$630,000) that Trafigura would have had to pay in the Netherlands.

Naeem Ahmed instructed Falcon Navigation to book this immediately.¹³⁷

The *Probo Koala* arrived in Lagos, Nigeria, on 4 August 2006.¹³⁸ According to Trafigura, the ship did not berth in Lagos until 9 August 2006 because there was a delay in

WAS DUMPING AT SEA CONSIDERED?

At just after 10pm on 3 July 2006 an anonymous fax arrived at the Port of Amsterdam, which appeared to suggest that the waste would be dumped at sea.¹³¹ The Dutch authorities took notice of this fax. They contacted the Estonian authorities and advised them of the incident in Amsterdam, and of the fact that the *Probo Koala* was carrying 450m³ of slops that were "expensive to eliminate". The Dutch authorities asked the Estonian authorities to check that the waste was still on board the *Probo Koala*, which they did. However, it appears no further action was taken in Estonia, although the *Probo Koala*'s next port of call was in Africa.

On 5 July, an email communication between Trafigura executives also suggests that the waste be dumped at sea after leaving Europe:

“ James, please note that discharge of the slops can not be done in the Baltic (special zone) and certainly not between Dover or the Baltic either. We will have to commence to discharge after we pass Dover on the way to Lome. ”¹³²

As this is not waste arising from normal operations of a ship, its disposal in this way would have been in contravention of the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, commonly called the London Convention.¹³³ This is an agreement to control pollution of the sea by dumping and it covers the deliberate disposal at sea of wastes or other matter from vessels, aircraft, and platforms.

Amnesty International and Greenpeace have asked Trafigura to comment on this email. The company did not respond. Amnesty International and Greenpeace also asked the Dutch and Estonian authorities to comment on their concerns about dumping at sea. At the time of printing, no response had been received from the authorities in either state.

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Tankers and general cargo ships awaiting orders off the coast of Lagos, 2009
© VANCAMPEN

obtaining a berth.¹³⁹ However, the findings of an international enquiry set up by the Ivorian authorities after the dumping suggest that there may have been other reasons for the delay:

“ According to information communicated to the Commission following a mission undertaken by an official representative, the Nigerian authorities obtained information about the ship and its cargo from their intelligence services. On this basis, and due to a lack of official response from the Captain, they forbade the *Probo Koala*, which was in their territorial waters, from entering the port. ”¹⁴⁰

Events in Nigeria remain unclear. Ultimately, the *Probo Koala* was able to berth and remained at Lagos for several days. Internal emails show that Trafigura tried to dispose of the waste in Nigeria but ultimately could not do so. The content of the emails is reproduced below, and Amnesty International and Greenpeace have asked Trafigura to comment on these communications. The company did not respond.

Around midday on 10 August 2006, an agent for Trafigura wrote to Comoditex, a shipping services company in Lagos: “We need to deslop the vessel. Pls advise where the objection lies.”¹⁴¹

Comoditex emailed back, copying in Trafigura executives in London, to say that no deslopping operations should be arranged in Nigeria without prior consultation.¹⁴² In a follow-up email, Comoditex warned Trafigura that it should not try to deslop in Lagos due to the risks of the waste being mishandled and the risk of cargo theft. The email stated:

“ Lagos do [sic] not have proper de-slopping facilities as shown by the fact that a barge was supplied and they wanted the Master to pump the slop overboard into an open tank, which he refused to do. The receiver of the slop may also try to sell it in the local market which has potential implications on us. ”¹⁴³

And in another email, Comoditex concluded that:

“ due to the nature of the slop onboard... would prefer for the slop to be discharged in a different port other than Lagos if possible ”.¹⁴⁴

On 15 August, Trafigura sent the following email to Comoditex, referring to Nigerian company, Daddo:

“ Appreciate if you can discuss with Daddo... see if they can arrange for a barge to pick up the slops, preferably offshore Lomé or as far possible offshore Nigeria and within International Waters. ”¹⁴⁵

However, Comoditex replied saying that Daddo would only deslop in Nigerian waters rather than international waters:

“ I have spoken with the Operations Manager at Daddo, ... and he has advised that they will only be able to arrange for a barge to de-slop in Nigerian waters. Expect this to take place on Thursday as we expect the *Probo Koala* to complete at the SBM tomorrow subject to the usual ullage constraints.

“ He will also ensure that we get proper paperwork for receipt of slops. ”¹⁴⁶

Internal Trafigura emails as well as a witness statement as part of the court proceedings in the Netherlands, show that Trafigura's Chairman, Claude Dauphin, was involved in discussing the options for disposal of the waste when the *Probo Koala* was in Nigeria.¹⁴⁷ The following email was sent on 16 August:

“ Dude please call CD, I spoke to him yesterday and he said NO to any such operation in Nigeria. We go to Lomé, charter a barge and bring it back to Nigeria for Daddo under a different name. ”¹⁴⁸

While the content of these emails is not fully clear, the references to deslopping [offloading the waste] in international waters and to bringing the waste back to Nigeria under a different name raise serious questions about Trafigura's intentions with regard to disposal of the waste in Nigeria.

Trafigura evidently abandoned plans to dispose of the waste in Lagos, and the *Probo Koala* then set sail for Abidjan.

DUTCH POLICE EFFORTS TO TRACK THE WASTE

As noted above, the unusual series of events in Amsterdam should have triggered further enquiries into the nature of the waste and plans for its disposal. After the *Probo Koala* was allowed to leave Amsterdam Dutch police officers, reportedly concerned by the decision to allow the ship to leave Amsterdam with the waste on board, carried out further enquiries.¹⁴⁹ These revealed that the waste had been generated by a caustic washing process and was therefore not “tank washings”, as Trafigura had previously claimed in Amsterdam. On 15 August, while the *Probo Koala* was still in Lagos, Naeem Ahmed from Trafigura's London office received a call from a Dutch police official who was trying to track the waste. During the call, the police officer confirmed that the waste on board the *Probo Koala* had been generated by caustic washing.¹⁵⁰ The police officer advised Naeem Ahmed that the waste should be disposed of as chemical rather than MARPOL slops, and that the Dutch police would need paperwork verifying the proper disposal of the waste.¹⁵¹ This phone conversation happened five days before the dumping in Abidjan.

On 17 August the *Probo Koala* received new orders to proceed immediately to Abidjan, Côte d'Ivoire:

“ Good day captain, Upon receipt of this message please proceed to Abidjan, Côte d'Ivoire and to arrive there ready in all respect to perform the following operation: For disposal of chemical waste from slop tanks as per below. ...The local agency WAIBS will assist in the safe disposal of these slops. ”¹⁵²

The following day, 18 August 2006, Trafigura entered into an agreement with a small, newly licensed Ivorian company to dispose of the waste in Abidjan, and the stage was set for the human rights and environmental tragedy that is described in this report.

CHAPTER 4

4



THE DUMPING IN ABIDJAN

“ The day of Monday 21st August 2006 was long and difficult because of the persisting odours, which had caused me sudden eye irritation. Other colleagues complained of sore throats, which had appeared immediately after inhalation of the odours. We all carried on working because we were unaware of the danger and the nature of the odours. ... Over the following week I also suffered from intense headache, a runny nose, dizziness and a sore throat. The workers at my company, as well as those from neighbouring companies, developed symptoms such as: eye irritation in the form of itching, stinging and red patches; bloating accompanied by flatulence; alternate diarrhoea and constipation; mouth sores like cuts in the cheeks and nosebleeds. ”

Member of the workers' union,
Collectif des Travailleurs de Vridi¹⁵³

On 17 August 2006, two days before the arrival of the *Probo Koala* in Abidjan, Jorge Marrero, a senior executive at Trafigura, emailed Puma Energy, its Ivorian subsidiary, to inform it of the imminent arrival of the ship and that it needed to discharge 528m³ of slops.¹⁵⁴ In that email Trafigura informed its subsidiary that, due to the chemical oxygen demand (COD) being greater than 2000mg/l, “these are not to be consider [sic] as ‘MARPOL slops, but ‘Chemical slops’.”¹⁵⁵ The email also

referred to the slops as “a mix of Gasoline, with caustic Soda and a high concentration of Mercaptan Sulphur”, and stated:

“ Due to the high concentration of Mercaptan Sulphur the mix is very smelly and have to be removed from the vessel and disposed properly to avoid any environmental concerns or problems with authorities. ”¹⁵⁶

Puma received the email at 1.46pm local time. Shortly after that, a senior Puma company executive, N’zi Kablan,¹⁵⁷ telephoned a port agent called WAIBS (West African International Business Services) to request the telephone number of Ivorian Energy Technicians (ITE),¹⁵⁸ an established waste processing company in Abidjan.¹⁵⁹ However, within minutes, N’zi Kablan called WAIBS back and asked for contact details for another company. He reportedly explained that he could not reach the relevant people at ITE by telephone, as the ITE office was closed for the next half hour.¹⁶⁰ No explanation has ever been provided as to why the executive from Trafigura’s subsidiary company was unwilling to wait 30 minutes to speak with an established waste processing company with whom Trafigura had worked before.¹⁶¹ WAIBS gave Puma the contact details of a newly licensed company – Compagnie Tommy – but it is unclear why they suggested this company.¹⁶²

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A meeting was then held on 18 August 2006 between the head of Compagnie Tommy, Salomon Ugborogbo, Kablan from Puma, and a WAIBS employee.¹⁶³ At the meeting Ugborogbo gave Kablan a contract in the form of a handwritten letter.

Akouédo is an open dumpsite for domestic waste, located in a residential district of Abidjan. It does not have facilities for storing or processing hazardous waste. Arguably, Puma, a local company, should have known what Akouédo dump was. In any case, it would have been very easy for either Puma or Trafigura to check this, and, as the owner of the waste, Trafigura had a responsibility to undertake appropriate due diligence with regard to the proper treatment and disposal of the waste.¹⁶⁴

The contract provided for the discharge of “MARPOL slops” at US\$30 per m³ and “Chemical Slops” at US\$35 per m³. This contrasted sharply with the quote of €1,000 per m³ quoted by APS to dispose of the waste in the Netherlands.

On Saturday 19 August 2006, the *Probo Koala* arrived at the Port of Abidjan. Trucks and drivers hired by Compagnie Tommy were waiting to offload the waste, and work started the same afternoon.¹⁶⁵

During the offloading process at the Port of Abidjan, one of the customs officials who was present reported feeling ill due to the smell from the waste. In a later court case in Côte d’Ivoire, the customs official stated that the smell had been so unbearable that he and his colleagues had posted themselves upwind to avoid breathing it in, and that he had later sought medical treatment through his line manager.¹⁶⁶

Despite this, the customs officials took no further action to prevent the waste from being offloaded or to raise the alert about a potential problem with it. Customs officers accepted the explanation offered by Salomon Ugborogbo that the waste had been certified by a chemist as safe.¹⁶⁷ However, there is no evidence that a chemist ever looked at the material.



As can be seen from the letter (reproduced above), the headed notepaper clearly showed that Compagnie Tommy had only received its licence the previous month, on 12 July 2006.

The contract states that Compagnie Tommy will “discharge” the waste in a place called “Akouédo”.



Akouédo dump site, February 2009. © AMNESTY INTERNATIONAL

The truck drivers were told to take the waste to Akouédo dumpsite and deposit it there. Pisa-Impex, the private company that operated the site, had been alerted to the arrival of the waste.¹⁶⁸

The first truck arrived at Akouédo at approximately 7pm on the Saturday evening, and the waste was weighed prior to being dumped.¹⁶⁹ After the first truck had offloaded its waste, the site was closed. This was several hours earlier than the official closing time.¹⁷⁰ The workers apparently closed the site early because of the smell emanating from the waste.¹⁷¹ One employee stayed on site and several more trucks unloaded waste during the night.¹⁷² However, by this time the smell from the waste was creating serious concern, and no more trucks were allowed into the site.¹⁷³

Finding Akouédo closed, and unable to contact Tommy, some of the drivers panicked and simply dumped the contents of their vehicles at random locations around Abidjan, close to houses, workplaces, schools, fields of crops and the city prison.¹⁷⁴

One driver later described his role to Greenpeace:

“ Personally, I transported and discharged four loads... I discharged the first two loads in Akouédo. I discharged the third load in Djibi, approximately 400m from the abattoir. I discharged the fourth load near Vridi (Guichet Unique). ”

“ During transportation, I noticed that there was something wrong with the product. It stunk horribly. My eyes were watering and, on top of that, I had seen the burns of the boy who had taken a sample of the product. It was the first time that something like this had happened to me. Even when I opened the safety hatches of my truck, the product ate into my fingers. My assistant had burns on his hands that he suffered when opening and closing the safety hatches of the tank during the loading and unloading of the second batch. ”¹⁷⁵

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Another driver recounted how he had dumped waste in a canal:

“ ... When I went to dump it, I realized it was really bad. They wanted me to do a second journey. I refused. The whole process took place at night. I dumped it in the canal in Vridi... ”¹⁷⁶

The drivers have stated in interviews with Greenpeace that they did not know anything about the waste they had been asked to transport.

“ I'm sure none of the trucking companies knew what the product was. No one. Nobody. If a trucking company had known that the product was so dangerous, he would never have agreed to send out a truck. Because after this happened, some people even wanted to just get rid of their trucks... There were some cases where the owners [told an employee] to take the truck, to take it somewhere and burn it. He didn't want that truck any more. Imagine a trucking company, which wants to make a profit, and which is happy to see its trucks burn! ”¹⁷⁷

Many of the drivers also experienced physical symptoms associated with contact with the waste.

“ I loaded the product and then I pulled away from the dock. Then I called [name withheld] to find out where I had to go. He told me someone would accompany me to the parking lot to the garage at Koumassi... When we arrived, it was already late at night, so we parked the truck. The next morning, when I arrived, the product had damaged the security valve on my truck. I released the lock and saw that the product had already spilt out of the damaged hatch. When I did this, the product got on to my hand. A while later, when I touched my hand, and mainly the nails, when I pushed they came off a little. So the product ate away at the hands. ”¹⁷⁸

“ I did one transport. I had some of the product on my clothes, because when I want to dump the product, some of it touched my clothes. When I gave the clothes at home to my wife, she got headaches, her belly ached, and she had to vomit. ”¹⁷⁹

In the months following the dumping many of the drivers went into hiding, fearing public anger if they were found to have been involved.

“ We felt we were victims; we did not know the product was so dangerous. The people, however, took us for murderers. It was for this reason that we had to go into hiding and that we could not consult doctors in the public health centres to be treated. We had also lost our contracts and it was always already difficult to find work as a driver. ”¹⁸⁰

According to Trafigura, the drivers originally claimed not to have suffered from any symptoms as a result of transporting the waste. This is also what one of the drivers had already said in an interview with Ivorian newspaper *Le Patriote* months before Trafigura contacted the drivers.¹⁸¹

Where was the waste dumped?

A complete picture of where all of the waste was dumped has never emerged. The fact that the drivers dumped it in numerous locations and subsequently went into hiding is one reason why it later proved difficult to identify all of the affected sites. A map with the most widely accepted data released by UNOSAT (UN Operational Satellite Applications Programme) using information from Ivorian authorities, the European Union and UNOCHA shows 18 dumping points.

UNOSAT map shows known dump sites. © UNITAR

Please also see Annex 1, which includes an overview of the dumping and the impact points based on the testimonies of the drivers that transported the waste.



CHAPTER 5

5



A HEALTH AND ENVIRONMENTAL DISASTER

“ Since Saturday 19 August 2006, Côte d’Ivoire is confronted by a humanitarian and environmental tragedy following the dumping of 523m³ of toxic waste liquids from the *Probo Koala*. ”

SAFIATOU BA-NDAW

then Deputy Director of the Office of the Prime Minister of Côte d’Ivoire¹⁸²

Waking up to disaster

On 20 August 2006, people living in and around Abidjan, particularly those living in the vicinity of the sites where the toxic waste had been dumped, noticed an extremely strong smell. Various individuals described the smell as “rot, gas and onion”,¹⁸³ “a stench that smells like motor oil or garlic or rotten petroleum residue,”¹⁸⁴ and “an unbearable stench”.¹⁸⁵ A doctor living in close proximity to a prison in the district of Yopougon, where some of the waste was dumped, stated that he and his family “had not yet gone to bed, when we were struck by a heavily sulfurous chemical smell.”¹⁸⁶

If the very strong smell caused concern, the accompanying physical symptoms triggered alarm. People living in different parts of Abidjan consistently described the smell as “suffocating”, and stated that their eyes, nose or skin began to sting.¹⁸⁷ One doctor described the stinging sensation as “if you had put your hand in chilli and rubbed your face”.¹⁸⁸ People exposed to the smell also consistently reported experiencing headaches, nausea, abdominal pains, diarrhoea and skin eruptions, amongst other symptoms.

A doctor who had been out of the city at the time of the dumping but was recalled to help with the medical response told Amnesty International:

“ On arriving in the city that day [29 August 2006]¹⁸⁹ I smelled an overpowering odour. I live in Riviera Palmeraie, an area located near one of the dumpsites. My immediate concern was for my children, which is why I went home first. When I arrived, I noticed that my children were suffering from ocular irritation, cough and thoracic pain. The odours were quite simply oppressive. They burned my throat and caused abdominal pain. My eyes itched, and I very quickly began to suffer the same symptoms as my family. ”

DRA¹⁹⁰

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Rachel Gogoua, resident of Akouédo where large quantities of toxic waste was dumped. Photo taken during an Amnesty International research mission to Abidjan, February 2009. © AMNESTY INTERNATIONAL



Over the next few days and weeks, medical centres and hospitals were flooded with tens of thousands of people suffering from neurological, digestive, respiratory, ear, nose and throat (ENT), ophthalmological, cutaneous, and other health problems.¹⁹¹ The National Institute for Public Hygiene recorded that 82 people were hospitalized because they were suffering from more severe symptoms linked to exposure to the waste.¹⁹² The Ivorian authorities also recorded a number of deaths resulting from exposure to the waste. Official reports documented that between 15 and 17 deaths were caused by exposure to the toxic waste.¹⁹³

In the first few hours of 20 August 2006, the smell was so strong and all pervading that many people were frightened and distressed, triggering public panic. At this point people had no idea of the cause. As news of the nature of the waste emerged over the next few days, confusion and anxiety turned to anger, generating protests and violent demonstrations across the city.¹⁹⁴ Those who could leave the city and many businesses and schools were shut down for days.¹⁹⁵ People who could not afford to leave their homes, though, had to continue to live and work close to the sites where the waste had been dumped. Lack of information about the composition of the waste and its potential effects also contributed to people's anxiety and hampered the medical response.¹⁹⁶

There were also fears about contamination of food and water, since the initial analysis of the waste by the national authorities indicated that it contained organochlorines.¹⁹⁷ These are organic pollutants that can accumulate in the food chain and reach people through multiple pathways (such as drinking water and seafood), and may also be acutely toxic.¹⁹⁸

The government prohibited farming, fishing and small commercial activities in areas next to the contaminated sites.¹⁹⁹ The Ministry of Agriculture destroyed fruit and vegetable crops. It also ordered the destruction of livestock and fish, and the closure of slaughterhouses near the affected sites.²⁰⁰ People's access to their livelihoods and work was undermined by these government orders, and some people have claimed that they have only been partially compensated for the losses that they suffered. Local communities have also pointed out that, because of the financial pressures that small farmers and fishermen were under, or because of the lack of information, these orders were not fully implemented, which led to further concerns about people eating food from contaminated sites.²⁰¹ All of these concerns were exacerbated by delays in fully cleaning up the sites where dumping occurred. These issues are discussed in greater detail in this chapter.

The dumping of this toxic waste in a developing country that was barely emerging from several years of political turmoil following an armed uprising in 2002, precipitated a political, medical and environmental crisis that stretched the government's response capacities to the limit. On 28 August 2006, the then Ivorian President, Laurent Gbagbo, set up an Inter-Ministerial Committee to coordinate and manage the emergency response. The scale of the crisis was such that the government also made a number of appeals for international assistance.²⁰²

On 6 September 2006, the Prime Minister at the time, Charles Konan Banny, acknowledged the gravity of the situation by announcing the collective resignation of the government.²⁰³ The following day the President reinstated the Prime Minister, and asked him to form a new government to tackle the crisis.²⁰⁴

The medical response and impacts on health

“ This is the biggest health catastrophe that Côte d'Ivoire has known. ”

DR JEAN DENOMAN

then Deputy General Director of Health

Between 20 and 23 August, medical facilities were confronted with a stream of patients exhibiting similar symptoms, but the medical staff were not yet aware that hazardous waste had been dumped at several locations around Abidjan. The Minister of Health, who was informed of the dumping on 23 August, designated two university hospitals (*Centre Hospitalier Universitaire* or CHUs) to be on alert to treat patients who may have been affected by exposure to the waste. The CHU de Treichville and CHU de Cocody were selected because of their location in relation to the first three dumpsites that were discovered (Vridi, Akouédo and Plateau-Dokui).²⁰⁵ The Minister also established a committee, made up of various government officials with health-related mandates to manage the health consequences of the toxic waste.

A joint press statement was issued by the Ministry for Environment and Forestry and the Ministry of Health, which was broadcast on radio and TV stations on 24 and 25 August 2006, appealing for people who had been affected to seek medical help at the CHUs at Cocody and Treichville.²⁰⁶

As more dumpsites were discovered, and an increasing number of people began to arrive at medical facilities seeking treatment, the response was expanded. The Ministry of Health increased the number of designated treatment centres, and a total of 32 medical centres backed by 20 mobile medical units were made available to treat people who had been exposed to the waste.²⁰⁷ The government brought in medical personnel from other parts of the country to help with the emergency response, and also involved private medical facilities in treating people who had been exposed to the waste. UN agencies and the Red Cross provided assistance, and international aid was received in the form of medicines and the help of specialists, including experts from the US Centers for Disease Control and Prevention (CDC), and experts on the environment and hazardous waste who were part of the UN Disaster Assessment and Coordination (UNDAC) team.²⁰⁸

The medical emergency caused by the dumping placed a huge strain on the country's resources. By 8 September 2006, 1,000 people a day were seeking treatment at medical facilities, reporting symptoms linked to exposure to the toxic waste. This went up to 7,991 people a day at the peak of the medical emergency (around the middle of September 2006).²⁰⁹ At this point, the World Health Organization (WHO) noted:

“ The overwhelming numbers of people seeking medical attention because of this chemical waste are severely disrupting medical services and have resulted in shortages of medicines. ”²¹⁰

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How many people were affected?

It is difficult to get a complete picture of the number of people whose health was affected by exposure to the toxic waste. The publicly available data is largely compiled from analyzing the forms that the Ministry of Health asked all medical facilities to complete. These forms (or *fiches d'enquête*) required medical personnel to record the personal data and symptoms of people who had been treated at their facilities for exposure to the toxic waste.

According to the National Institute for Public Hygiene (INPH), based on an analysis of survey forms, “103,116 consultations were registered between 20 August 2006 to 31 January 2007”. The vast majority of these consultations (97.6 per cent) were conducted in September and October 2006. It should also be noted that the provision for free medical treatment only continued until the end of October 2006.²¹¹

The INPH, working with clinicians, epidemiologists, biologists and the consultants at the WHO and CDC, developed a classification system of “suspected”, “likely” and “confirmed” cases of poisoning.²¹² These categories were based on whether the patient displayed the symptoms identified on a list of clinical symptoms, along with information about exposure.

A number of the patients – 7.4 per cent (7,433 people) – could not be classified because there was not sufficient information about their symptoms. The INPH study therefore focused on the 93,880 patients for whom survey data existed. Of these, 46 per cent (43,492 people) were classified as confirmed cases of poisoning by toxic waste, 26 per cent (24,825 people) as likely cases of poisoning by toxic waste, and 27 per cent (25,563 people) as suspected of having been poisoned by toxic waste.²¹³

According to the INPH study, 82 people were hospitalized because of poisoning caused by the toxic waste,²¹⁴ of whom 31 were treated in the paediatrics department.²¹⁵

The reasons for hospitalization varied from gastrointestinal and other digestive problems, dyspnoea and other respiratory problems, neurological problems and other more severe manifestations of the symptoms noted above.²¹⁶ The longest period of hospitalization recorded was 12 days; the average was 2.5 days.²¹⁷

While the medical forms constitute an important source of data, they have several limitations. They were only created at the end of August and, in some medical facilities, only came into operation in the first week of September,²¹⁸ so there are gaps in the information about patients who were treated prior to this date. A doctor involved in the medical response told Amnesty International: “[T]he first people seeking consultation after 21 August – often the most ill, with nosebleeds and other serious symptoms – were not recorded on the fiches.”²¹⁹

The same doctor also noted that, in some instances, the survey forms were not filled in fully or at all when doctors were under pressure to see many patients or when the medical centres ran out of forms.²²⁰

An additional problem with the data collection was that not everyone whose health was affected sought treatment at a health facility. The Centre Suisse de Recherches Scientifiques en Côte d'Ivoire (CSRS), conducted a survey of 809 households in areas close to the dumping sites. The survey was conducted between 9 October and 28 December 2006. Out of a total of 2,013 people surveyed who presented symptoms of exposure to the waste, only 64 per cent (1,297 people) sought treatment in a health care centre.²²¹



Victims of the toxic waste dumping wait to consult doctors at the main hospital of Cocody in Abidjan, 7 September 2006. © GREENPEACE

The CSRS survey also provides anecdotal evidence suggesting that some people went to traditional healers and that some may have been unable to attend the treatment centres. One doctor told Amnesty International:

“ We did not treat many very elderly people, but this may simply be because they could not make it to the hospital to receive treatment or did not have the strength to stand in the queues all day to receive medications. ”²²²

CHAPTER 5

Effects on health

COMMONLY REPORTED SYMPTOMS

Neurological – cephalalgia (headache) which some doctors noted appeared quickly after inhaling the odours and could occur along with dizziness and blackouts.

Respiratory – respiratory symptoms were very frequently noted, and included dyspnoea (difficult or laboured breathing) resembling asthma attacks, coughs, thoracic pain and more rarely haemoptysis (coughing up of blood or blood-stained sputum).

Cutaneous – stinging sensation on the skin, cutaneous pruritis (itching), various forms of cutaneous eruptions, severe itching.

Digestive problems – bloating, abdominal and epigastric pain, nausea, diarrhoea. Some people living close to the dumping site also presented with haematemesis (vomiting blood) or melaenas (black tarry faeces, normally as a result of internal bleeding).

Ear, nose and throat (ENT) – rhinorrhea (runny nose), dysphasia (impairment of speech), epistaxis (nose bleed).

Ophthalmological – stinging or burning eyes, red eyes and ocular pruritis (itching eyes), purulent lachrymal secretions (pus-like discharge from tear ducts), blurred vision and loss of visual acuity, conjunctivitis.

Some patients also had gynaecological and cardiovascular problems.²²⁴ These were considered rarer, but doctors also noticed cardiac symptoms such as palpitations and tachycardia, as well as an increase in blood pressure. Doctors stated that they treated some serious gynaecological cases, including pregnant women who experienced severe pelvic and abdominal pain. A few doctors also noted cases of miscarriages, which they believed may have been linked to exposure to the waste, since these involved women who had had regular gynaecological consultations at the medical facility prior to the dumping, and whose pregnancies had been progressing completely normally up until their exposure.²²⁵ Women interviewed by Amnesty International also described experiencing pain and changes in their menstrual cycles.²²⁶

The INPH study referred to above contained the following information of prevalence of symptoms amongst patients, based on an analysis of the survey forms:²²⁷

GROUP OF SYMPTOMS	NUMBER OF PATIENTS (N = 98,108)	PERCENTAGE (%)
General or neurological symptoms	72,062	73.4
ENT or pulmonary symptoms	66,853	68.1
Digestive symptoms	54,845	55.9
Cutaneous symptoms	27,999	28.5
Ocular symptoms	17,350	17.7

The World Health Organization (WHO), which provided support for the medical response, reported that symptoms included “nosebleeds, nausea and vomiting, headaches, skin lesions, eye irritation and respiratory symptoms”, and stated that “[t]hese are consistent with exposure to the chemicals known to be in the waste.”²²⁸

Dr Bleu, a general practitioner at the Hôpital Militaire d'Abidjan, treated 6,421 patients over a period of 77 days. He stated that:

“ the most common symptoms were respiratory and ENT problems, such as dyspnea, thoracic pain, rhinorrhea and otalgia. Around 70 per cent of those we saw had these symptoms. Skin problems, such as cutaneous eruptions were slightly less common, perhaps only 30-40 per cent of patients. The patients who presented early on, within the first week, complained principally of symptoms affecting the ENT, ocular and pulmonary symptoms. ... Many of the ENT symptoms were quite serious, and I believe that it was the inflammation of the ENT system that in many cases caused people to suffer such severe headaches and, in some cases, dizziness and fever. After around 10 days or two weeks, I noticed the pattern of symptoms altered slightly. While most patients still complained of the symptoms I have already mentioned, we began to see increasing numbers of people who also had digestive and skin problems. ”²²⁹

Doctors who treated people at public and private medical facilities stated that those who had been exposed to the toxic waste manifested a unique mix of symptoms.

Dr K stated, “If a patient suffered from stinging eyes, we knew it wasn't related to a bout of malaria. Generally, respiratory, ophthalmological and ENT symptoms often indicated a contamination by toxic waste”²³⁰

Dr Bleu said, “Those who were exposed did not tend to present with just a headache or just stomach problems, without also having some accompanying symptoms such as the reddened eyes or a runny nose. Where there were doubts as to the cause of the patient's illness, we ran tests to eliminate other possible causes, such as malaria or typhoid fever”²³¹

The doctors said that the severity and duration of the symptoms varied according to patients' ages, individual sensitivities, whether they had pre-existing health problems, levels of exposure and whether they continued to be

exposed to the waste. They said that some adults were unable to go to work, and children missed school because of the pain and discomfort they experienced.

Dr A, a lung specialist, stated in an affidavit that:

“ The symptoms of the toxic waste were particularly severe amongst the weak, such as asthmatics, those suffering from respiratory allergies, children, the elderly, those undergoing treatment for or recovered from tuberculosis (with pulmonary after effects), and those who were HIV positive. These symptoms tended to be more serious among people living close to the dumpsites, in terms of pulmonary effects; I noticed that pulmonary problems appeared rapidly as a secondary effect following airway exposure to the toxic waste ”²³²

Doctors believe that, after people were given medication, most of the symptoms lasted only a few days for people who did not have pre-existing conditions and who did not continue to live near the waste.

Dr Bleu noted that the cutaneous symptoms, especially rashes, lasted for longer (a week to 10 days) even with treatment. He also noted that children were particularly affected by cutaneous symptoms.²³³ This was also confirmed by a Red Cross report, which noted:

“ The gas emanations from the waste not only polluted the environment, but also caused various pathological problems in these communities. Among the effects were breathing, digestive and dermatological problems, which mostly affected youths and children aged under 15 years. ”²³⁴

Doctors also told Amnesty International that they continued to treat people with persistent or chronic problems up to November and December 2006 and January 2007.

CHAPTER 5

Deaths recorded

The Ivorian authorities recorded a number of deaths resulting from exposure to the waste but there are gaps in the information on the number of people who died, and the causes of death. Official reports variously record 15-17 deaths caused by exposure to the toxic waste.²³⁵ The families of 16 people recorded dead (including six children) later received substantial compensation payouts from the settlement money paid by Trafigura to the Ivorian government (see Chapter 11). The INPH study noted that hospitals recorded 10 deaths²³⁶ and documented the following information for the 10 deaths that were reported by hospitals:²³⁷

AGE	SEX	DATE OF DEATH	DURATION OF HOSPITALIZATION (IN DAYS)	DIAGNOSIS
4 years	M	29/08/2006	2	Respiratory distress
16 years	M	08/09/2006	0	Dead on arrival
Unknown	M	08/09/2006	0	Not specified
6 months	Not known	09/09/2006	0	Anaemia and respiratory distress
14 years	F	10/09/2006	1	Haemorrhagic syndrome
19 years	M	14/09/2006	2	Acute diarrhoea, vomiting and fever
39 years	M	17/09/2006	1	Diarrhoea and vomiting
39 years	M	17/09/2006	1	Diarrhoea and vomiting
37 years	M	20/09/2006	0	cardiopulmonary arrest
Unknown	M	24/09/2006	12	Pleuropneumopathy

Amnesty International was also informed about other deaths which were believed to be linked to exposure to the toxic waste but were neither recorded nor investigated (see section on prisoners left exposed to the toxic waste below).

CHEMICALS IN THE WASTE

Although several agencies conducted tests on the waste material carried by the *Probo Koala* and dumped in Abidjan, there is a lack of information about its exact chemical composition. The first test was carried out by Amsterdam Port Services (APS) in the Netherlands, six weeks before the dumping took place, and, as detailed in Chapter 3, this revealed a chemical oxygen demand (COD, a measure of contamination) that was substantially higher than APS had expected. The Netherlands Forensic Institute (NFI), which is part of the Dutch Ministry of Justice, also carried out tests on the aqueous and hydrocarbon layers of the waste. After the dumping had taken place, Centre Ivoirienne AntiPollution (CIAPOL), part of the Ivorian Ministry of Environment also carried out analyses on samples of the waste found on the quay, as well as waste from the Akouédo dumping site. However, each of these tests had limitations in terms of what was analysed. This issue is discussed further in Chapter 6 and in the annex to this report. Trafigura has never published its own analysis of the waste.

What is known is that the chemicals present in the waste included sodium hydroxide, mercaptides, sulphides, phenolates²³⁸ and organic chemicals such as benzene, xylenes and toluene. Exposure to these chemicals and/or their reaction/decomposition products (some of which may have been formed and released if the pH – which is a measure of how alkaline or acidic a substance is – of the waste was lowered) in certain concentrations can lead to negative health impacts.

Amnesty International and Greenpeace asked a toxicologist to review the publicly available evidence about the waste and to comment on likely impacts. As noted above, the publicly available information has limitations, but there is evidence to suggest that the pH of some of the dumped waste fell below 11, which would have resulted in a portion of the mercaptides being converted into mercaptans and being released into the air.²³⁹

The likely effects of inhaling significant quantities of mercaptans would be headache, nausea and vomiting, coughing, dizziness and drowsiness. Mercaptans are recognized irritants of the eyes, skin, and respiratory tract. Both eyes and skin become red and painful, and prolonged exposure of the skin causes dermatitis. Mercaptides would be a source of mercaptan vapours as the pH of the waste decreased after it was dumped, but mercaptides themselves are also hazardous chemicals, including by skin contact, ingestion and aspiration (ie inhalation of droplets).

The waste also contained sulphides. It is more difficult to determine whether individuals would have been exposed to hydrogen sulphide and in what concentrations. Hydrogen sulphide would be released if the pH (of parts of) the waste fell to between 7 and 8. A toxicologist consulted by Amnesty International and Greenpeace stated that, over time, it is likely that this lower pH could have been reached for some of the waste because of dilution by rainfall and contact with other soil ingredients. However, on the basis of the information available, it is not possible to say how long it would have taken to reach this stage.²⁴⁰ The effects of exposure to hydrogen sulphide depend on the concentration of the chemical itself; high concentrations create the greatest risk. Hydrogen sulphide is irritating to the eyes and respiratory tract and affects the central nervous system. The effects of exposure are known to include headache, dizziness, cough, sore throat, nausea, and laboured breathing. Exposure of the eyes will result in them becoming red, painful, and there may be severe deep burns. Exposure to high concentrations of hydrogen sulphide can result in unconsciousness and death.

Benzene, xylenes and toluene were also identified in the NFI analyses of the waste, but their concentrations in the air in Abidjan following the dumping of the waste are not known. Exposure to these organic chemicals could have had a range of negative health impacts.²⁴¹ Individuals can become drowsy and develop headaches. Many of these chemicals are respiratory tract irritants, and exposure could exacerbate breathing problems in individuals with conditions such as asthma or bronchitis.

Initially, Trafigura denied that the waste was the sole cause of any effects on health, claiming that there were alternative plausible explanations for the mass attendance of people at medical centres in the days and weeks after the dumping. According to the company, other explanations for the reported health impacts could have included mass hysteria and people capitalizing on the provision of free health care by the state. Trafigura also suggested that people suffered negative effects due to a product that had been sprayed to kill mosquitoes in and around Abidjan in the days before the dumping.²⁴²

Trafigura has since accepted that the waste could have had an effect on people's health but only to a limited extent. In an out-of-court settlement with 30,000 victims in the UK personal injury claim (see Chapter 13), Trafigura accepted that the waste could have had a range of short-term health impacts that were comparable to "flu like symptoms".²⁴³ The underlying evidence on which this assessment is based has not been made public by Trafigura.

CHAPTER 5

TRAFIGURA: VICTIM OF THE MEDIA?

In the years after the dumping, Trafigura has publically denied that the *Probo Koala* waste was hazardous and caused serious injuries to health or deaths. It also complained that the media reporting on what happened in Côte d'Ivoire has been "biased", "factually wrong" and "highly inaccurate" since the beginning.²⁴⁴ According to Trafigura this has led to a "smear campaign against Trafigura from which environmental activists, journalists and politicians were seeking to gain at Trafigura's expense."²⁴⁵

In the Netherlands - where the company faced criminal prosecution over the illegal export of hazardous waste - there has been intense debate in the media on the waste and whether or not it was hazardous. Trafigura has maintained that the waste was not dangerous.

In general Trafigura's assertions about the waste have not been seen as credible by the media. One journalist, Karel Knip of the Dutch newspaper NRC, has supported Trafigura's claims about the waste and its impacts, and has, since the news of the dumping emerged, questioned whether the reported health effects and deaths could be attributed to the *Probo Koala* waste. As far as Greenpeace and Amnesty International are aware, Knip is the only journalist who was given access by Trafigura to reports that Trafigura has refused to make public. Trafigura's claims about the waste have been based on reports it holds but which it refuses to make public; therefore the content cannot be subject to scrutiny by scientists and medical experts.

The Court of Amsterdam - in finding Trafigura guilty of illegal export of waste in 2010 - made particular reference to Trafigura's relationship with the media, stating: "Trafigura is naturally at liberty to adopt an aggrieved attitude in this matter, however it is not proper behaviour to then point an accusing finger at the outside world without shedding light on the issue of whether or not Trafigura could perhaps assume any of the blame for the situation in which it found itself in July/August of 2006. In conducting itself in this manner, Trafigura is demonstrating its complete lack of faith in the media and in the sincerity of journalists, although it does make one exception, and that is with respect to the journalist Knip. He is the only one who understands and who - to the extent the Court must assume this with the aid of information from Trafigura - wrote an article during the course of these criminal proceedings as well as after Trafigura had presented its arguments - describing the relative harmlessness of the slops"²⁴⁶

Based on the comments made by the Court, the Dutch newspaper, *Trouw*, published an article stating that the Court assumed that Knip had published incorrect information based on information from Trafigura.²⁴⁷ Journalist Knip, submitted a complaint against *Trouw* to the Journalism Advisory Board. In response to a request from this Board, the Court of Amsterdam confirmed that *Trouw's* reading of the court's comments was correct.²⁴⁸

In November 2011 - a few weeks before the start of appeal proceedings began - a publicist, Jaffe Vink, published a book on the case: *The toxic ship - a report on a journalistic scandal*. In this publication, Vink claims that the *Probo Koala* waste was not toxic and that no one had died as a result of exposure to it.²⁴⁹ The book, and newspaper articles by Vink and Knip, stirred a public debate in The Netherlands. They accused several media outlets (in particular the newspaper, *Volkskrant*) and Greenpeace of having "hyped-up" the impacts of the waste. Greenpeace, specifically, was portrayed as playing a dominant, even catalytic, role in focusing attention on Trafigura and the *Probo Koala* case.²⁵⁰ The public debate faded out when the Court of Appeal handed down its verdict on 23 December 2011 in which it confirmed the hazardous nature of the *Probo Koala* waste.

Was the waste toxic and did it kill people? This question was at the heart of the media debate in The Netherlands.



Challenges faced by doctors in the medical response

Despite major national and international efforts, even where treatment was provided, demand frequently outstripped the availability of medical personnel and supplies. Medical teams report being “overwhelmed” by the numbers of patients.

“ During the peak period, throughout September, we were seeing up to 600 patients on certain days. ... When we arrived at work in the mornings, there were already long queues of people awaiting us. Some people waited all day, only to have to return the following morning, which made them very frustrated. It was a very difficult time. ... Sometimes we ran out of particular medicines and had to send people elsewhere... ”

DR. BLEU

GP in the Abidjan military hospital during the crisis²⁵¹

While the scale of the medical emergency put unprecedented demands on Abidjan’s health system, the impact of the waste reduced overall capacity, as medical and support staff themselves fell sick or stayed away because of the unbearable stench and its associated health impacts.²⁵²

A WHO assessment in mid-September 2006 noted that there were only three doctors to deal with an average of 300 patients a day at the Akouédo health centre, despite the fact that there were many people living on and around the Akouédo dump:

“ A great flow of affected people has been registered; most of them are children and infants. This health centre is located not far from the biggest toxic waste disposal. The ambient air is very prickly [for] breathing. Three medical doctors [have been] dealing with patient management since September 12th 2006, but currently, this is not enough ... the population complains about the low quality of patient management (long waiting). ”²⁵³

There was also lack of essential medicines and medical supplies.²⁵⁴ In its evaluation of the crisis, the Red Cross later also reported shortages in its own supplies of medicines during the emergency.²⁵⁵

Doctors were additionally hampered by a lack of information on the composition of the waste. A doctor told Amnesty International, “As we are not aware of the composition of the waste – although we know it was hydrocarbon and non-radioactive waste – we had to do a symptomatic treatment for all the symptoms. As a result we mostly used generic medicine to treat symptoms related to the toxic waste.”²⁵⁶ The UN Special Rapporteur on Toxic Waste and Human Rights, who visited Côte d’Ivoire in 2008, also noted that, while treatment was free, it was – in the majority of cases – quite basic.²⁵⁷ For example many patients received paracetamol for pain relief or antiseptic drops for eye problems.

Gaps in the medical response

To the government’s credit, tens of thousands of people were given free medical treatment at access points all around the city.²⁵⁸

However, in some cases, the government failed to respond to requests for help for several weeks. For example, it was only in mid-September that mobile health units were dispatched to Djibi village, even though the head of the village had alerted the authorities soon after the dumping that the village had been badly affected. When the authorities failed to respond to their requests for help, the residents of Djibi organized a sit-in on the Route d’Alepe, one of Abidjan’s major transport routes, to demand medical treatment and a clean-up of the waste next to their village.

“ Eventually we decided that the only way to get help was to make ourselves heard. I believe this was at least two or three weeks after the

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odours had first begun. We decided to have a sit-in and block off the Route d'Alepe, which is one of Abidjan's major transport routes. The whole village turned out to sit on the road for at least half a day... Soon after that TV footage was shown on TV... the Red Cross came to investigate what was happening in Djibi. They came with the government doctors from SAMU and set up a tent in my courtyard to treat people and began to distribute free medications. ”

CHEF MOTTO OF DJIBI VILLAGE ²⁵⁹

“ After three or four days I had a headache, unusual fatigue, spots, bloating, bearable abdominal pain but permanent, very dry throat [...] and a burn on the body and swollen eyes ” **ANGÈLE N'TAMON** ²²³

Angèle N'tamon, February 2009. A nurse at Djibi who treated victims of the toxic waste dumping.
© AMNESTY INTERNATIONAL



When the medical team arrived in Djibi, the magnitude of the need was clear. One of the doctors later described the situation:

“ From the time that my team and I spent in Djibi ... I think it likely that the entire population of that village were victims of the waste. ... All the people treated there were claiming some combination of symptoms consistent with the chemical exposure that were easily externally verifiable on consultation. I had little cause to doubt the existence of other subjective symptoms, such as headaches, as my staff and I had suffered similar symptoms on exposure. Unfortunately, only symptomatic treatment was available, as there was nothing that we could do to address the apparent cause of the illnesses, the waste. As a result, many patients had to consult more than once in order to receive further medication. ”

MANASSE GOULE

Director of Operations, Emergency Medical Services (SAMU) ²⁶⁰

Those who could afford it went to private clinics to seek treatment or follow-up care. However, very few had enough money for this. Most people had to queue for days to receive basic treatment.

The medical response officially concluded at the end of October 2006. ²⁶¹

The MACA prison in Abidjan. Waste dumped close by. © AMNESTY INTERNATIONAL



PRISONERS LEFT EXPOSED TO TOXIC WASTE

Toxic waste was also dumped a few metres from a prison, Maison d'Arrêt et de Correction, known as MACA prison, which had more than 4,300 inmates at that time.²⁶² The juvenile block was located closest to where the waste had been dumped. One inmate of this block, reported to be 12 or 13 years of age, was recorded as having died from the effects of the waste.²⁶³ The doctor who treated him stated: "He had been suffering from various symptoms, including vomiting, coughing and itching and pimples all over his body. When he was presented to me, he was losing consciousness, and had little pulse or blood pressure. He was evacuated to the CHU de Treichville where he died two days later".²⁶⁴

Another juvenile inmate is also believed to have died as a result of exposure to the waste. He complained of symptoms "soon after the odours began"²⁶⁵ and was found dead in his cell the next morning. However, because this death took place before the prison authorities were aware of the toxic waste, the death was not recorded as related to the dumping.²⁶⁶

The prison doctor also stated that, although an increasing number of patients were presenting with symptoms such as rhinitis, eye irritation and thoracic pain during the week of 21 August 2006, the situation began to deteriorate seriously in the first week of September, after a heavy downpour of rain.

“ A number of young prisoners then fell ill ... this particular group had been working in the gardens outside the building, even closer to where the waste had been dumped. Those who became most seriously ill were those who had stayed in the garden longest. They presented at the clinic complaining of burning and stinging sensations in the thorax, nasal, ocular and laryngeal irritations. The symptoms became progressively worse. By around midday, we also noted symptoms such as muscular pain, arthralgia, nausea, vomiting, diarrhoea, cephalgia, asthenia and several cases of epistaxis and even two cases of hematuria. [headache, muscle weakness, nosebleeds and blood in urine, respectively] ”

DR BOUAFFOU

Head of the clinic at MACA²⁶⁷

Because of the growing number of sick children in MACA prison, the authorities evacuated all the minors on 8 September 2006. All the pregnant and breastfeeding women were evacuated next, but the rest of the inmates were not moved from the overcrowded prison, and continued to be exposed to the waste and its associated adverse health impacts. The prison doctor recommended the evacuation of all the inmates but this was not carried out. He told Amnesty International that it was felt to be logistically impossible to evacuate over 4,000 prisoners be-

cause the other prisons in the country were much smaller and were already congested.²⁶⁸

Although these inmates remained at MACA, the authorities did not clean up the waste from outside the prison until October 2006, and people continued to suffer from a variety of health impacts.

Dr Bouaffou noted that: "Virtually all the prisoners whose cells faced the waste found it extremely difficult to breathe at night. Many told me how they passed their evenings breathing through rags or a pillow."²⁶⁹ During the medical emergency, the prison clinic treated 1,780 people.²⁷⁰ Dr Bouaffou also stated that: "Many of the inmates suffered a combination of symptoms. Perhaps 80 per cent of the inmates suffered from intense headaches. Pharyngitis was a very common problem. Perhaps 20 per cent of inmates suffered from nosebleeds. Most had streaming noses. Many had serious digestive problems. Very many of the prisoners were also afraid to eat during the crisis."²⁷¹ He also said that prisoners had a recurrence of their symptoms when the waste was cleaned up from outside the prison.

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Women from Djibi village who do not want to be identified. They believe their reproductive system has been affected by the toxic waste. © AMNESTY INTERNATIONAL

THE IMPACT OF RAINFALL

Many people interviewed by Amnesty International, including doctors, have asserted that following periods of rainfall the “*Probo Koala* smell” returned to the air; this is reported to have occurred for many months after the initial dumping and probably relates to the release of additional quantities of mercaptans or other strong-smelling volatile sulphur compounds from the waste, either by physical disturbance or by reduction of the surface pH by the rainfall, or a combination of the two. We do not know if pH of surface portions of the waste was reduced sufficiently by rainfall to release hydrogen sulphide. The potential for formation and release of this compound would have been greater where waste was dumped into river channels, lagoons or in thin deposits on land (where neutralisation could have been much more rapid and efficient), even if the majority of the waste (dumped elsewhere) remained at a high pH because of its physical bulk and limited contact with water. This issue is dealt with further in Annex 1 of this report.”

Widespread fear and anxiety

“ You don’t know whether it kills ... We have a right to know what the impact has been on our health. ”²⁷²

The dumping sparked demonstrations all over the city as a result of people’s anger and fear about what had happened. On 15 September 2006, angry residents of the Akouédo district attacked the Minister of Transport, pulling him out of his car and forcing him to inhale fumes from the waste that had been dumped there nearly a month before. On 9 October 2006, the police used tear gas to disperse about 100, mainly young, demonstrators who had barricaded a main access to the port and set tyres ablaze to protest against the storing of containers of toxic waste.²⁷³

Exposure to the overpowering smell and the health effects created a great deal of fear and mental distress amongst Abidjan’s population. In early September 2006, WHO noted the “growing anguish of the populations because of the frequency, number and seriousness of the symptoms presented by contaminated individuals”.²⁷⁴

There were further waves of fear and distress each time the stench intensified, which reportedly occurred particularly after periods of rain when gases from the waste may have been released into the air.²⁷⁵ The odours were reported to persist for some time even after a decontamination process was carried out (this process is described in Chapter 12). For example, commenting on the decontamination effort in October 2006, the

UN Office for the Coordination of Humanitarian Affairs noted that: “The sites of Akouédo 1 and 2, Abobo Veneers and MACA have been treated. Despite the end of works on certain sites, odours persist forcing local residents to flee.”²⁷⁶

In the period after the dumping, the Ivorian state hired 30 psychologists to help people cope with the trauma.²⁷⁷ The government also launched a campaign to raise public awareness about the dumping and the health risks, with the stated aim of providing information for affected communities living near the dumpsites.²⁷⁸ This included announcements in the media, a dedicated website, free telephone numbers and field visits to affected communities.²⁷⁹ The government advice warned people to be vigilant about their children’s health, and said that no one should approach or handle the waste, and children should not play near it. The advice encouraged people to go to hospital or consult a doctor if they experienced any symptoms.²⁸⁰

A number of NGOs involved in the emergency response also participated in the effort to inform the population. For example, the Red Cross Society of Côte d’Ivoire sent volunteers to affected areas to disseminate information on measures to be taken in case people came into contact with the waste, and to make them aware of the health risks and how to protect themselves.²⁸¹

However, as the public health crisis deepened, there were repeated demands by people in Abidjan for more information.²⁸² Victims to whom Amnesty International spoke later said they had little or no response from government authorities when they requested further information about possible environmental and health impacts and how these were being assessed.²⁸³

Government efforts to inform and reassure the population of Abidjan were also hampered by a lack of information on the exact composition

of the waste or the likely medium- to long-term health implications of exposure. Various assessments of the emergency response have noted that the psychological impact was exacerbated by the fact that people did not know what the waste consisted of, and what risks it posed for them.²⁸⁴ For example, a group of psychologists who volunteered during the medical emergency between September and November 2006, and who treated almost 2,000 people, reported that people’s anxiety had been heightened by “rumours of side effects of toxic waste such as infertility... miscarriages, malformation, and generalized cancer.”²⁸⁵ A number of psychological problems were recorded, including insomnia, lack of concentration and asthenia (weakness, loss of strength), as well as depression, post-traumatic stress disorder and generalized anxiety.²⁸⁶

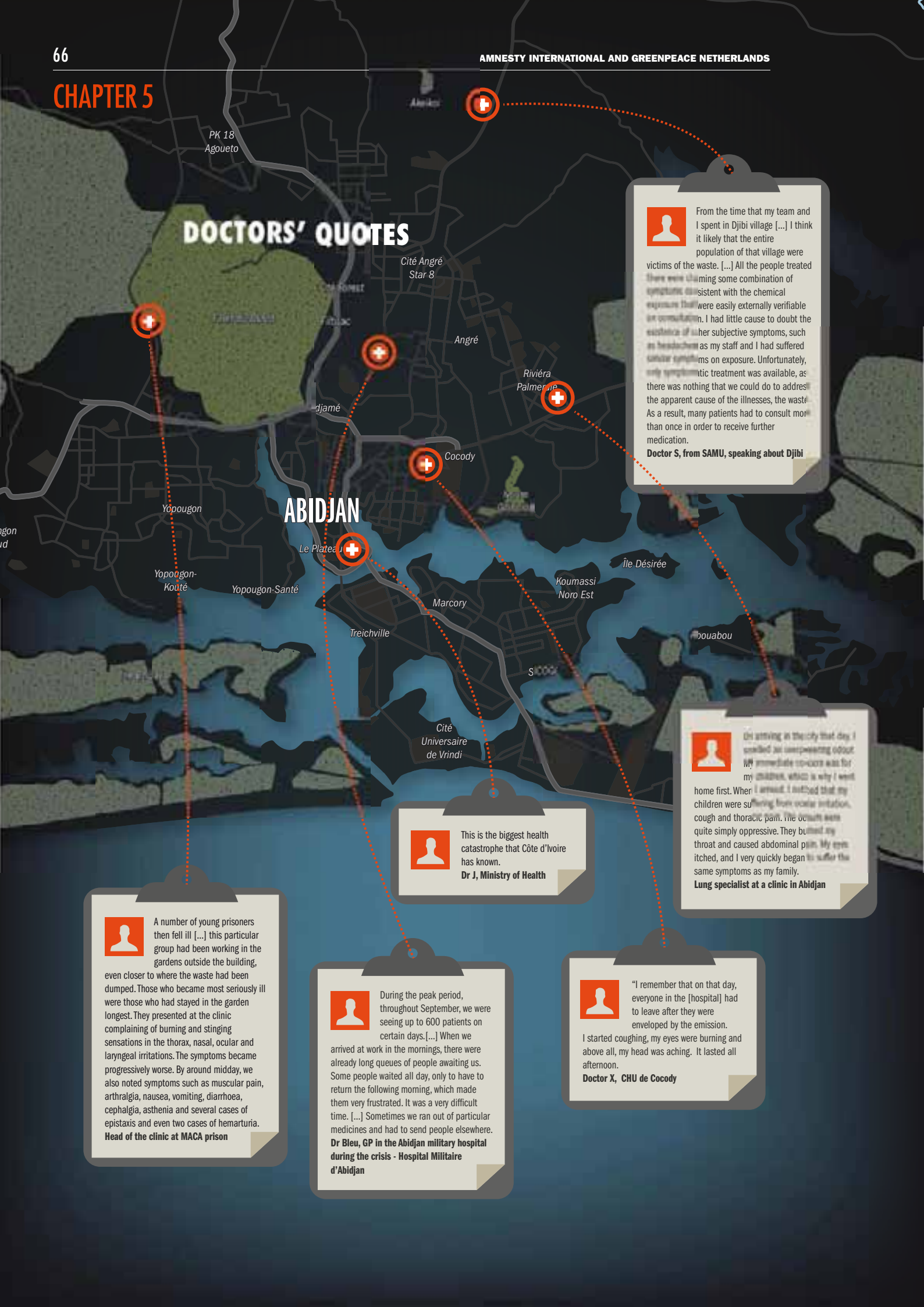
Displacement

As a result of the dumping, many people fled their homes and workplaces. The authorities recorded population displacements, including large movements of populations in the zones very close to dumping sites, such as Akouédo, the Lauriers 8 and 9, and Genie 2000 districts.²⁸⁷

The Centre Suisse de Recherches Scientifiques en Côte d’Ivoire conducted a survey of 809 households living in areas close to the dumping sites. Out of a total of 501 households affected by the toxic waste, 453 households answered the question related to relocation. The survey found that 114 households had to move away from their homes. Most of the households that had to relocate were based in Akouédo (45 per cent); 27 per cent of those who relocated left their neighbourhood but stayed in the surrounding area; 40.5 per cent left their area of residence; and 28.8 per cent left the city.²⁸⁸ No follow-up data on the situation of people displaced by the effects of the waste is available.

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DOCTORS' QUOTES



From the time that my team and I spent in Djibi village [...] I think it likely that the entire population of that village were victims of the waste. [...] All the people treated during some combination of symptoms were easily externally verifiable. [...] I had little cause to doubt the existence of her subjective symptoms on exposure. Unfortunately, no specific treatment was available, as there was nothing that we could do to address the apparent cause of the illnesses, the waste. As a result, many patients had to consult more than once in order to receive further medication.

Doctor S, from SAMU, speaking about Djibi



This is the biggest health catastrophe that Côte d'Ivoire has known.

Dr J, Ministry of Health



On arriving in the city that day, I couldn't stop worrying about my children, which is why I went home first. When I returned, I noticed that my children were suffering from ocular irritation, cough and thoracic pain. The ocular irritation was quite simply oppressive. They had a sore throat and caused abdominal pain. My eyes itched, and I very quickly began to suffer the same symptoms as my family.

Lung specialist at a clinic in Abidjan



A number of young prisoners then fell ill [...] this particular group had been working in the gardens outside the building, even closer to where the waste had been dumped. Those who became most seriously ill were those who had stayed in the garden longest. They presented at the clinic complaining of burning and stinging sensations in the thorax, nasal, ocular and laryngeal irritations. The symptoms became progressively worse. By around midday, we also noted symptoms such as muscular pain, arthralgia, nausea, vomiting, diarrhoea, cephalgia, asthenia and several cases of epistaxis and even two cases of hematuria.

Head of the clinic at MACA prison



During the peak period, throughout September, we were seeing up to 600 patients on certain days. [...] When we arrived at work in the mornings, there were already long queues of people awaiting us. Some people waited all day, only to have to return the following morning, which made them very frustrated. It was a very difficult time. [...] Sometimes we ran out of particular medicines and had to send people elsewhere.

Dr Bleu, GP in the Abidjan military hospital during the crisis - Hospital Militaire d'Abidjan



"I remember that on that day, everyone in the [hospital] had to leave after they were enveloped by the emission. I started coughing, my eyes were burning and above all, my head was aching. It lasted all afternoon.

Doctor X, CHU de Cocody

Negative impacts on workers and livelihoods

Though many people living near the dumpsites left the areas to avoid continued exposure to the waste, others could not abandon their homes because they were afraid that their crops and houses would be looted in their absence.²⁸⁹ Also, many people could not afford the costs of leaving the area and had to continue working close to the sites where the waste had been dumped.²⁹⁰ This left them in a double bind: they needed to continue living and working near the dumpsites in order to earn a living but exposure to the waste could have a continuing negative impact on their ability to work.

Businesses in the Vridi industrial district were particularly hard hit because some of the waste was dumped directly next to factories and businesses.²⁹¹ A WHO report noted that most companies in the area had been forced to close in the first few weeks after the dumping.²⁹²

Many workers in the industrial district, however, had to continue working close to the waste because their employers would not or could not move their businesses away from the contaminated area. And although some employers reportedly provided face masks for their workforce, others did not. Some workers improvised home-made face masks in an attempt to protect themselves against the overpowering fumes from the waste.²⁹³

Fishing and farming livelihoods were also affected because the government banned certain activities and culled animals, fearing contamination of the food chain. The Ministry of Agriculture destroyed fruit and vegetable crops.²⁹⁴ It also ordered the destruction of livestock and fish, and the closure of slaughterhouses near the affected sites.²⁹⁵ According to the government, 109.5 hectares of crops belonging to 245 farmers was destroyed, and 455 animals were culled.²⁹⁶ In the aftermath of the dumping, the government prohibited farming, fishing and small commercial activities in areas next to the contaminated sites. Special protection measures were also adopted to prevent people consuming potentially contaminated products.²⁹⁷ These included a ban on fishing in the lagoon, and culling of animals showing obvious signs of contamination.²⁹⁸

As discussed in the limits of justice chapter later in this report, many workers, businesses and others complained that they did not receive compensation for their losses.



February 2009, Jérôme Agoua, president of the toxic waste victims' association of the Abobo-Plaque 1 area at a bakery in Abidjan near to which toxic waste was dumped.

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CHAPTER 6

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THE WASTE: ISSUES AND QUESTIONS

Despite official investigations conducted in Côte d'Ivoire and the Netherlands following the dumping of the waste, as well as criminal prosecutions in both countries, there remain a number of questions about the waste and its likely impacts on health and the environment, which have never been answered. As noted in Chapter 5, the lack of complete disclosure about the waste has left a legacy of uncertainty for many victims, who worry about long-term health effects. Trafigura has made claims about the likely health impacts, including stating that the waste could not have caused deaths or long-term health problems. However, since the company has never disclosed key information about the waste or Trafigura's own assessment of the impacts, these claims cannot be verified.

The composition of the waste: what is known?

Several agencies conducted tests on the waste material carried by the *Probo Koala*. The most in-depth information that is available about the composition of the waste comes from the testing undertaken by Netherlands Forensic Institute (NFI).²⁹⁹ In addition, two Dutch waste processing companies, AVR³⁰⁰ and ATM Moerdijk,³⁰¹ analyzed samples taken by Amsterdam Port Services (APS) when the *Probo Koala* was in Amsterdam in July 2006. Tests were also carried out by the Centre Ivoirien AntiPollution (CIAPOL), part of the Ivorian Ministry of Environment, on samples of the waste found on the quay in Abidjan, as well as waste from the dump site, Akouédo. The available evidence confirms that the waste was hazardous.³⁰² This was confirmed by the courts in Netherlands: in 2010/11 Trafigura was found guilty of the illegal export of waste from the Netherlands to Africa and for "concealing the harmful nature of the waste for life and health" when the company brought the waste to Amsterdam for processing. The court quoted a statement by the NFI expert:

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“ It has been determined that the slops contain flammable, caustic/corrosive substances (naphtha and sodium hydroxide, respectively) and hazardous to (very) toxic substances, besides substances which can release harmful to extremely toxic substances under certain conditions (sulphides, mercaptides). In view of the fact (among others) that the slops contain flammable materials (naphtha), substances which can cause severe skin injuries (including sodium hydroxide), and substances which, when the pH is lowered, decompose into (extremely) toxic mercaptans and hydrogen sulphide, we believe that the conclusion that this waste is extremely hazardous is justified. ”³⁰³

The chemical oxygen demand (COD) of the waste

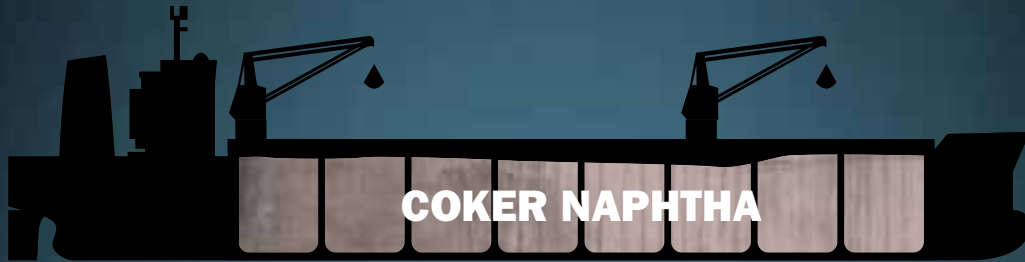
APS's initial expectation was that it was dealing with a waste with a COD of less than 2,000mg/l. However, on testing the material they found a COD of almost 500,000mg/l (this is what BMA reported to Falcon Navigation).³⁰⁴ The NFI tests, which as noted above, are considered the most thorough, found a COD of 720,000mg/l. COD is used as one measure of the levels of contamination of a waste or material with oxygen-depleting chemicals, normally degradable organic chemicals, based on the relative potential for a waste to deplete or even remove oxygen from water. It is this potential for depletion of oxygen and its knock-on effects that is the reason behind the concerns for very high COD.

The flashpoint of the waste

The flashpoint is a measure of the temperature at which the vapour from a material might combust if exposed to an ignition source. The lower the flashpoint the higher the content of volatile combustible material present (for example, chemicals generating combustible or flammable vapours). The flashpoint of the waste was less than 21°C.³⁰⁵ Under Sections 3 and 4 of the European Hazardous Substances List Regulation and Annex III of Directive 91/689/EEC on hazardous waste, waste substances with a flashpoint of less than 55°C qualify as hazardous waste.

CAUSTIC WASHING ON BOARD THE PROBO KOALA

This infographic is a simplification of the caustic washing process



A Side section of the ship



B What had been put in



C Circulation for 24 hours



D What was left in the ship

SLOP TANKS

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The composition of the waste: what is not known

A contaminated sediment layer

Sediment waste residues appeared to have been generated not only in the slop tanks but also in the cargo tanks during the caustic washings. Being heavier, the sediment would probably have sunk to the bottom of the ship while it was docked at Amsterdam, and the method used to sample the waste – a jar lowered to the bottom of the slop tanks – would not necessarily have detected any sludgy sediments.³⁰⁶

Evidence of the existence of an unsampled sediment layer comes from several sources. Firstly, a dispute arose in September 2006 between the owner of the *Probo Koala*, Prime Marine Management, and Trafigura, who chartered the ship. The dispute appeared to be related to the costs of proper cleaning of solid residue left in the tanks following the dumping in Abidjan.³⁰⁷ Secondly, an investigation in Norway following an explosion at Vest Tank (see Chapter 7), where the same process of caustic washing was undertaken by Trafigura,³⁰⁸ shows that 50m³ of sediment were produced in that case. It is therefore reasonable to consider that such sediment was produced on board the *Probo Koala*. Finally, one of the truck drivers from Abidjan, who claims to have taken the last offload from the *Probo Koala*, has stated:

“ I managed to fill up the tank only half way, in other words between 10,000 and 15,000 litres. At that point, the liquid was very heavy – almost like liquid mud. It was a sort of thick and reddish mud. ”³⁰⁹

If part of a sediment layer of waste was dumped in Abidjan, it is possible that the risk to human health would be greater than if no such waste layer were present.

More information on the composition of the waste is included in Annex I.

The information that is publicly available about the waste clearly demonstrates that it was hazardous. However, by far the most in-depth knowledge of the waste is held by Trafigura, and the company has made public statements about the waste and its potential to affect health, based on data and testing and modelling it claims to have carried out in relation to the waste. To date, Trafigura has been unwilling to disclose this information.

Given the scale of the disaster at Abidjan, and the ongoing concerns amongst the affected individuals – concerns shared by medical professionals – the fullest possible disclosure of information on the nature of the waste, and the potential health impacts is essential. This would allow independent experts to scrutinise the data and to provide reassurance – or appropriate treatment – for affected individuals.

Was the coker naphtha already a Basel waste?

Under the Basel Convention, “wastes” are defined as “substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law.”³¹⁰ “Disposal” is defined as meaning any operation specified in Annex IV of the Basel Convention;³¹¹ Annex IV includes operations for both final disposal (under Annex IV A) and recycling (under Annex IV B). The title of Annex IV B reads as follows: “operations, which may lead to resource recovery, recycling reclamation, direct re-use or alternative uses”. Most industrial or manufacturing production processes involve the production of wastes which are sometimes referred to as by-products. These wastes or by-products must be properly disposed of or further processed in order to turn them into products or commodities.

Coker naphtha is a by-product of oil refining that needs to be dealt with either by proper disposal or by further processing to turn it into a commodity or product. The Mexican coker naphtha that Trafigura bought is a liquid residue of two primary refinery processes. The fact that experts note that there is a relatively “thin” market for coker naphtha³¹² is further indication that coker naphtha is not the primary intended product, but rather a by-product, which could either be disposed of (eg through incineration) or be further processed (recycled or reclaimed) in order to transform it into a product or commodity. Under Basel definitions then, coker naphtha should be considered a waste.

If one considers coker naphtha a waste material, the next question is whether or not the material is *hazardous*, and therefore one that falls under the Basel control regime. Based on data from the Mexican company that sold the coker naphtha, the substance includes *toxic, irritant and flammable* compounds.³¹³

Hazardous waste is defined in the Basel Convention as “wastes that belong to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex III.”³¹⁴ Coker naphtha should be categorized as hazardous waste under the Basel Convention, firstly because it is a waste material described in Annex I, which includes waste oils/water, hydrocarbons/water mixtures, emulsions, and wastes that have organic solvents as constituents,³¹⁵ and secondly because coker naphtha clearly possesses Annex III hazardous characteristics: it is explosive; a flammable liquid; poisonous; and dangerous if it is inhaled or ingested or penetrates the skin.³¹⁶

Amnesty International, the Basel Action Network (an organization that works on toxic trade issues and the Basel regime) and Greenpeace believe that there is a strong case for considering that the coker naphtha

itself is a hazardous waste and should have been subject to the Basel regime in this case. Between January 2006 and May 2007, Trafigura transferred approximately 15 shipments of coker naphtha to onshore facilities in several countries (United Arab Emirates, Tunisia and Norway) and two ships (*Probo Koala* and *Probo Emu*), for the purpose of desulphurizing it by the process of caustic washing (described above). In the United Arab Emirates, Tunisia and Norway the caustic washing took place in a facility on land. The caustic washing on board the *Probo Koala* took place in international waters within the Mediterranean Sea and in the territories of Malta, Spain and the UK (Gibraltar).³¹⁷ Norway, Spain, the UK, Tunisia, Malta and the United Arab Emirates – all countries within whose jurisdiction caustic washing operations took place – are parties to the Basel Convention.

The categorization of coker naphtha as a Basel hazardous waste raises questions as to whether:

- » the six shipments from the US to Norway,
- » the several shipments to United Arab Emirates and Tunisia,
- » the prior transfer of the coker naphtha between Mexico and the US, and
- » between the US and the ships *Probo Koala* and *Probo Emu* (under Basel and/or OECD agreements, shipments of hazardous waste must indicate a destination)

were subject to the legal requirements of transboundary movement under the Basel Convention.

Under the Basel Convention, any transboundary movement between Parties must be notified and consented to prior to shipment under the obligations laid out in Article 6 of the Convention. Also, any transboundary movement between the territories or jurisdictions of a Party to the Convention (such as Mexico, Norway, Tunisia, Malta, United Arab Emirates, Spain, the UK)

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and a non-Party (such as the US) should only take place in the context of a special bilateral or multilateral agreement.³¹⁸ One such multilateral agreement has been established between OECD countries: this is an agreement known as OECD Council Decision C(2001)107/FINAL as amended, which covers the issue of transboundary movement of wastes for recycling/recovery between OECD countries. Norway, Mexico, the UK, Spain and the US were all OECD countries in 2005-2006. Consequently, trade for recycling between these states would have been legal — but only if the prior-informed consent provisions of that agreement were followed.³¹⁹ Thus, under the OECD agreement, Mexico was under an obligation to require corporate actors (and any other entity generating and planning to ship a waste) to notify the appropriate government authorities. The Mexican authorities had an obligation to notify the US authorities of the shipment and gain their consent prior to export. The US had the same obligations and should have informed, and gained the consent of, Norway, Spain and/or the UK. Any export of waste material for recycling without such notifications and consent was a violation of the OECD accord. There is no record that any such shipments were notified and consented to.

Tunisia, Malta and the United Arab Emirates (being Basel Parties but not OECD countries, and therefore not part of the special multilateral agreement authorized to overcome the Party to non-Party ban) would not be permitted to receive the coker naphtha from the US, as the US is not a Party to the Basel Convention.

If one assumes, as argued above, that coker naphtha is a hazardous waste, it is likely that the exports of coker naphtha to these countries were illegal imports of hazardous waste and thus criminal traffic under the Basel Convention, and the exports from the US were also a violation of the OECD accord referred to above.³²⁰

In summary, the coker naphtha itself has all the characteristics of a hazardous waste under Basel definitions. As such, the export of coker naphtha from Mexico to the US should only have been done subject to the receipt of consent by the US. If the US did not consent, then these shipments would be illegal. The subsequent export of coker naphtha from the US to any member states of the OECD, including Norway and the territorial waters of Spain or the UK, without prior notification and consent would likewise be a violation of the OECD accord. The export of coker naphtha from the US to Tunisia, Malta and/or the United Arab Emirates would be illegal traffic and a criminal offence under the terms of the Basel Convention. As the US has not ratified the Basel Convention, the illegal activity could only be addressed in the recipient countries.

SECTION II

WHO IS RESPONSIBLE?



Greenpeace activists blockaded the *Probo Koala* at the Estonian port of Paldiski. Activists branded the cargo vessel an EU Toxic Crime Scene and called for an investigation of the ship by the Estonian authorities, September 2006. © GREENPEACE/CHRISTIAN ÅSLUND

BOX: BUSINESS AND HUMAN RIGHTS

Under international law, states have a duty to protect human rights from abuse by non-state actors, such as companies. The scope of the state duty to protect has been elaborated in the work of the UN Special Representative of the Secretary-General on Business and Human Rights (UNSRSG). The UNSRSG has also developed standards for corporations that have been endorsed by the UN Human Rights Council.

The state duty to protect

In the context of corporate activity, the state duty to protect requires states to have in place adequate and effective systems for regulating business activity. While action to prevent corporate operations from harming human rights should be the priority, the UNSRSG has underlined that: “State regulation proscribing certain corporate conduct will have little impact without accompanying mechanisms to investigate, punish, and redress abuses.” This means that regulation must be backed by enforcement mechanisms and appropriate penalties, which should be applicable to the corporation as a legal entity and to directors and officers of companies where this is appropriate.

The scope of the state duty to protect human rights in the context of business activity must include an extraterritorial dimension. Corporate entities operate across state borders with ease; however, state borders simultaneously often

present institutional, political, practical and legal barriers to corporate accountability and redress for the victims of corporate human rights abuses. There are numerous ways in which multinational corporate groups can negatively affect human rights in different jurisdictions. For example, the decisions made by one branch of a multinational corporate group based in one country can lead directly to human rights abuses in another country; the actions of a subsidiary may be substantially influenced by its parent company, or the parent may derive financial benefit from a subsidiary whose operations are responsible for human rights abuses; a company in one country may contract with a company in another country whose operations on its behalf result in abuses.

An additional dimension of the problem is the fact that corporate groups headquartered in developed countries but operating in developing countries – directly or through subsidiaries or partnership – have been shown to operate to standards that would be unacceptable in their home state. There are several reasons for this: in some developing countries the regulatory framework is weak and there are not sufficient resources to enforce laws and regulations; in some cases the company, as a relatively powerful economic actor, has undue influence in the country, whether over the executive or legislative arms of government, or – often – the agencies and civil servants in charge of regulation.



While developed countries are by no means immune from corporate bad practice, the challenges that some developing countries face in regulating companies has meant that people living in poverty are more likely to experience corporate human rights abuses and less able to access remedies.

Because of the multi-jurisdictional nature of corporate networks, and the phenomenon of powerful multinational companies causing or contributing to abuses in developing countries, human rights advocates have argued for law with extra territorial effect. They have also argued for increased options for victims of abuse to seek redress in states other than the state where the violation occurred. In the absence of laws with extraterritorial effect, victims of human rights abuses are denied an effective remedy – which is itself a human rights violation.

The extraterritorial dimension of the state duty to protect human rights is not uncontroversial. Some states and many companies have argued that action to prevent and address human rights abuses by companies should be based on the territorial jurisdiction only. However, the UN Committee on Economic, Social and Cultural Rights has clarified that states have a duty to respect rights in other countries and prevent third parties – such as companies – from violating those rights, if they are able to influence these third parties by legal or political means. The Maastricht Principles on Extraterritorial Obligations of

States in the area of Economic, Social and Cultural Rights, adopted by a group of experts on international law and drawn from international law, aim to clarify the content of extraterritorial state obligations to realize economic, social and cultural rights.³²¹ The principles highlight that “[s]tates must desist from acts and omissions that create a real risk of nullifying or impairing the enjoyment of economic, social and cultural rights extraterritorially. The responsibility of states is engaged where such nullification or impairment is a foreseeable result of their conduct.”³²²

The corporate responsibility to respect

The UNSRSG’s Guiding Principles confirm that companies have a responsibility to respect all human rights, and a corresponding need to take concrete action to discharge this responsibility.

The Guiding Principles provide valuable guidelines to companies that are genuinely seeking to prevent their operations from causing or contributing to human rights abuses. However, the guidance provided within the Guiding Principles is largely directed at companies that are willing to respect human rights. While many companies are implicated in human rights abuses and violations because of they lack the appropriate tools and/or frameworks to avoid unintended adverse impacts on rights, some companies are implicated in human rights abuses and violations because of their deliberate or negligent actions and inactions, and because they believe they can act with impunity.

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CORPORATE CULPABILITY: THE CASE AGAINST TRAFIGURA

Trafigura has repeatedly denied that the company is responsible for the crisis that unfolded in Abidjan in 2006. Although a Dutch court found the company guilty of illegally exporting waste from Europe,³²³ there has, as yet, been no meaningful investigation into the conduct and responsibility of Trafigura in relation to the dumping in Abidjan.

A review of the evidence demonstrates that Trafigura knew it had created waste that was potentially very harmful to the environment and human health. The company knew, or ought reasonably to have known, that transport of this waste from Europe to Africa was unlawful. They knew the waste required proper disposal but, despite this, and despite the fact that four European facilities they approached were unable to deal with the waste and a fifth clearly stated that the waste required quite specialized treatment, Trafigura contracted a small, newly licensed company in Abidjan to dispose of toxic waste in an open dumpsite in the middle of a poor residential area of the city.

Not only did Trafigura fail to deal appropriately with waste it knew to be dangerous, at several points the company misled regulators and other companies about the nature of the waste, increasing the risk that it would not be dealt with properly.

Attempts to gain clear information about the waste and the dumping, and to hold the company to account, have been repeatedly frustrated by Trafigura. They have exploited poverty and jurisdictional loopholes to evade justice and, in so doing, have deepened the suffering of the people of Abidjan.

This chapter sets out the case against Trafigura.

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Choosing to do caustic washing

There were two process by which the coker naphtha could be refined: one was mercaptan oxidation (known as the “Merox process”), and another was caustic washing. As noted in Chapter 2, both processes involve mixing caustic soda with the coker naphtha to capture the mercaptans (which creates a waste by-product). The Merox process includes an important second step, whereby the waste is transformed into stable disulphides through oxidation. This additional step is normally undertaken in a specialized facility. Trafigura carried out caustic washing and not the Merox process. It made this decision despite knowing that:

“ Caustic washes are banned by most countries due to the hazardous nature of the waste (mercaptans, phenols, smell) and suppliers of caustic are unwilling to dispose of the waste since there are not many facilities remaining in the market. ” ³²⁴

Although there are important differences between caustic washing and Merox, Trafigura has attempted to conflate the two processes. On its website, under the heading “Is the caustic washing/Merox process unusual?” it states: “No. It’s a well-known, legal and effective way of reducing impurities in gasoline blendstocks and has been used in the refining industry for 50 years. In 2006, there were 1,600 Merox units licensed for operation worldwide.”³²⁵ Trafigura used none of these 1,600 units because the company did not carry out the – relatively – safer Merox process but decided to do caustic washing. Had Trafigura been carrying out the Merox process, it could indeed have used one of the 1,600 units it says exist worldwide. But, as described in Chapter 3, Trafigura had serious difficulties finding a location on land to do caustic washing, as is clear from an email sent by Trafigura’s London office on 28 December 2005:

“ I have approached all our storage terminals with the possibility of caustic washing and only Vopak [at] Fujairah and Tankmed [at] La Skhirra our [sic] willing to entertain the idea... ” ³²⁶

The decision to carry out caustic washing at sea

As noted above, Trafigura identified two facilities that could undertake caustic washes: one was in the United Arab Emirates (UAE), the other in Tunisia. Reports indicate that Trafigura undertook some caustic washing in UAE, but then moved to Tunisia. However, following an incident at the Tunisia site, the authorities there prohibited further caustic washing because there was not the capacity to deal adequately with the resulting waste.

Trafigura then decided to undertake caustic washing on board a ship. There is no known record of such an operation ever being conducted on a ship before this. As a Dutch court later commented, what Trafigura decided to do: “essentially [boiled] down to the moving of an industrial process from land to sea.”³²⁷

The matter of dealing with the waste that would be produced on board a ship – and the potential difficulties – was clearly on Trafigura’s radar. Obviously Trafigura was aware of the difficulties of safe management and disposal of the waste on land. In making the decision to carry out caustic washing on board a ship, senior company executives considered various options. An email dated 10 March 2006 noted:

“ Does it make any sense to take on t/c [time charter] a vessel that is about to be scrapped ... and park somewhere in WAF (West Africa) in order to carry out some of the caustic washings over there? I don’t know how we dispose of the slops and I don’t imply we would dump them, but for sure there must be some way to pay someone to take them. A ship that doesn’t care about it’s (sic) coatings and can re-circulate cargo and strip tanks would work very well. ” ³²⁸ (emphasis added)

Some within the company appear to have been indifferent about what would become of the ship transporting the waste:

“ 5k per day I think you are dreaming as this is the opex costs of a vessel like this in WAF [West Africa] and if you add amortization of current scrap prices you get over double then that to start with. In addition that implies you do not want insurance class p & I and you do not care if she sinks. ” ³²⁹

Internal emails also raise questions about whether Trafigura was trying to avoid regulatory scrutiny of its unprecedented activity on a ship. An email dated 21 June 2006 suggests that Trafigura had also considered storing the coker naphtha in the UK port of Milford Haven, but rejected this:

“ We should store the PMI crap on a ship in Gibraltar rather than take it to Milford Haven. Reasons are as follows... Milford will require at least one approval. The bucket in Gib will require no such thing. ” ³³⁰

Amnesty International and Greenpeace have asked Trafigura to explain the content of these emails, but the company did not respond.

In the end, Trafigura went ahead with its decision to carry out caustic washing on board a ship without having identified any safe means of dealing with the waste material that it was about to produce.

GAPS IN GOVERNANCE: THE MEDITERRANEAN AREA AND GIBRALTAR WATERS

There is no effective, integrated system of environmental governance in the Mediterranean. The present situation is characterized by a patchwork of legal and jurisdictional regimes that establish competencies on different issues and in different parts of the sea, from coastal waters and territorial seas to ecological and fisheries protection zones and the international waters of the high seas. Unlike other maritime regions, many Mediterranean coastal states have not declared Exclusive Economic Zones (EEZ), which means that a large part of the Mediterranean is still beyond the jurisdiction of any individual Mediterranean state. As a consequence, there has been a lack of effective control of and responsibility for the marine environment.

Environmental groups, including Greenpeace, have expressed concern about serious gaps in regulatory oversight associated with shipping activity in waters around Gibraltar. In 2010, 112,843 vessels crossed the Strait of Gibraltar,³³¹ the gateway to the Mediterranean Sea. There is a longstanding disagreement between Spain and the UK about the jurisdiction of these waters. This disagreement, combined with intense business competition between the nearby Spanish Port of Algeciras and the Port of Gibraltar, has resulted in a situation where regulation is lax.³³²

Both ports compete in the market for ships to enter the bay for port operations, especially for bunkering, but there is a lack of co-ordination between the port authorities. Failures in communication between the two port authorities have led to a number of environmental disasters, such as the collision between the cargo ship *New Flame* and the oil tanker *Torm Gertrud* in August 2007, which resulted in a major oil spill.

The problem is compounded by the fact that Gibraltar enjoys a special European Union (EU) status, under which certain rules do not apply, including some concerning environmental protection.³³³ As a consequence, Gibraltar waters have acquired a reputation for irregular port operations and activities that could not take place elsewhere in the EU.

Because of the serious environmental and human consequences of the regulatory gaps, Greenpeace advocates governance reform, including a joint monitoring, control, surveillance and compliance mechanism for the Mediterranean. Greenpeace also advocates for a biodiversity agreement under the UN Convention on the Law of the Sea to address the global gaps in oceans governance.³³⁴



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Trafigura knew the waste was hazardous

In 2005, before starting the caustic washing process, Trafigura was well aware that the process would produce waste that was hazardous. This is clear from the company's internal emails, described in Chapter 2 and above.³³⁵ Moreover, the company had had multiple warnings before bringing the waste to Abidjan that the waste posed significant risks to human health.

Warning 1: The incident in Tunisia

In March 2006 gases leaked from the TANKMED facilities in Tunisia causing a serious odour problem. Several workers experienced breathing difficulties³³⁶ and three people were reportedly admitted to hospital.³³⁷ Following an investigation by Tunisian authorities into the incident, caustic washing was prohibited because of the risks associated with the resulting waste.³³⁸ The Tunisian environmental authorities stated that “spent caustics should be treated through specialized and specially adapted processes”.³³⁹

This incident should have put Trafigura on notice that the waste required specialist treatment. Yet, having already undertaken caustic washing in the only two locations that it had been able to find on land to carry out this process (UAE and Tunisia), Trafigura resorted to conducting caustic washing on board a ship.

Warning 2: The information from the caustic soda suppliers

When Trafigura attempted to buy caustic soda, it was put on notice that the product was dangerous. A US-based caustic soda supplier, Univar, warned that the product would be “hazardous” and that Dangerous Goods Certification would be required.³⁴⁰ Trafigura eventually purchased caustic soda from a Dutch company, WRT, and received a Material Safety Data sheet, which, as a Dutch court

later observed, clearly gave the company information on the hazardous nature of caustic soda.³⁴¹

Warning 3: Four European locations are unable to process the waste

During a court action in 2010 in the Netherlands, it emerged that the company had tried to dispose of the waste in at least four locations in Europe before the *Probo Koala* arrived at Amsterdam.³⁴² However, none were able to accept the waste. In at least two cases Trafigura was again put on notice that the waste was dangerous and proper disposal difficult. The facility in Malta was unable to accept the waste “due to the chemical content”,³⁴³ while the facility in Gibraltar told Trafigura that “the flash point of the slops appeared to be too low”.³⁴⁴

Warning 4: Events in Amsterdam

As described in detail in Chapter 3, a portion of the waste was offloaded to an Amsterdam Port Services (APS) barge in Amsterdam. Shortly thereafter, the smell associated with the waste raised serious concern with both APS and the authorities.

Trafigura was then told that APS, an experienced and licensed port reception facility, was unable to process the waste and that it would need to be sent to a specialist facility. Trafigura's agent in Amsterdam, Bulk Maritime Agencies (BMA), notified Trafigura (via Falcon Navigation) that: “Approx. 250 cbm slops were discharged last night. Analysis of this slops resulted into a c.o.d. content of 500.000.” APS informed Trafigura that the cost of processing the waste would rise from €27 per m³ to €1,000 per m³.³⁴⁵

Warning 5: The Dutch police call

On 15 August 2006, while the *Probo Koala* was in Nigeria, a Dutch police officer telephoned Naeem Amhed of Trafigura Ltd and advised him that, due to the nature of the waste (caustic soda washings/mercaptan sulphur), Trafigura needed to ensure that it

was not discharged as MARPOL slops but as chemical slops. The police also told Trafigura that, once this operation had taken place, the Dutch authorities would need a copy of the discharge report for their records.³⁴⁶ Once again, the company was made aware of the fact that the waste needed appropriate disposal.

The combined warnings

At this point, Trafigura had been given information that the waste was dangerous from actors across three continents. The Tunisian operation was terminated because of the lack of specialist waste disposal. At least four European locations that Trafigura approached did not have the facilities to deal with waste of this nature, while APS had made clear that specialist treatment would be required at Rotterdam. Caustic soda suppliers on two continents gave clear warnings. And, finally, there was the phone call from the Dutch police, during which Trafigura was specifically told to ensure that the waste was dealt with as chemical rather than MARPOL waste. All of this information was in Trafigura's possession before it made the decision to dispose of the waste at Abidjan.

There can be no doubt that Trafigura knew the waste was potentially hazardous to human health. This was also the conclusion of a Dutch court in 2010, which found Trafigura and the captain of the *Probo Koala* guilty of “[c]omplicity in the delivery of goods, in the knowledge that these goods are hazardous to life or health, and for having concealed this harmful nature,”³⁴⁷ in breach of Section 174 of the Dutch Penal Code.

In reaching this conclusion, the Dutch court specifically stated that “Trafigura ... had knowledge regarding the hazardous nature of the slops” as a result of the fact that they had “arranged the gasoline washings from start to finish”, which meant that they “knew how much caustic soda was present in the slops”. The court was convinced of the

hazardous nature of the waste since it could “cause burns when coming in contact with the skin”.³⁴⁸ The judgement also cited an expert report (Bakker NFI), which stated that “... the conclusion that this waste is extremely hazardous is justified.”³⁴⁹ As noted by the court, Trafigura was aware of the fact that this was a caustic substance, since the supplier, WRT, had sent information on caustic soda to Naeem Ahmed of Trafigura Ltd by email in the form of a Material Safety Data Sheet.³⁵⁰

The court also held that Captain Chertov of the *Probo Koala* was “obviously very well aware of the hazardous nature of these materials”, since he had insisted on his crew wearing protective clothing when dealing with the waste.³⁵¹

The Court of Appeal subsequently confirmed the assessment of the court of first instance that Trafigura was aware of the harmful character of the waste.

Trafigura rejected a safe disposal option on cost grounds

From the time Trafigura created the toxic waste on board the *Probo Koala* to the time the waste was dumped in Abidjan – with devastating effects – the company was offered one safe option for disposal: in the Netherlands.³⁵² Trafigura rejected this option on the basis of the cost,³⁵³ which would have been in the region of half a million euros (US\$630,000). The profit Trafigura expected to make was in the order of US\$7 million (€5.6 million) per cargo,³⁵⁴ and the company's 2006 profits were US\$511 million (€407 million).³⁵⁵

Therefore, a legitimate question is: was Trafigura looking for a safe method of disposal or a cheap method of disposal?

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Exporting the waste and disposing of it in Côte d'Ivoire was unlawful

The European Waste Shipment Regulation (EWSR) prohibits the export of all waste from the EU to one of the African, Caribbean and Pacific group of states (ACP countries) such as Côte d'Ivoire.³⁵⁶ On 23 July 2010, a Dutch court found that Trafigura had violated this prohibition.³⁵⁷ This was upheld on appeal.

Indeed, an internal email shows that Trafigura was aware that the movement of waste material across borders was subject to legal restrictions, even before it started caustic washing operations. The email, copied to Trafigura's chairman Claude Dauphin, referring specifically to the waste that would be generated from caustic washing stated:

“ Under EU law you no longer allowed to transport such waste across EU borders. ”³⁵⁸

Referring to this same email, the Dutch court concluded that Trafigura had not only violated this prohibition deliberately, but had done so with malicious intent:

“ It not only did this intentionally, but in this case, one may even say that malicious intent was involved. In fact, the e-mail which [name 7, Ahmed] sent to his co-workers and superiors on 28 December 2005 even indicates that there was knowledge of illegal waste export: “... Under EU law you [are] no longer allowed to transport such waste across EU borders. ”³⁵⁹

ARGUING THAT IT WAS MARPOL AND NOT BASEL WASTE

Trafigura has, on several occasions, sought to argue that the waste that it created on the *Probo Koala* was not subject to the Basel Convention and the European Waste Shipment Regulation, and that it was MARPOL waste. Specifically, in its defence to the Dutch criminal prosecution, as well as its defence to a UK personal injury claim (issues dealt with in Chapter 13), Trafigura has argued that the waste was in fact MARPOL waste and that the prohibition on movement of waste to developing countries did not apply to the waste on board the ship.³⁶⁰

The Basel Convention applies to waste and hazardous waste (as defined under the Convention) that moves between two states. The Basel Convention has a specific exclusion for “wastes which derive from the normal operations of a ship”. These are not included within the scope of the Convention because such waste is covered by the

1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL Convention).

Trafigura's assertion that the waste was MARPOL waste, deriving from the normal operation of a ship, does not stand up to scrutiny.

The Center for International Environmental Law carried out a study of the travaux préparatoires (the preparatory work and studies) for the MARPOL Convention.³⁶¹ This research reveals that, while “normal operations of a ship” was not defined in the International Maritime Organization (IMO) negotiations, the term was clearly understood in the preparatory work, studies conducted and summaries of the negotiations. A review of these documents shows that the only waste generation envisaged by MARPOL was waste generated by the ship as a vehicle (eg ballast, oils, lubricants, fuels and

wastes generated by its crew acting to maintain the vehicle or facilitate the movement of the ship, such as paints, sewage, food packaging and food waste). None of the studies conducted by the IMO to prepare the MARPOL Convention considered the possibility of wastes generated by industrial processes carried out on board a ship. Nor did the MARPOL Convention contain any reference to port reception facilities for receiving this type of waste.

Indeed, the waste created on board the *Probo Koala* presented enormous challenges when it came to finding anywhere to safely and properly dispose of it, precisely because the MARPOL regime never considered accommodating such wastes, which are normally generated on land. Trafigura only identified one facility capable of dealing with the waste: the facility in Rotterdam.³⁶² The fact that Trafigura could not identify any MARPOL port facilities that

could receive and manage the waste, underscores the point that the MARPOL Convention and the associated port reception regime were never intended to deal with such waste material.

The travaux préparatoires and a plain reading of MARPOL make it clear that such wastes were never meant to be covered by the Convention, and are in fact not covered by MARPOL. Therefore they are not excluded from Basel, and the Basel Convention applies to transboundary movement of such wastes since they are inescapably considered hazardous wastes under the Convention.

This understanding of the meaning of waste generated as a result of the normal operations of a ship, under MARPOL, is further supported by the work of the IMO on the adequacy of port reception facilities in line with MARPOL Convention requirements. The IMO has recognized that provision of reception facilities is crucial for effective MARPOL implementation. The adequacy of port reception facilities has been regularly considered by the IMO's Marine Environment Protection Committee (MEPC), which has stated that, to achieve adequate reception facilities, a port should have regard to the operational needs of users and provide reception facilities for the type and quantities of waste from ships normally using the port without causing undue delay for the ships.

None of the qualitative definitions of "adequate" port reception facilities considers or envisages facilities to deal with waste that is generated during industrial processes carried out on board a ship. MARPOL did not envisage these types of wastes and there are no known MARPOL port facilities that can receive and manage the kind of waste that was carried by the *Probo Koala*.

Statements made by a Dutch court that subsequently found Trafigura guilty of illegally exporting hazardous waste from Europe are pertinent. The court stated:

“ [caustic washing of gasoline] essentially boils down to the moving of an industrial process from land to sea. The ship was not used for its designated purpose as a ship, but

instead as a floating factory which was carrying out a process for which it was in no way necessary for the ship to be at sea since all of the resources necessary may be obtained on land. ”³⁶³

The court went on to observe:

“ one must not forget that this was the first known incidence of gasoline being washed with caustic soda on board a ship. APS could therefore not be expected to be prepared for this. ”³⁶⁴

Additionally, while “normal operations of a ship” was not defined in IMO negotiations, the use of the word “normal” within an international treaty text cannot be considered meaningless. Taken together with the guidance on adequacy of port reception facilities, which focuses on the requirements of ships normally using the port, it is untenable to claim that waste produced by industrial processes carried out on board a ship was envisaged by the MARPOL Convention or the associated port reception facility regime.

The situation was further clarified in May 2012 when the IMO adopted an amendment to the International Convention for the Safety of Life at Sea (SOLAS) to prohibit the blending of bulk liquid cargoes during the sea voyage and to prohibit production processes on board ships. The regulation enters into force on 1 January 2014.

Traigura's efforts, since the dumping in Abidjan, to secure confirmation that the waste was MARPOL waste and not Basel waste have been extensive. However, a review of Trafigura's own statements on the waste shows that they knew, or ought reasonably to have known, that it was not MARPOL waste. There is no suggestion in any of the emails (quoted extensively in this report) that Trafigura considered that the waste could be easily dealt with by any port reception facility authorized to deal with MARPOL waste. On the contrary, the internal emails clearly show that Trafigura had not identified a waste disposal option before commencing the caustic washes on board the *Probo Koala*. APS was a registered port reception facility, able to process

MARPOL wastes, and it had told Trafigura that it could not process the *Probo Koala* waste.

Although the Dutch authorities did not act correctly in letting the *Probo Koala* leave Amsterdam in 2006, this does not alter the fact that Trafigura knew the character of the waste, even before they created it, as is clearly stated in the email (quoted above) from UK-based executive Naeem Ahmed on 28 December 2005, sent to colleagues and Trafigura's chairman, Claude Dauphin, which specifically referred to the fact that waste produced as a result of caustic washing was hazardous.

Finally, the company clearly accepted that the waste was not MARPOL waste prior to the dumping in Abidjan, since its communication to Puma on 17 August 2006 stated that “Due to the COD being larger than 2000 mg/l these are not to be considered as MARPOL slops but as chemical slops...”.³⁶⁵ (Emphasis added.)

This is one of the many points at which Trafigura should have considered whether the Basel regime was applicable to the waste. It is not credible that a company with so much experience in international trade in petroleum-related products was unaware of the Basel regime and the possibility that, if the waste was not MARPOL, this regime might apply.

In legal actions taken forward in the Netherlands, one of Trafigura's main defence arguments was that the waste produced on board the *Probo Koala* was excluded from the application of the European Waste Shipment Regulation, which gives effect to the Basel Convention, on the grounds that it was “waste produced from the normal operation of a ship” and that, therefore, the prohibition on export of the waste to an ACP state did not apply.³⁶⁶

The court rejected this argument, taking the view that “ship generated waste” consisted of waste which was “generated on board as a result of unavoidable circumstances”³⁶⁷ and included products such as “sanitary waste”³⁶⁸ or “food remnants”.³⁶⁹ The court determined that what had occurred on the *Probo Koala* was “entirely

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different”³⁷⁰ since Trafigura was essentially “moving ... an industrial process from land to sea”.³⁷¹

The Court of Appeal, in upholding a guilty verdict against Trafigura for illegal export of hazardous waste (see Chapter 13 for details), suggested that the MARPOL regime might apply to the waste while it was on board the *Probo Koala*, but stated that the Basel regime and the European Waste Shipment Regulation applied to the waste once it was offloaded to the APS barge.

However, although the court raised this possibility (that the two legal regimes might apply to the waste in different contexts), it did not consider in any detail the nature of the activity that took place on the *Probo Koala*; nor did the Court of Appeal hear full arguments with regard to interpretation of the MARPOL Convention.³⁷² Therefore the Court of Appeal’s comment on this issue cannot be viewed as definitive.

The Court of Appeal characterized the process on board the *Probo Koala* as

a “highly unusual process”.³⁷³ As the review of the travaux préparatoires for MARPOL described above shows, the Convention was never meant to cover the type of waste carried by the *Probo Koala*. In fact the Court of Appeal gave very little attention to this aspect of the case, and the primary focus was on the waste after it had been offloaded to APS.³⁷⁴

The decision to dispose of the waste in Abidjan

Trafigura’s decision to dispose of the waste in Abidjan was taken after many other options had failed. The company chose Abidjan despite the fact that the city did not have the required facilities for MARPOL waste and was a prohibited destination for Basel waste.

The waste on board the *Probo Koala* was not MARPOL waste. But even if it had been, it should only have been treated in countries that had the appropriate facilities.³⁷⁵ Côte d’Ivoire did not possess any facilities of this type. The International Maritime Organization (IMO) maintains a database of reception facilities at ports around the world so that mariners can establish whether a particular port’s facilities are adequate for the type of waste they are seeking to dispose of. The entry for Abidjan shows no facilities listed. The fact that Abidjan does not have appropriate facilities was confirmed by independent experts. A technical assistance mission to Côte d’Ivoire mandated by the Basel Convention Secretariat, found that:

“ the Abidjan port is not equipped with the necessary facilities for the offloading and treatment of wastes covered by the MARPOL Convention. ”³⁷⁶

As explained above, Trafigura has argued that it thought the waste it was shipping out of Europe in July 2006 was MARPOL waste. An assessment of Trafigura’s internal emails undermines the credibility of this claim, as detailed above. But whatever claims the company can try to make about believing the waste was MARPOL waste at the time the *Probo Koala* left the EU, Trafigura can make no such claims about the waste at the point of dumping in Abidjan on 19 August 2006. By the time the *Probo Koala* had reached Abidjan, a Dutch police officer had informed the company that the waste must be disposed of as chemical waste. Trafigura expressly acknowledged that the waste could not be considered MARPOL waste, in an email sent to Puma, which stated:

“ Please note details of the composition of the slops for your guidance:

- COD (Chemical Oxygen Demand – measured approx 21,000 mg/l ...
- Total organic Chlorine (TOCl) – measured > 5 pct ...

Due to the COD being larger than 2000 mg/l these are *not* to be considered as MARPOL slops but as chemical slops... ”³⁷⁷

(emphasis added)

Trafigura offloaded waste in Abidjan when it knew, or should have known, that this was illegal under international law, which

directly pertains to waste produced through processes related to petroleum – its core business.

The choice of Tommy

Having decided to offload waste in Abidjan that it knew was dangerous, and which should not have left Europe, far from taking all possible steps to ensure its safe disposal, Trafigura contracted a newly licensed company to deal with it. The circumstances surrounding the decision to contract Compagnie Tommy are highly questionable. As described in Chapter 4, a more experienced company was known to Trafigura: Ivoirienne des Techniques d'énergie (ITE). But on 17 August 2006, Trafigura's subsidiary, Puma, was apparently unwilling to wait a matter of 30 minutes to talk to ITE. Instead, Tommy was contracted within a matter of 24 hours.

No explanation has been provided as to why Trafigura opted for an unproven, newly licensed company to dispose of waste that it was, by this time, well aware was dangerous and needed proper treatment and disposal. When Trafigura's Chairman, Claude Dauphin, was asked about the choice of Tommy during his police interview in Abidjan, he was not able to give an answer:

**“ Question to the accused:
Why did you take the risk of finding a company in two days to treat these products in Abidjan when no information was available about the prices charged in this locality and when the Amsterdam contract with APS had been ended for reasons to do with price?**

Reply:

I have asked myself the same question. ”³⁸¹

The handwritten letter supplied by Compagnie Tommy, which constitutes the contract with Trafigura, should, on its own, have raised questions about the capacity and experience of the company. First, Tommy's

Diomande Adama, former employee of Hotel Sofitel in Paris, who exposed how Trafigura paid for the General Manager and others of the Port of Abidjan to stay at the hotel in May 2006. © GREENPEACE/PIETER BOER



TRAFIGURA'S RELATIONSHIP WITH THE PORT OF ABIDJAN

According to Trafigura, the company and its subsidiaries are major investors in Abidjan and the port. Documents obtained by Greenpeace in 2010 reveal that the General Manager of the port had stayed in Paris in a luxury hotel at the expense of Trafigura at the end of May 2006, just a few months before the waste was dumped in Abidjan and before the port authorities approved a crucial extension of Compagnie Tommy's licence on 9 August.³⁷⁸ The hotel invoices were passed to Greenpeace by an Ivorian ex-employee of Hotel Sofitel in Paris who stated that he had quit his job in 2010 in order to release the information. In early 2011, Greenpeace asked Trafigura to comment on the company's relationship with the General Manager of the port.³⁷⁹ Trafigura did not respond to the information presented,³⁸⁰ but has publicly stated that the allegation of impropriety is “absurd” and that, given its relationship with the port, “it is inevitable that there are business meetings with the relevant authorities.”

The company has also stated on its website that if “Trafigura had been planning in May to discharge the slops in Abidjan then why would the company have gone to the substantial cost and effort of sending the *Probo Koala* into Amsterdam in July?”

It is not clear how “substantial” the costs involved were in sending the *Probo Koala* to Amsterdam, given it was en route to nearby Estonia. Amnesty International and Greenpeace have asked Trafigura to comment on the reason for the Paris meeting, and to disclose any payments made directly to, or as expenses for, public officials in Abidjan. The company did not respond.

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The office of Compagnie Tommy in Abidjan. © LEIGH DAY



letter specifically stated that Tommy would simply “discharge” the waste – there was no suggestion of processing or treating it. Secondly, the contract named a city dumpsite as the location where the waste would be discharged, and claimed this site was “properly prepared to receive any type of chemical product”. Finally, the clearest indication of all that Compagnie Tommy would not carry out a proper process was the price it quoted to dispose of the waste. This was US\$35 (€27) per m³ for chemical slops and US\$30 (€23) for MARPOL slops, much lower than the quote of €1,000 per m³ given by APS after it had analyzed the waste.³⁸²

It is not necessary to speculate about whether Trafigura was aware that the price quoted by Compagnie Tommy was far too low. This is clear from Trafigura’s own emails, as described in the next section.

Trafigura executives ask Tommy to falsify the invoice

On 22 August 2006, three days after the dumping, the Dutch police contacted Trafigura requesting a copy of the documentation stating that the waste from the *Probo Koala* had been discharged as chemical waste, as well as supporting documentation, including the invoice for this operation.³⁸³ Naeem Ahmed, of Trafigura Ltd in London, wrote to colleagues at Falcon Navigation:

“ Bear in mind that it would have cost us approx \$250k to discharge 200 cbms in Amsterdam... ”³⁸⁴

Minutes later, Naeem Ahmed’s colleague, Jorge Marrero, emailed Puma in Abidjan stating:

“ Many thanks for your assistance on the discharge of the slops in Abidjan, highly appreciated...”

“ Please note that we would have a similar operation in about 45-60 days on the sister vessel *Probo Emu* and would appreciate if you could offer the same support.

“ In the meantime, please note that for this particular one on the *Probo Koala* we need a copy of the invoice from the receiving company asp. Please call me when you have some minutes as I would like to clarify something about this invoicing. ”³⁸⁵

The following day Jorge Marrero of Trafigura Ltd emailed Puma again.

“ Further to our telecom, please note that we require an invoice from the slop removal company as follows: ...

- 168.048 CBM Chemical Slops
- 500US\$/CBM US\$ 84,024
- Mercaptan sulphur solids/Caustic waste

- 470 CBM MARPOL Slops
- 50US\$/CBM US\$ 18,013
- Water washing/gasoline slop

- Total amount due US\$ 102, 037
+++++

“ Please make both WAIBS and Compagnie Tommy aware that they may be contacted by European customs to check on the removal of the slops and the cost of the removal as per above. ”³⁸⁶ (emphasis added)

The amount that Trafigura asked to be reflected on the invoice was far in excess of what Compagnie Tommy had quoted. The request by Trafigura for an invoice with new charges completely undermines its claim that Compagnie Tommy had been “appointed in good faith by Trafigura on the basis that it would carry out its responsibilities safely and legally”.³⁸⁷ It would appear that Trafigura was well aware that

the price quoted was too low and would be seen as such by European authorities. The conclusion that Trafigura was aware of the shortcomings of Compagnie Tommy seems logical. Indeed, both the UN Special Rapporteur on Toxic Waste and Human Rights and the Côte d’Ivoire National Commission of Enquiry reached the same conclusion. The UN Special Rapporteur on Toxic Waste and Human Rights, stated that Compagnie Tommy

“ had neither previous experience with waste treatment nor adequate facilities, equipment and expertise to treat waste. It is of concern to the Special Rapporteur that these shortcomings do not appear to have been taken into consideration by Trafigura. ”³⁸⁸

The National Commission named two Trafigura executives who were involved in agreeing the contract with Tommy: these were Paul Short, Trafigura’s Director for West Africa, and Jorge Marrero, of London-based Trafigura Ltd. The National Commission of Enquiry noted that:

“ Neither Mr Paul Short nor Mr Marrero could ignore the Tommy company’s technical incapacity”. ”³⁸⁹

The Commission relied on the letter from Salomon Ugborogbo to Jorge Marrero dated 18 August 2006, which stated that the product would be “disposed of” rather than “treated” in Akouédo. The National Commission of Enquiry also raised other questions about Compagnie Tommy stating that:

“ the Tommy company had all the appearances of a cover company ... All of the actors, in their statements, maintained that they did not have any particular link with the Tommy company. ”³⁹⁰

The clear signals (the content of the contract and the price charged) that Tommy lacked the competence to deal appropriately with the waste are only one reason why Trafigura cannot credibly hide behind Compagnie Tommy (see box on page 92).

CHAPTER 7

Trafigura contracted to dispose of the waste in the city dump

The handwritten contract with Compagnie Tommy clearly states that this company will take the waste to Akouédo. In light of the hazardous nature of the waste and the fact that Trafigura, by their own account, had not worked with Tommy before, a check by Trafigura on the named location of Akouédo, to ensure it was a premises capable of dealing with such waste, would have been the least they could have done to exercise due diligence. After all, Akouédo was given only as the name of a site, and not as a treatment centre or company. There was no indication that it was appropriately licensed to accept the kind of waste on board the *Probo Koala*. This assumes that the staff involved in the process in two local companies – WAIBS and Puma – did not know what Akouédo was, even though it is a well-known landfill dump site in the city of Abidjan.

Trafigura has stated that it “cannot have foreseen the reprehensible and illegal way in which Compagnie Tommy then proceeded to dump the slops”.³⁹¹ However, much of the waste that Tommy dumped was at the Akouédo dumpsite, which is exactly what they had told Trafigura they would do.

TRAFIGURA’S RESPONSIBILITY FOR THE ACTS OF TOMMY

Trafigura has argued that it has no responsibility for the actions of Tommy, and therefore is not responsible for the dumping, as this was carried out by another corporate actor. As will be discussed in Section III, no court has ever examined the legal liability of Trafigura for the dumping. A Dutch court has convicted the company for illegal export of the waste from Europe, but did not look at events in Côte d’Ivoire. However, the view that no legal liability or responsibility would attach to Trafigura for the actual dumping, simply because the actions were carried out by another company to whom Trafigura passed the waste, would be open to challenge under the environmental laws of many countries.

Under the UK Environmental Protection Act, for example, the entity that created the waste would have a duty of care in respect of the waste. Under the duty of care provision, anyone who imports, produces, carries, keeps, treats or disposes of waste must take all reasonable measures to prevent the waste from being illegally disposed of. Waste must only be transferred to someone authorized to transport it.³⁹² The Act makes it a criminal offence to deposit waste, or to cause or permit the deposit of such waste on land, except with a licence. It is also an offence to keep, treat or dispose of waste without a licence. Finally, it is also illegal to dump waste if the result is likely to cause pollution of the environment or harm to human health.

Under this, and similar, legal frameworks it would be argued that Trafigura:

- » Did not take all reasonable precautions
- » Knew the waste was dangerous
- » Contracted with a company despite warning signals about its ability to manage disposal
- » Did not ensure that Akouédo, had a licence.

And therefore did not “take all reasonable measures to prevent the waste from being illegally disposed of”, but rather permitted the deposit of the waste on land at a site that did not have a licence.

The fact of handing over the waste to Tommy in the circumstances described in this chapter would not absolve Trafigura of legal responsibility. It is arguable that in numerous jurisdictions, including Côte d’Ivoire, Trafigura could be prosecuted in relation to the dumping of the waste.

The limitations of Côte d’Ivoire law are discussed in Chapter 8. However, the full scope of Côte d’Ivoire law was never brought to bear. A legal settlement between Côte d’Ivoire and Trafigura included a clause that gave Trafigura immunity from prosecution.



An office building at Akouédo, the dump site where Trafigura agreed to send the waste.

Giving false or misleading information about the waste

From the time the waste was created as a result of caustic washing on board the *Probo Koala*, Trafigura provided misleading, incorrect, incomplete and contradictory information on the nature of the waste, both to regulatory authorities and to other companies. The company has never disclosed the full information it holds about the composition of the waste.

False information to Univar

In April 2006 Trafigura told Univar, a US-based supplier of caustic soda, that it planned to conduct caustic washing of gasoline on board a ship and dispose of the resulting waste on arrival at the port of La Skhirra, Tunisia.³⁹³ However, this was not true. Far from delivering the waste to a company in Tunisia, Trafigura expressly instructed the ship's captain not even to let the Tunisian authorities know of the existence of the waste on board the ship.³⁹⁴

False and incomplete information to the Dutch authorities

At the time of the events in Amsterdam, both Trafigura and the captain of the *Probo Koala* made statements about the nature of the waste. On 30 June 2006, a fax was sent to the Dutch authorities notifying them that the *Probo Koala* intended to discharge "554cbm washwater gasoline/caustic."³⁹⁵ The waste was described as "MARPOL Annex 1; oily tank washings including cargo residues".³⁹⁶ This is clearly an inaccurate description of waste generated by washing coker naphtha with caustic soda.

A few days later, on 4 July 2006, the captain of the *Probo Koala*, when questioned by police, declared that:

“ the slops consisted of washing water from cleaning the tanks. ”³⁹⁷

Nowhere in the official notification paperwork did Trafigura, its agent, or the captain of the *Probo Koala* provide information about the caustic washing that had generated the waste.

Misleading information to APS

As noted in Chapter 3, Trafigura have tried to claim that they told APS about the caustic washing process that had taken place on board the *Probo Koala* during a phone conversation on 19 June 2006.³⁹⁸

In 2010 the Dutch court rejected Trafigura's statement. The court rejected as "implausible"³⁹⁹ the claim of Trafigura Ltd's UK-based executive, Naeem Ahmed, that he fully informed APS about the true nature of the waste. The court instead found that Trafigura had offered the waste to APS as gasoline tank washing water, a substance that APS normally processed and treated at its facility,⁴⁰⁰ rather than labelling the washings accurately as "spent caustic".

The court stated that:

“ In all likelihood, [Naeem Amhed] chose to conceal the true composition of the waste due to the fact that prior to this, repeated attempts to get rid of the waste had proved unsuccessful. He apparently lacked the willingness to accept that he would have to pay higher costs to adequately process the waste. ”⁴⁰¹

CHAPTER 7

FALSIFYING THE OIL RECORD BOOK

During the Dutch court process it became clear that the Dutch police believed that the *Probo Koala*'s Oil Record Book had been falsified. The Oil Record Book apparently showed that normal (periodic) tank washings had taken place on the ship on 10 April 2006. However, other evidence, including email messages, indicated that no tank washings had taken place, but rather caustic washing of coker naphtha. Falsification of the Oil Record Book is a violation of the MARPOL Convention. Consequently, the Dutch authorities decided to inform Panama, the flag state of the *Probo Koala*, of their findings.⁴⁰² It is not known whether Panama took any action on this matter.

The court also noted:

“ one must not forget that this was the first known incidence of gasoline being washed with caustic soda on board a ship. APS could therefore not be expected to be prepared for this. ”⁴⁰³

In 2010, a Dutch court found Captain Chertov guilty of forgery on the grounds that he had “neglected to fill in the ‘Notification of ships waste and (remainders of) noxious substances’ form in the correct manner”. Chertov wrote on the form that the toxic waste was “Oily tank washings” consisting of “UN number 1203”, (which is code for gasoline and/or engine fuel) and “WATER”.⁴⁰⁴

The court held that Captain Chertov was “knowledgeable about the presence of the caustic soda” and that he “was familiar with its hazardous nature”.⁴⁰⁵ The court stated that, in forging the form, Captain Chertov had “accepted that the correct precautionary measures could not be taken” by APS, which meant that there was a risk “that any persons involved in these procedures [unloading and processing the waste] could suffer injuries as a result.”⁴⁰⁶

A new description for Abidjan, but still inaccurate

As detailed above, in an email dated 17 August 2006 to Puma, Trafigura stated that the waste was to be considered not as MARPOL slops but chemical slops.⁴⁰⁷ In the same email, Trafigura introduced the information that the waste had a COD level of 21,000mg/l.⁴⁰⁸

The origin of this figure is not known. Trafigura has claimed that the figure of a COD of 21,000mg/l came from APS in a telephone call on 3 July 2006.⁴⁰⁹ The APS employee involved denies this. Trafigura’s assertion that APS provided them with a figure of 21,000mg/l lacks credibility. While there is no evidence to support the assertion that APS ever made a reference to COD of 21,000mg/l, there is clear email evidence that they told Trafigura, via the agent BMA, that the COD was close to 500,000mg/l.⁴¹⁰ Amnesty International and Greenpeace have asked Trafigura to explain why they chose to ignore the written figure of 500,000mg/l when informing their Ivorian subsidiary of the nature of the waste. The company did not respond.

The COD data is not the only problem with the email sent to WAIBS. It makes no mention of the fact that the waste had been generated by a caustic washing process.

Using data, the origin of which is unknown, Trafigura told Compagnie Tommy that most of the waste was MARPOL waste, and only around one third of it was to be considered chemical waste. Neither APS, nor the Dutch police, nor any other body had given Trafigura reason to believe that most of the waste was MARPOL. Amnesty International and Greenpeace have asked Trafigura to explain how it came to this conclusion. The company did not respond.

Trafigura's statements about the waste after the dumping

After the dumping, Trafigura continued to give false or misleading information about the waste. In its verdict against the company in July 2010, the Dutch court stated:

“ It was also Trafigura that had refrained from the very start to speak openly about the nature of the slops in the media and the manner in which the slops had originated. The press releases published by Trafigura in September 2006 bear witness to this. In its annual report for 2007, it had even confined itself to describing the slops as ‘comprising a mixture of gasoline, water and caustic soda’. In its contact with the press in 2006 and 2007, Trafigura adopted a defensive attitude when it came to the nature of the slops, even though it was possible to provide much more clarity regarding the precise composition of the materials and the potential consequences for man and the environment. For example, in a press release dated 6 September 2006, Trafigura stated the following: ‘Trafigura can confirm that the waste (slops) is a mixture of gasoline, water and caustic soda.’ Among other information, in a ‘press statement’ dated 24 September 2006, Trafigura reported the following: ‘It maintains that the composition of the “chemical slops”, gasoline, spent caustic and water is a normal by-product from the cleaning of gasoline blendstock cargo. The slops are entirely in line with industry practice and international regulations. ”⁴¹¹

The court also noted that on 24 September 2006, in responding to a draft version of a Trafigura press release, a director of Trafigura, stated: “I would not mention the acid at all.”⁴¹²

CHAPTER 7

TRAFIGURA CONTINUES CAUSTIC WASHING – VEST TANK AND THE CASE IN NORWAY

Despite the catastrophic impact that the waste dumping had on Abidjan, Trafigura continued the caustic washing process of the Mexican coker naphtha. The operation was continued on board another ship, the *Probo Emu*,⁴¹³ on which three shipments of naphtha were reportedly washed. In addition, during 2006 Trafigura reached an agreement with a Norwegian company, Vest Tank, to undertake caustic washing on further shipments of the coker naphtha onshore at a Vest Tank facility.⁴¹⁴

Six shipments of coker naphtha were transferred from the US to Norway between 5 November 2006 and 22 April 2007.⁴¹⁵ To deal with the waste that resulted from caustic washing, Vest Tank neutralized the caustic concentrate and sulphur left in the tanks by adding hydrochloric acid.⁴¹⁶

On 24 May 2007 one of the tanks exploded, and the contents of another tank leaked and caught fire.⁴¹⁷ The explosion led to emissions of chemicals such as hydrocarbons, sulphur dioxide and sulphides in the form of substantial smoke from the fire.⁴¹⁸ It affected Gulen and Masfjorden counties; approximately 200 people were reported to have become ill as a result of exposure to the fumes.⁴¹⁹ The reported health effects included nausea, stomach pains and headaches, pulmonary problems and eye irritation.⁴²⁰

In the aftermath of the explosion, the caustic washing of coker naphtha was exposed. This was not a process for which Vest Tank was licensed, and the Norwegian authorities began a criminal investigation into the incident.⁴²¹ In the course of the investigation it came to light that, as well as delivering coker naphtha to Vest Tank, Trafigura had also delivered waste that was created by caustic washing of coker naphtha on board of the *Probo Emu* while the ship was at sea.

Three individuals associated with Vest Tank were found guilty of breaching a number of laws, including the Penal Code, the Environment Act, the Working Environment Act and the Fire and Explosion Act. The former chief executive officer (CEO) and the owner and chair of Vest Tank were sentenced to 18 months imprisonment. A consultant was sentenced to a conditional 45 days imprisonment. The prosecutor and the three convicted individuals appealed against the verdict. On 31 May 2011, the Gulating Appeal Court upheld the verdict and sentence against the CEO,⁴²² but acquitted the consultant. The third defendant was sick during the hearing in the Appeal Court, and the case is pending.



Explosion at the Vest Tank facility in Norway, following caustic washing of coker naphtha delivered by Trafigura, 24 May 2007.

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The prosecutor has appealed in both cases to the Supreme Court. The CEO has since been sentenced to and is serving a term of imprisonment.

A criminal case was also brought against Trafigura for its involvement in the Vest Tank scandal. However, this was dismissed on the basis that Trafigura could only be prosecuted if hazardous waste had been exported to or imported from another state to Norway. The delivery of waste created on board a ship on the high seas was viewed as not being export or import under the terms of Norwegian law.⁴²³

Norway's then Minister of Environment, Erik Solheim, described the situation as "unacceptable" stating that "we've fully demonstrated a big hole in our legal system when someone commits crime in the high seas and we cannot punish them in Norway. This is a totally unacceptable situation..."⁴²⁴

Trafigura, therefore, avoided prosecution in Norway for delivery of the waste. The prevailing reading of the Basel Convention has not allowed for a ship to be considered as an "area under the national jurisdiction of a State." This may indeed be a loophole in the Convention, as wastes can be generated on board ships and indeed ships are under flag state jurisdiction.

However, it is not clear if all of the waste that was brought to Norway was generated on the high seas. During investigations into the illegal export of waste from the Netherlands it emerged that some of the waste that ended up in Abidjan was created in the territorial waters of Malta, Spain and the UK (Gibraltar).⁴²⁵

Amnesty International and Greenpeace have questioned whether this was also true for the waste brought to Norway, and have asked the Norwegian authorities to comment on whether this possibility was investigated.

In addition, the Norwegian authorities do not appear to have considered whether the coker naphtha was a hazardous waste in and of itself. As described in Chapter 6, the coker naphtha was generated as a by-product of an industrial process in Mexico, transported by truck to the US, sold to Trafigura, and subsequently transferred from the US to Norway. Greenpeace, Amnesty International and the Basel Action Network believe that a review of the available evidence shows that the coker naphtha should be considered as hazardous waste under international definitions found in the Basel Convention to which Norway is a state party.

Norway is the third country where Trafigura is known to have delivered the hazardous waste created by caustic washing of coker naphtha (the others are the Netherlands and Côte d'Ivoire). However, only in the Netherlands was Trafigura prosecuted for this. The company was found guilty of delivering goods which they knew presented a hazard to health, and concealing the hazardous nature of the goods, contrary to section 174 of the Dutch Penal Code.

The events in Norway – and the inability of the Norwegian authorities to bring a prosecution against Trafigura – raise a number of serious questions about the capacity, ability and willingness of states to effectively prevent and deter transnational corporate crimes. These issues are dealt with in more detail in the final section of this report.

Accountability

This chapter has described the role of Trafigura in the creation, movement, export and dumping of toxic waste. Despite the role played by Trafigura, the company has faced only limited investigations and sanctions for its involvement in the criminal and negligent acts described. Initially two senior Trafigura executives, Claude Dauphin and Jean-Pierre Valentini, were arrested in Côte d'Ivoire straight after the dumping, and charged with a range of offences. However, on 13 February 2007 the state of Côte d'Ivoire and Trafigura reached a settlement, under which Trafigura agreed to pay the state the sum of CFA95 billion (approximately US\$195 million). As a term of the Ivorian Settlement, and in exchange for compensation, the government agreed that it: "waives once and for all its right to prosecute, claim, or mount any action or proceedings in the present or in the future" against the Trafigura Parties.⁴²⁶ The two executives were released on bail and the charges were ultimately dropped.

In 2009 some 30,000 victims of the dumping of toxic waste brought a civil action against Trafigura in the United Kingdom (UK). This case was settled out-of-court. Trafigura paid £30 million (US\$45 million) to the claimants with no admission of liability.

In 2010 a Dutch court convicted Trafigura of exporting hazardous waste to Côte d'Ivoire. The guilty verdict against Trafigura was upheld on Appeal.⁴²⁷

However, the Dutch Public Prosecutor decided not to prosecute the company in relation to events subsequent to the removal of the waste from Dutch jurisdiction.

The limits of accountability, and the way in which the multi-jurisdictional nature of this case created obstacles to corporate accountability, is addressed in Section III of this report.

Trafigura was asked to respond to the allegations made in this report. In its letter of response, re-produced in full as Annex II, the company stated that:

“ we believe the report contains significant inaccuracies and misrepresentations. The report oversimplifies difficult legal issues, analyses them based on ill-founded assumptions and draws selective conclusions which do not adequately reflect the complexity of the situation or the legal processes. Courts in five jurisdictions have reviewed different aspects of the incident and decisions and settlements have been made. It is simply wrong to suggest that the issues have not had the right judicial scrutiny. ”

Trafigura did not name any specific inaccuracies or misrepresentations.



OBLIGATIONS TO PREVENT EXPOSURE TO HAZARDOUS WASTE

As states parties to the International Covenant on Economic, Social and Cultural Rights (ICESCR), the governments of the Netherlands and Côte d'Ivoire are required to respect the right to health of all persons and to take all necessary measures to prevent third parties, such as companies, from infringing people's rights to health.

The Committee on Economic, Social and Cultural Rights (the Committee, or CESCR) has emphasized that a state's obligation under Article 12.2(b) extends to "the prevention and reduction of the population's exposure to harmful substances such as ... harmful chemicals or other detrimental environmental conditions that directly or indirectly impact upon human health."⁴²⁸ Violations of the obligation to protect follow from the failure of a state to take all necessary measures to safeguard persons within their jurisdiction from infringements of the right to health by third parties. "This category includes such omissions as the failure to regulate the activities of individuals, groups or corporations so as to prevent them from violating the right to health of others; ... and the failure to enact or enforce laws to prevent the pollution of water, air and soil by extractive and manufacturing industries".⁴²⁹

The Committee has also clarified the obligations of states parties to prevent third parties, such as companies, interfering with the right to health of people in other countries. "To comply with their international obligations in relation to article 12, States parties have to respect the enjoyment of the right to health in other countries, and to prevent third parties from violating the right in other countries, if they are able to influence these third parties by way of legal or political means, in accordance with the Charter of the United Nations and applicable international law."⁴³⁰

The ICESCR also protects the right to work. Article 6 of the Covenant obliges states parties to recognize the right of everyone to the opportunity to gain their living by work, which they freely choose or accept, and to take appropriate steps to safeguard this right.⁴³¹ States parties are under an obligation to take all necessary measures to prevent third parties from infringing on the right to a gain a living through work.

In relation to the transboundary movement of hazardous waste, both the Côte d'Ivoire and the Netherlands are also parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the Basel Convention). The purpose of the treaty is to control and regulate waste material that requires special attention or may pose a hazard to human health or the environment.⁴³² Under the Convention, states parties are required to: prohibit the export of waste to countries which have prohibited the import of such waste; prohibit the export of waste without prior notification and consent from the state of import; prohibit the export of waste if there is reason to believe the waste cannot be managed in an environmentally sound manner (ESM).⁴³³ ESM is defined as "taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment."⁴³⁴

States parties to the Basel Convention have accepted that illegal traffic in hazardous wastes or other wastes is a criminal offence and each state party is obliged to take "appropriate legal, administrative and other measures to implement and enforce the provisions of [the] Convention, including measures to prevent and punish conduct in contravention of the Convention."⁴³⁵

For state parties who are party to both the ICESCR and the Basel Convention, the Basel Convention can be viewed as the *lex specialis* which sets out specific measures that states are required to take to regulate the disposal of hazardous waste in order to protect people's right to health and other economic, social and cultural rights.

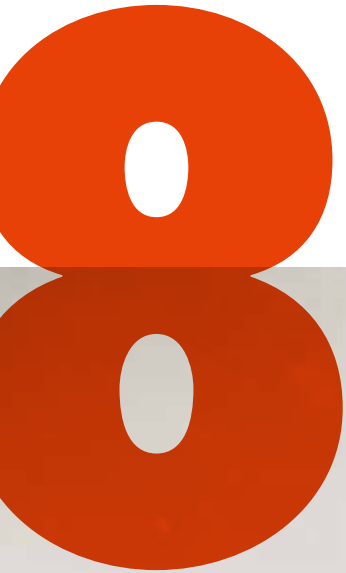
The Bamako Convention on the Ban on the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa

The Bamako Convention has many similarities to the Basel Convention, but contains stronger provisions on prohibiting all imports of hazardous waste to Africa. Under the Bamako Convention, states parties agree to "take appropriate legal, administrative and other measures within the area under their jurisdiction to prohibit the import of all hazardous wastes, for any reason, into Africa from non-Contracting Parties. Such import shall be deemed illegal and a criminal act." Bamako deals specifically with the obligation of states parties to cooperate in the prevention of the import of hazardous waste. States parties are required to:

"(a) forward as soon as possible, all information relating to such illegal hazardous waste import activity to the Secretariat who shall distribute the information to all Contracting Parties;

(b) co-operate to ensure that no imports of hazardous wastes from a non-Party enter a Party to this Convention. To this end, the Parties shall, at the Conference of the Contracting Parties, consider other enforcement mechanisms."

CHAPTER 8



FAILURE TO PREVENT THE DUMPING – RESPONSIBILITY OF CÔTE D’IVOIRE

Côte d’Ivoire is a party to the International Covenant on Economic, Social and Cultural Rights, International Covenant on Civil and Political Rights, the Basel Convention, the MARPOL Convention and the Bamako Convention. Under all of these treaties, the government is required to regulate traffic in, and arrangements for, handling or disposal of hazardous waste to ensure that it does not pose a threat to the rights to health, life and other human rights of communities who may be exposed to it.

Côte d’Ivoire has in place a legal framework that reflects the provisions of international treaties on hazardous waste. The importation of wastes and hazardous wastes into Côte d’Ivoire is prohibited by Law No. 88-651 of 7 July 1988 (Article 1) and framework Law No. 96-766 of 3 October 1996 (Article 99 and 101).⁴³⁶ Under these laws, the unauthorized importation of hazardous wastes and noxious substances is a criminal offence.

In 2006 the government set up a National Commission of Enquiry to investigate the dumping of the toxic waste, and to identify those who may have been involved and their degree of responsibility.⁴³⁷ The National Commission of Enquiry found that various authorities in Côte d’Ivoire had not properly

implemented or enforced Ivorian laws. Some of the main failures on the part of the Ivorian authorities, which enabled toxic waste to be illegally trafficked and dumped in Côte d’Ivoire, are detailed below.

Failure to enforce licence requirements

Compagnie Tommy’s flawed licence

The National Commission of Enquiry found that Compagnie Tommy had been granted a licence as a “maritime chandler specialising in the emptying, maintenance and refuelling” of ships, but that this licence had been granted without following the required procedures and there had been errors in the ambit of the licence.⁴³⁸

Compagnie Tommy’s licence as a maritime chandler (*avitailleur maritime*) was granted by the Ministry of Transport on 12 July 2006. A maritime chandler is described as “any subsidiary maritime transport body responsible for all provision of a ship’s supplies”.⁴³⁹ The National Commission noted that, in addition to refuelling, a maritime chandler may also deliver motor oils and spare parts, which may require them to replace used oils and rotting pieces.⁴⁴⁰ However this was a

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separate category from operators who were authorized to remove “used waters and oils” from ships to “treat and ‘condition’ them”, for which a licence is granted “exclusively by the Environment Ministry”.⁴⁴¹ Under Law No. 96-766 dated 3 October 1996 concerning the Environmental Code, the Department for the Environment is the only body competent to issue licences for “garbage” (removal of garbage on board ships), for the recovery of waste, garbage, used oils, junk and other things on board ships.⁴⁴² The licence that Compagnie Tommy held was not, therefore, the one required for them to remove and treat waste from ships.

The National Commission of Enquiry even found that the procedure for granting a licence as a maritime chandler had been incorrectly followed by the Ministry of Transport.⁴⁴³ Under the law,⁴⁴⁴ all such requests for licences should be referred to a Licence Commission, but Compagnie Tommy’s licence was issued without being either referred to or checked by the Licence Commission.⁴⁴⁵ It was noted that the administration had not convened a single meeting of the Licence Commission since 2004. The licence was also processed without any investigation. The inspection of Compagnie Tommy’s place of business by the Head of the “*Avitaillement*” Office took place only after Tommy’s application had been sent to the Minister of Transport⁴⁴⁶ for final approval, and, although the inspection revealed the inadequacy of Compagnie Tommy’s equipment, no action was then taken to withdraw or amend the licence.⁴⁴⁷

The National Commission of Enquiry found that the Minister for Transport had approved the licence without a statement from the Licence Commission and he was aware that the Licence Commission had not met since 2004.⁴⁴⁸ The Enquiry also noted that the terms used to identify the activities authorized under the licence were irregular and led to confusion about the scope of the licence. The Ministry had incorrectly used the terms “specialized in waste collection and

maintenance” in the licence, and this had led to confusion between the activities permitted by a maritime chandler as compared with more specialist waste collection and treatment operations, which required licences from the Ministry of Environment.⁴⁴⁹

Tommy granted additional permit by the Port Authority

The catalogue of failings continued when, on 9 August 2006, just 10 days before the dumping, the Port Authority granted Compagnie Tommy “authorization for the recovery of used oils and domestic waste on board the ships docked at Port Abidjan”.⁴⁵⁰ The National Commission of Enquiry found that this authorization exceeded the licence granted to Compagnie Tommy by the Ministry of Transport and included activities (recovery of waste and used oils) that were not permitted under the regulations governing maritime chandlers.⁴⁵¹ As noted above, licences to remove waste, including garbage on board ships and used oils, have to be granted by the Ministry of Environment, not the Ministry of Transport.⁴⁵²

Despite having an obligation to ensure that Compagnie Tommy had the relevant qualifications and necessary equipment for the work, the Port Authority undertook no further investigation into the company’s application before granting the authorization.⁴⁵³ The National Commission of Enquiry later found that it was this extension of the scope of Compagnie Tommy’s activity that permitted it to carry out the removal of waste from the *Probo Koala*, “something that a maritime chandler is not able to do”.⁴⁵⁴ The Port Authority told Trafigura’s subsidiary, Puma Energy, that Compagnie Tommy’s papers were in order.⁴⁵⁵

Customs officials fail to check Compagnie Tommy’s licence

Compagnie Tommy then applied to the Customs Authority for permission to unload the waste. This application was also approved without enquiry.⁴⁵⁶ The Director of the

Customs Authority later acknowledged that they had taken little interest in Compagnie Tommy's application⁴⁵⁷ but, on the contrary, had facilitated the unloading of the waste by allocating three customs officials to supervise the operation.⁴⁵⁸

Failure to inspect the ship

The Port Authorities were aware that the *Probo Koala* was arriving in Abidjan to deposit waste and they had a copy of Trafigura's email describing the waste as "chemical slops",⁴⁵⁹ so they should have investigated the ship to verify the nature of the materials it was carrying and ensure that these were not hazardous (in line with obligations under both Basel and Bamako conventions). However, neither the Customs Authority nor the Port Authority took any such action. They did not inspect the ship; they did not verify the nature of the waste; nor did they consult or engage the Ivorian environmental agencies. Even when one of the customs agents noticed the strong smell and started sneezing during the removal operation,⁴⁶⁰ no action was taken to investigate the waste. Instead, the customs officials simply accepted the statement of the head of Tommy, Salomon Ugborogbo, that the waste was safe.⁴⁶¹

The National Commission of Enquiry also found that, well before the arrival of the *Probo Koala*, the General Director of Customs had prohibited his agents from going on board oil tankers and ships that did not unload merchandise.⁴⁶² The National Commission stated that this prohibition, which was justified as a step to avoid customs officials from bothering the ships' crews, "without a doubt prevented control activities by custom agents on board the *Probo Koala*".⁴⁶³ The National Commission also described this as a "deliberate renunciation" by the General Director of his control powers as recognized by Article 49 of the Customs Code.⁴⁶⁴

According to a second enquiry established by the Ivorian authorities, the Ivorian authorities:

“ did not check whether the import of the waste was compatible with ‘an efficient and ecological rational management of such waste’ nor if it was done so as to protect human health and the environments from any adverse effect which could result from it. ”⁴⁶⁵

Facilitating the departure of the *Probo Koala* after the toxic waste dumping

Following the dumping, the Ministry for the Environment traced the waste material back to the *Probo Koala*. The environmental agency, CIAPOL, part of the Ministry for the Environment, tried to prevent the ship from leaving while investigations were conducted.⁴⁶⁶ However, the port authorities insisted that the Director of CIAPOL obtain a formal notice from the Public Prosecutor, saying that this was the only way to block the *Probo Koala* ship. This was not the case. The port's General Director had the power to immobilize all ships if information or investigation was needed.⁴⁶⁷ The National Commission of Enquiry concluded that the port's General Director, "gravely disregarded the powers and prerogatives linked to his responsibility as the General Director of Abidjan Autonomous Port and in fact aided the departure of the *Probo Koala* ship and deprived the state of Côte d'Ivoire of an essential piece of evidence needed to uncover the truth".⁴⁶⁸

The Harbourmaster Commander also facilitated the departure of the *Probo Koala*. The ship's anchor had been blocked and, even while CIAPOL was attempting to prevent the ship's departure, the Harbourmaster Commander "insisted that the IRES company unblock the anchor to enable the *Probo Koala* to leave quickly".⁴⁶⁹ The National Commission of Enquiry concluded that, by acting in this way, the Harbourmaster Commander "substituted himself for the WAIBS consignee whose role it was to assist the *Probo Koala* ship".⁴⁷⁰ The Harbourmaster Commander later told the National Commission of Enquiry

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that “blocking a boat is very expensive and necessitates appropriate authorization, insofar as the ship had actually provided all of the required documents”.⁴⁷¹

The National Commission stated that “the port authorities have proven to be known accomplices in the dumping of the toxic waste as well as in the departure of the *Probo Koala*.”⁴⁷²

The National Commission also observed that the General Administrator of Puma Energy, the Director of West African International Business Services (WAIBS), the ex-General Director of Maritime and Port Affairs, the Harbourmaster Commander were all marine officials and previous employees of Sitram [a shipping agency]. They also have confirmed that they knew each other very well.⁴⁷³

The National Commission highlighted its concern that “the attitude of certain actors observed by the Commission, allows us to perceive hints of corruption and unrestrained search for gains in disregard to human life”.⁴⁷⁴

REINSTATEMENT OF OFFICIALS

On 26 November 2006, only five days after the National Commission published its report, which severely criticized a number of state officials, including the General Director of the Port, the then President decreed that the heads of the Port Authority and Customs Authority, and the District Governor for Abidjan, who had been suspended on 14 September 2006, should be reinstated.⁴⁷⁵

They resumed their posts as from 16 December 2006. In a national television broadcast calling on the President to rescind this decision, the Prime Minister stated that the decrees were “a major obstacle in the fight against impunity”.⁴⁷⁶

The reinstatement of the officials implicated in the dumping of the waste occurred while criminal investigations against them were still continuing.

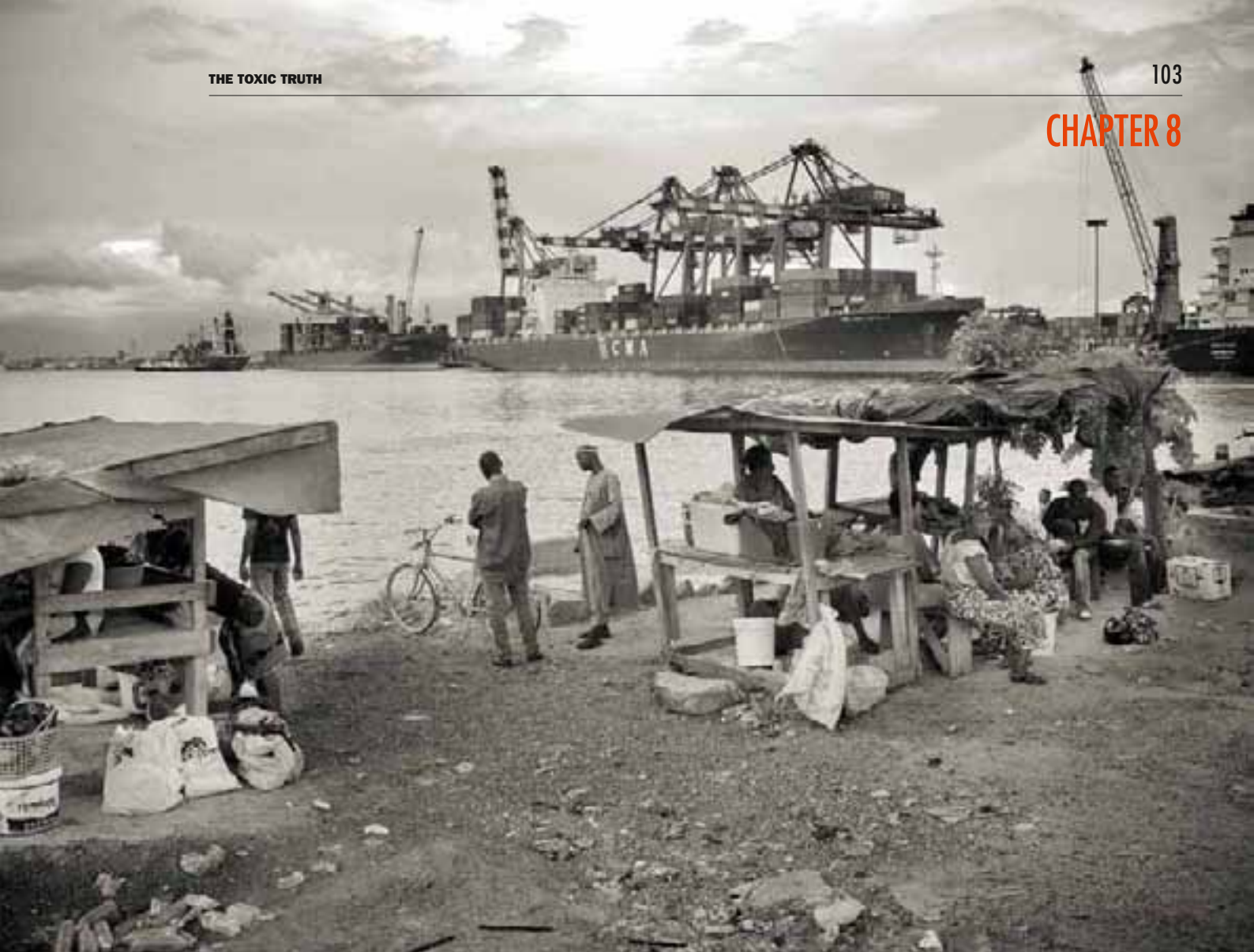
Wider administrative failures

It is clear that a lack of co-ordination, as well as conflict between different state agencies, were major factors in the state failures that led to the dumping.

The environmental agency, CIAPOL, has a duty under Ivorian law to systematically analyze Ivorian waters, control coastal areas, and apply the laws relating to the prevention of pollution in marine areas.⁴⁷⁷ However, CIAPOL did not exercise any such control over the impact of shipping on pollution. The National Commission of Enquiry found that this was because the Port Authority had not invited CIAPOL to participate in meetings to determine the movement of ships, and denied CIAPOL agents a permanent presence at the port.⁴⁷⁸ As noted by the UN Special Rapporteur on Toxic Waste and Human Rights, CIAPOL was “not in a position to conduct systematic inspection of ships docking in the port”.⁴⁷⁹

Failure to properly regulate the Akouédo dumpsite

The District Governor for Abidjan had a duty in domestic law to ensure environmental protection and management of waste in the District of Abidjan.⁴⁸⁰ However, the National Commission of Enquiry found that the Governor did not implement laws governing the management of industrial waste in relation to the Akouédo dumpsite.⁴⁸¹



The Port of Abidjan, 2 June 2010. © RONALD DE HOMMEL

In 2002 the District of Abidjan entered into an agreement with a private company, Pisa-Impex to manage the Akouédo dumpsite. Under the terms of this agreement, Pisa-Impex was authorized to collect waste from individuals and from companies who collect domestic rubbish, at the dumpsite, but this specifically excluded toxic waste and industrial wastes.⁴⁸² The National Commission of Enquiry, however, found that Pisa-Impex also received industrial waste at Akouédo dumpsite in violation of its agreement.⁴⁸³

The District Governor, when interviewed by police in the aftermath of the dumping, denied that he held responsibility for controlling the discharge of industrial waste.⁴⁸⁴ He argued that this was the remit of the Ministry for Transport, which granted permits to discharge such waste, and that any responsibility he had held had been delegated. According to

the National Commission of Enquiry, this statement had no legal basis and the law mandating the district to manage waste did not draw a distinction between domestic and other types of waste.⁴⁸⁵ The National Commission also found that:

“ the Pisa-Impex agents who manage the Akouédo dump were in grave violation of the public service conceding contract clauses and without any control from the Abidjan District. The Commission also notes that the company Pisa-Impex has no expertise to manage a dump like Akouédo... ”⁴⁸⁶

All these failures contributed to the toxic waste being illegally dumped at Akouédo dumpsite and around the city, as well as the departure of the *Probo Koala* from Abidjan without further investigation.

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State responsibility

By not enforcing laws to prevent the import of hazardous waste into the country, the government of Côte d'Ivoire failed to take all necessary measures to safeguard persons within their jurisdiction from infringements of the rights to health and work by Trafigura and Compagnie Tommy. The authorities failed to implement regulations relating to the licensing of companies to carry out removal of waste from ships. They failed to inspect the ship and its contents or verify the nature of the waste, despite indications that it may be hazardous. Nor did they regulate the Akouédo dumpsite to ensure that its operators did not accept industrial and hazardous wastes.

The government of Côte d'Ivoire breached its obligation under Article s 12.1 and 12.2(b) of the International Covenant on Economic, Social and Cultural Rights to prevent and reduce “the population’s exposure to harmful substances such as... harmful chemicals or other detrimental environmental conditions that directly or indirectly impact upon human health”.⁴⁸⁷ The government also breached its obligations under the Basel and Bamako conventions to prevent illegal traffic, import and disposal of hazardous waste by persons who were not authorized to perform such operations.⁴⁸⁸

The Ivorian Prime Minister Charles Konan Banny (middle) and French Minister for Cooperation Brigitte Girardin (right) visit one of several sites in Abidjan where toxic waste was dumped illegally, 8 September 2006.
© UN PHOTO/KY CHUNG



Other failures

As noted earlier in this report, the dumping of toxic waste in a developing country recovering from the aftermath an internal conflict generated a political, medical and environmental crisis that stretched the government's resources to the limit. The government took many positive steps to respond to this emergency, including by ensuring free medical treatment for tens of thousands of people, immediately seeking international assistance to deal with the crisis and, with the help of the UN and other agencies, trying to assess possible impacts of the waste on water and the food chain. However, there were also some significant failures in the authorities' response. These included the failure of the government to provide targeted health services to specific communities in Abidjan that had been severely affected by the dumping, such as Djibi village. The Committee on Economic, Social and Cultural Rights (CESCR) has also stated that the "right to treatment includes the creation of a system of urgent medical care in cases of accidents, epidemics and similar health hazards, and the provision of disaster relief and humanitarian assistance in emergency situations".⁴⁸⁹

Though the government launched a public awareness campaign and hired 30 psychologists to help people cope with anxiety and trauma, it has not been able to meet repeated demands from people for information on the possible environmental and health impacts of exposure to the waste. As highlighted in later sections of this report that consider effective remedies, this lack of information has been exacerbated by the lack of ongoing monitoring to identify potential medium- to long-term impacts on people's health and the environment. This, in turn, has led to persistent concerns about potential impacts.

The collection, analysis and publication of information is critical to ensuring that human rights are protected in many contexts. The CESCR has recognized the importance of information in relation to the rights to health and water, amongst others⁴⁹⁰ and has affirmed that access to health-related education and information is an important component, and an underlying determinant, of the right to health.⁴⁹¹

The government also failed to take measures to protect the rights to health and life of prisoners in MACA prison, who were left exposed to the toxic waste until October 2006. The prisoners were not evacuated from the prison, nor was the waste cleaned up from outside the prison, despite the authorities' awareness of the risks that exposure to the waste posed to the prisoners' health. This is contrary to the government's obligations under Article 12 of the International Covenant on Economic, Social and Cultural Rights and can also violate Articles 6, 7 and 10 of the International Covenant on Civil and Political Rights.

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FAILURE TO PREVENT THE EXPORT AND DUMPING OF TOXIC WASTE – RESPONSIBILITY OF THE NETHERLANDS

Legal responsibilities of the Netherlands

The Netherlands is a party to the International Covenant on Economic, Social and Cultural Rights as well as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the Basel Convention). Under these treaties, the government is required to regulate traffic in, and arrangements for, transport or disposal of hazardous waste to ensure that it does not pose a threat to the rights to health, life and other human rights of communities who may be exposed to such hazardous waste.

This chapter examines breaches of international and European Union (EU) law by the Netherlands, as well as specific breaches of national law by both state and non-state actors in the Netherlands. It demonstrates that the failure to stop the waste from leaving the Netherlands was a violation of national, European and international environmental law, and – given what the Dutch authorities knew about the waste and its risks to health – constitutes a violation of international human rights law. Specifically, the government of the Netherlands has breached its obligation to protect the right health under the International Covenant on Economic, Social and Cultural Rights by failing to prevent Trafigura and the

Probo Koala from exporting hazardous waste from the Netherlands, which ultimately ended up in Côte d'Ivoire.

The events in Amsterdam

The arrival of the *Probo Koala* in, and its departure from, Amsterdam are described in Chapter 3. The ship arrived on 2 July 2006, seeking to dispose of waste that was described on official notification documents as “MARPOL Annex 1; oily tank washings including cargo residues”, and as “washwater gasoline/caustic.”⁴⁹² APS, an officially appointed port reception facility, had agreed to process the waste, and offloaded a portion on to one of its barges on the evening of 2 July.⁴⁹³ However, early the next morning, the Dutch authorities received reports of a bad smell in the port area, and some people in the vicinity of APS began experiencing health impacts, including nausea and headaches.⁴⁹⁴ APS tested the *Probo Koala* waste, and found it was far more contaminated than expected, and had a higher chemical oxygen demand (COD) level than APS was able to process.⁴⁹⁵ APS issued a revised quote, based on the need to send the waste to a special facility in Rotterdam. Trafigura rejected the revised quote and asked that the waste be reloaded on to the *Probo Koala*, with the intention of disposing of it elsewhere.⁴⁹⁶

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AUTHORITIES INVOLVED IN DECISION-MAKING ABOUT THE *PROBO KOALA* AND THE WASTE

Port State Control (also known as the Dutch Shipping Inspectorate) is part of the Ministry of Transport, Public Works and Water Management

Port State Control is responsible for the inspection of foreign ships in national ports to verify that the condition of the ship and its equipment comply with the requirements of international regulations and that the ship is staffed and operated in compliance with these rules.⁴⁹⁸ Port State Control has the authority to prevent ships from leaving a port and overall responsibility for implementation of International Maritime Organization (IMO) law and regulations, including MARPOL.

Port of Amsterdam and Port Authority Director

The Port of Amsterdam manages, operates and develops the Amsterdam port by order of the Amsterdam City Council. It is a governmental agency that operates in a commercial context.

Department of Environment and Buildings of the Municipality of Amsterdam (Dienst Milieu en Bouwtoezicht or DMB)

The Department of Environment and Buildings is part of the Amsterdam municipality and is responsible for enforcement, supervision and licence provision under Environment Management Law.

The Ministry of Housing, Spatial Planning and the Environment (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieu or VROM)

This was the Ministry responsible for the environment in 2006. In 2010 it was merged with the Ministry of Transport, Public Works and Water Management into a new Ministry of Infrastructure and the Environment. VROM was responsible for implementation of the Basel Convention.

The complaints about the terrible stench linked to the waste, and Trafigura's unusual request that the portion of waste that was on the APS barge be reloaded, resulted in numerous Dutch authorities becoming involved in a complex bureaucratic process. Over 3 and 4 July, the various state agencies and private companies involved discussed what to do with the waste: Trafigura wanted to take it away, but some state agencies raised queries about this.⁴⁹⁷

The end result of many discussions was that, late in the evening of 4 July, the Department of Environment and Buildings of the Municipality of Amsterdam, granted permission for APS to pump the waste back on to the *Probo Koala*,⁴⁹⁹ and on 5 July the ship departed with the waste on board. While the ship's next port of call was Paldiski in Estonia, it was clear that this was not the final destination of the waste.⁵⁰⁰

What the Dutch authorities knew when they let the waste go

The fact that the Dutch authorities allowed the *Probo Koala* to leave Amsterdam with the waste on board was a serious error. While acknowledging that mistakes had been made, the Dutch authorities have defended the decision by stating that they were misinformed about the nature of the waste on board the *Probo Koala*.⁵⁰¹ As noted above, Trafigura and the captain of the *Probo Koala* had claimed that the waste was MARPOL waste, which is waste that results from "the normal operations of a ship". This would include such material as water from washing out tanks or residues from cargo the ship had transported.⁵⁰² These wastes are fairly standard, and ports have specialized facilities to deal with them, but the waste on board the *Probo Koala* was not the result of the normal operations of a ship. It was the by-product of an industrial process, known by Trafigura to produce hazardous waste.⁵⁰³

The information provided by Trafigura and the captain of the *Probo Koala*, directly and via the port agents, Bulk Maritime Agencies (BMA), was not the only information that the authorities had when they made the decision to let the ship leave Amsterdam with the waste on board. The Dutch decision-makers – at the point of letting the *Probo Koala* go – also had the following information:

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The *Main VII*. The *Probo Koala* discharged approximately half of its waste load into this boat during its stop in Amsterdam in July 2006. The waste was later pumped back on to the *Probo Koala*, and exported from the Netherlands in violation of international law. © GREENPEACE/BAS BEENTJES



- » They knew that the waste which the *Probo Koala* had discharged to an APS barge had generated concern because of the smell.
- » They knew that the alarm on a measuring device used by a police official taking a sample of the waste from the *Probo Koala* on 4 July had gone off, indicating that the set safety values had been exceeded.⁵⁰⁴
- » They knew that people had experienced and complained of health impacts: specifically, nausea, headaches and dizziness.
- » They knew that tests performed by APS had found the COD, a measure of the level of contamination, to be significantly higher than the MARPOL waste usually processed by APS. The APS assumption, based on the description of the waste, was a COD of less than 2,000mg/l; APS's test revealed that the *Probo Koala*'s waste had a COD of approximately 500,000mg/l.
- » They also knew that APS, an appointed port reception facility with substantial experience in disposing of ships' waste, and capable of processing MARPOL Annex I–IV slops, had said that it could not handle the *Probo Koala*'s waste and would need to send it to a specialist facility in Rotterdam.
- » They were aware that the new quote for disposal of the waste was significantly higher than the original, and was based on the level of contamination⁵⁰⁵ and the need for more specialized treatment.

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Foreseeable risk to human health

The Dutch authorities had more than enough information before them to reasonably conclude that the material being carried by the *Probo Koala* was hazardous, since they knew the material was highly contaminated and needed special treatment. They also knew that there were foreseeable risks to human health, both because of the highly contaminated nature of the material and because people in Amsterdam had experienced health impacts, after even limited exposure to the material. They did not need to rely solely on the description of the waste provided by the Captain of the *Probo Koala* and nor should they have, given their obligations under Dutch law. Both the need for specialist treatment and the symptoms experienced by people at the docks were inconsistent with the description of the waste given by Trafigura and its agents, and this should have triggered further investigation.

The Dutch authorities had two additional pieces of information that were relevant to their decision-making prior to the departure of the *Probo Koala*:

- » They did not know where the waste was to be delivered.
- » They had the anonymous fax sent on 3 July 2006 which alleged that waste would be dumped at sea – a fax they clearly took seriously, since they asked the Estonian port authorities to measure the waste to ensure it was all still on board when the *Probo Koala* arrived at Paldiski.

Foreseeable risk of improper disposal of the waste

The authorities had evidence to suspect that proper, safe disposal of the hazardous material was not guaranteed. The company was leaving Amsterdam with the waste because it was not willing to pay the costs involved in proper disposal in the Netherlands. If an appointed port reception facility in the Netherlands was unable to deal with the waste, this should have raised questions about where Trafigura intended to dispose of it.

Additionally, the Dutch authorities were clearly concerned that the waste might be dumped at sea. Nonetheless they let the ship leave without any information on where safe disposal of the waste would take place. In summary, dangerous waste was in the possession of an actor about whom the Dutch had questions with regard to safe disposal.

The information that the authorities in Amsterdam had over the period of 2-4 July 2006 was sufficient to provide a basis and rationale for action, at least to investigate the waste further before allowing it to leave the Netherlands. As will be described further below, the relevant legal frameworks are based on precisely the risk to human health and the environment that confronted the Netherlands: hazardous material on board a ship, being removed from the jurisdiction in circumstances that provide a reasonable basis for concern about the intention of the owner and holder of the material.

The legal means to act

In addition to having the information necessary to act, the Dutch had the legal capacity to act. Several laws applicable in the Netherlands gave the authorities the right to inspect the ship, the authority to prevent it from leaving Amsterdam, and the authority to require disposal of the waste in the Netherlands. Moreover, not only did the Netherlands have the legal right to act to prevent the waste leaving Amsterdam, under European and international law, it was required to do so.

Failure to apply the Dutch Environmental Management Act

A central event in Amsterdam was the discharge of a portion of the waste on to the APS barge. The significance of the fact that some of the waste was no longer on a ship, but offloaded and in the Netherlands, seems to have been largely overlooked at the time. The law applicable to the waste on the barge now included the Dutch Environmental Management Act, which prohibits the transfer of industrial or hazardous waste to anyone who is not authorized to receive hazardous waste.⁵⁰⁶ While there are a number of exceptions within the Environmental Management Act, none was applicable in this case.⁵⁰⁷ An official enquiry later concluded: “there is no evading the conclusion that Article 10.37 of the Environmental Management Act was applicable.”⁵⁰⁸

At the time, regulators focused on whether APS had legally “accepted” the waste on the barge, and this appears to have obscured the significance of the fact that the waste was no longer on board the *Probo Koala*.⁵⁰⁹ Regardless of whether APS had legally “accepted” the waste, material with a reported COD of approximately 500,000mg/l was to be transferred to another party – *Probo Koala* – which was not only not authorized to receive hazardous waste under the Dutch Environmental Management Act, but had also made it clear that it would then be taking the waste out of Dutch jurisdiction, ie, exporting it, a process governed by EU and international law.

Failure to apply Basel regime and the European Waste Shipment Regulation

The waste carried by the *Probo Koala* was hazardous waste as defined by international law (the Basel Convention), and therefore it should only have been moved from one country’s jurisdiction to another in accordance with the terms of the Basel Convention, which regulates the transboundary movement of hazardous wastes. Although Trafigura told the Dutch authorities that the waste it had created was MARPOL waste, this was incorrect as explained previously. MARPOL waste is waste generated in the normal operations of a ship. Caustic washing of coker naphtha cannot be classified as the normal operation of a ship under MARPOL.

The smell of the waste, the reported health impacts, the fact that DMB initially considered it as hazardous or industrial waste under the Environmental Management Act, APS’s inability to process the waste and the information that it had a COD of approximately 500,000mg/l were all clear signals that the waste on board the *Probo Koala* was *not* the result of the “normal operations of a ship”. Although the Environmental Management Act, Section 10.37, was initially cited in relation to the waste offloaded from the *Probo Koala* (but then disregarded), the authorities do not seem

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Aerial view of the
Port of Amsterdam
© ANP/YOUR CAPTAIN
LUCHTFOTOGRAFIE

to have questioned the legal framework that should apply to the waste overall. The UN Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, who also examined this case, concluded that “inspection of the vessel and sample analysis to determine the origin and exact composition of the waste would have been necessary to identify the applicable legal framework.”⁵¹⁰

However, the subsequent official enquiry revealed that, despite the evident problems with the waste, the authorities did not question Trafigura’s categorization of it as MARPOL waste and Trafigura’s right to ship it onward

to another country without applying the Basel Convention/European Waste Shipment Regulation controls. The waste was clearly under the jurisdiction of the Netherlands at that point (at sea or on board the *Probo Koala*). Consequently, any onward shipment to another country would be defined as a transboundary movement and thus subject to the Basel regime and the European Waste Shipment Regulation, which gives effect to the Basel Convention.⁵¹¹

While the authorities may have initially thought the material was normal MARPOL waste, once they were in possession of further information about the nature of the waste, it should have become clear that the material fell under the



Basel regime.

There was sufficient reason for the Dutch authorities to consider the probability that the waste in question was hazardous and not a MARPOL waste, and that the Basel Convention and the European Waste Shipment Regulation should be applicable to any movement of it across national borders.

However, even accepting the fact that the authorities failed to consider the Basel regime, if they had properly applied the MARPOL regime, they should still have acted differently.

Failure to properly implement the MARPOL Convention and the EU Directive on Port Reception Facilities

As noted above, the Basel Convention applies to hazardous waste but does not apply to the “wastes which derive from the normal operations of a ship”.⁵¹² These are covered by the MARPOL Convention.⁵¹³ The purpose of the MARPOL Convention is to regulate the discharge of harmful substances into the sea. Harmful substances must be discharged to a “reception facility”.⁵¹⁴ Had the Dutch authorities applied the MARPOL regime and associated EU law correctly, the disaster at Abidjan could still have been avoided.

The EU Directive on Port Reception Facilities, which implements the MARPOL Convention, requires member states to ensure the availability of adequate port reception facilities, which should be capable of receiving the types and quantities of ship-generated waste and cargo residues from ships normally using that port.⁵¹⁵

Article 7 of the EU Directive on Port Reception Facilities deals with the delivery of ship-generated waste.⁵¹⁶ Article 7 requires the master (captain) of a ship calling at an EU port to deliver all ship-generated waste to a port reception facility before leaving the port. It does allow for some exceptions: “A ship may proceed to the next port of call without delivering the ship-generated waste, if there is sufficient dedicated storage capacity for all ship-generated waste that has been accumulated and will be accumulated during the intended voyage of the ship *until the port of delivery*.”⁵¹⁷ (emphasis added)

Even if the authorities had fully accepted the false information provided by Trafigura about the waste, and considered that they were dealing with “normal” ship-generated waste, which could therefore be kept on board if there were sufficient storage capacity, two critical issues should have been noted.

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Firstly, this did not apply to the waste that had already been discharged to the APS barge. Regardless of whether it had been “accepted” by APS, the discharged portion of the waste should have remained in Amsterdam in accordance with the terms of the Environmental Management Act and the European Waste Shipment Regulation.

Secondly, the EU Directive on Port Reception Facilities specifically makes keeping ship-generated waste on board contingent on “the port of delivery”. The port of delivery was not known to the Dutch. While the next port of call was Paldiski in Estonia, it is clear from the communications at the time that the *Probo Koala* did not intend to offload the waste there. In seeking to reload the waste, Falcon Navigation had emailed the Dutch port agent, BMA: “Washings are to be kept on board and shall be disposed of at next convenient opportunity.”⁵¹⁸ This information was then made available to the authorities.⁵¹⁹

A subsequent article of the EU Directive is pertinent to the events in Amsterdam. It reads: “If there are good reasons to believe that adequate facilities are not available at the intended port of delivery, or if this port is unknown, and that there is therefore a risk that the waste will be discharged at sea, the Member State shall take all necessary measures to prevent marine pollution, if necessary by requiring the ship to deliver its waste before departure from the port.”⁵²⁰

(emphasis added)

In this case the intended port of delivery was unknown, and the Netherlands did foresee “a risk that the waste will be discharged at sea”, but did not “take all necessary measures to prevent marine pollution, if necessary by requiring the ship to deliver its waste before departure from the port.”

Additionally, the notification made by Captain Chertov and sent by BMA to the Amsterdam port authorities stated that the waste

included “Cargo Residue” as well as oily tank washings.⁵²¹ Article 10 of the EU Directive states that cargo residues should be delivered to a port reception facility in accordance with the provisions of the MARPOL Convention.⁵²² There are no exceptions to this Article.

Given that the EU Directive requires mandatory disposal of some types of material, the question should have been raised: was this such material? Given the anomalies noted already (the smell, APS’s inability to process the waste), along with the lack of a named port of delivery, there should have been further investigation and consideration of mandatory discharge of the waste. However, these were not done.

The EU Directive on Port Reception Facilities requires EU states to ensure that there is an effective process for inspection of ships.⁵²⁶ This responsibility rests with Port State Control, which in the Netherlands is a national-level authority within the Ministry of Transport, Public Works and Water Management. The Directive accepts that it is not practicable for every ship to be inspected, but states:

“ in selecting ships for inspection, Member States shall pay particular attention to:

- ships which have not complied with the notification requirements in Article 6;
- ships for which the examination of the information provided by the master in accordance with Article 6 has revealed other grounds to believe that the ship does not comply with this Directive... ”

⁵²⁴

Article 6 states that a ship’s captain bound for a port located in the Community (such as Amsterdam) should complete “truly and accurately” the official form in Annex II.⁵²⁵ The Dutch had reason to suspect that the information provided by the *Probo Koala*’s captain was not accurate, because of the smell and the fact that, on 3 July, the preliminary results of the sample taken by APS showed that the waste had a COD of

approximately 500,000mg/l (during a later court case Captain Chertov was found guilty of providing false information). Given this information, it is difficult to understand why the authorities did not carry out an on-board inspection and further tests on the waste. The official enquiry by the Municipality of Amsterdam later expressed the opinion that:

“ had the Port State Control found cause – given the uniqueness of the events, and the discrepancy with regard to the next port of destination mentioned in the advanced notification of arrival (Paldiski, Estonia), the statement ‘to sea for orders’ in the other forms and the later statement of ‘next convenient opportunity’, to implement a more thorough inspection, and made the decision to take the necessary steps to secure the provisional arrest of the *Probo Koala* – the decision-making in Amsterdam might have turned out differently. ”⁵²⁶

What actually happened in Amsterdam in July 2006 was the opposite of what was legally required. As noted in Chapter 3, the Amsterdam Port authorities were informed by Port State Control that “no legal basis existed under the MARPOL regulations to prevent the ship from reloading the slops and delivering them to another port, given the adequate storage capacity on board and the shipowner’s freedom of choice to do so”, and the Municipal Department of Environment and Buildings gave APS permission to reload the waste from the barge to the ship.⁵²⁷ The failure to properly apply the legal framework was strongly criticized by the official enquiry.

Breach of the International Covenant on Economic, Social and Cultural Rights

The International Covenant on Economic, Social and Cultural Rights (ICESCR), to which the Netherlands is a state party, guarantees “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health...” The Committee on

Economic, Social and Cultural Rights (CESCR) has stated that:

“ To comply with their international obligations in relation to article 12, States parties have to respect the enjoyment of the right to health in other countries, and to prevent third parties from violating the right in other countries, if they are able to influence these third parties by way of legal or political means, in accordance with the Charter of the United Nations and applicable international law. ”⁵²⁸

The Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights, adopted by a group of experts on international law and drawn from international law, aim to clarify the content of extraterritorial state obligations to realize economic, social and cultural rights.⁵²⁹ The principles highlight that “States must desist from acts and omissions that create a real risk of nullifying or impairing the enjoyment of economic, social and cultural rights extraterritorially. The responsibility of States is engaged where such nullification or impairment is a foreseeable result of their conduct.”⁵³⁰

The recognition by the CESCR of states’ responsibility for human rights impacts outside their territorial jurisdiction, in certain circumstances, reflects a growing body of legal opinion that such responsibility is vital to the adequate protection of human rights. When decisions taken or actions initiated in one state result in human rights harm in another state, both states may bear responsibility, particularly where the negative impacts were reasonably foreseeable. Similarly, the failure of one state to take legitimate action to control or regulate the acts of its agents or of non-state actors domiciled in its territory, may create the context in which human rights abuses occur in another state but cannot be adequately addressed or effectively remedied.

At a minimum, respecting the right to health in other countries means states must take account

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of foreseeable risks to the right to health in another state, and take action if they have the legal and technical capacity to do so. As the previous sections of this chapter have shown, the Dutch authorities not only had sufficient information to indicate that the material being carried by the *Probo Koala* was hazardous and that exposure to the material could trigger negative health impacts, they had legal obligations and the capacity to act to stop the material leaving their territory in order to prevent harm to health of people outside their territory. Both the Basel and MARPOL conventions specifically deal with waste that is being moved across territorial jurisdictions by ship.

The overriding concern that underpins MARPOL, the Basel Convention, and EU and Dutch law on both ships' waste and movement of waste, is the prevention of harm to the environment and human health due to improper disposal of waste. Despite the lack of certainty about which laws applied, the Dutch authorities acted in complete disregard of this objective. Regardless of any confusion, this core objective should have prompted more action.

International and European law on waste control and management, including both Basel and MARPOL regimes, are premised on action by states other than the state where waste may ultimately be delivered. If sole responsibility for the harmful impacts of toxic waste dumping are seen as resting only with the state where delivery occurs or where the impacts are felt, then the central rationale for international law in this area would be eroded.

The government of Côte d'Ivoire bears responsibility for the violations of the right to health of the people of Côte d'Ivoire because of its failures to comply with its obligation to enforce laws to prevent the import of hazardous waste into the country. However, as these violations of the right to health resulted from the foreseeable failure of one or more states to discharge their legal

obligations under the Basel and MARPOL regimes to prevent the export and transit of hazardous waste, the other states also bear responsibility for their failure to comply with their international obligations in relation to Article 12 of the ICESCR. The Netherlands, therefore, has breached its obligation under Article 12 of the ICESCR to protect the right to health in other countries.

After the dumping, there was intense public debate in the Netherlands, involving various officials and agencies. Officials and representatives from agencies involved in the decision-making in Amsterdam in July 2006 engaged in this public debate.



TOP LEFT: Lodewijk Asscher, assistant mayor for Port Affairs in Amsterdam and Marijke Vos, assistant mayor for Environment, Human Resources, Public Space and Green in Amsterdam. © ANP/EVERT ELZINGA
 BOTTOM LEFT: Karla Peijs, minister of Transport. © ANP/SUZANNE VAN DE KERK

Discovering the mistake yet still failing to act

The failure of the Dutch authorities did not end with the release of the *Probo Koala* on 5 July 2006. Following the departure of the ship, police officers continued to investigate the issue. The police contacted Greek-based Falcon Navigation, the company which managed day-to-day operations of the the *Probo Koala* for Trafigura, who told the Dutch investigating officers that it was not tank washings that had taken place, but rather washing of coker naphtha on board using caustic soda.⁵³¹

The Dutch police then contacted a London-based Trafigura executive, Naeem Ahmed, on 15 August. During the call, a Dutch police officer obtained confirmation that the waste on board the *Probo Koala* had been generated by a caustic washing process and was therefore not the “tank washings” that Trafigura had previously declared in Amsterdam.⁵³² In addition, the Dutch police officer told Naeem Ahmed that Trafigura needed to ensure that the waste was not discharged as MARPOL slops but as chemical slops. At this point the *Probo Koala* was in Nigeria, making another attempt to dispose of the waste, and the tragedy of Abidjan was yet to occur.

The Dutch police now had further reason to be seriously concerned: they knew how the waste had been produced; they clearly knew that it was not MARPOL waste and was hazardous; and they knew the waste was now in Africa. Moreover, more than one month after the *Probo Koala* had tried to discharge the material at Amsterdam, there was still no confirmed destination for the waste, and they knew, or should have known, that they were dealing with the transboundary movement of hazardous waste, which is subject to international law.

This additional knowledge should have triggered the involvement of the relevant authorities and, in line with the Basel Convention and the ICESCR, action should have been taken to establish where the waste was to be delivered and to contact the Nigerian authorities. The Dutch police should also have told Trafigura that disposal in an African country was unlawful and have demanded that the waste be returned to the Netherlands for proper processing.

However, none of this was done. The matter, which should have been dealt with at state level, instead remained at the level of contact between the police and the company. The police officer, speaking about his actions said:



TOP RIGHT: Pieter van Geel, state secretary of Housing, Spatial Planning and Environment. © ANP/EVERT-JAN DANIELS

BOTTOM RIGHT: Hans Gerson, director of the port of Amsterdam. © ANP/DIJKSTRA BV

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“ I never realised that Trafigura would leave the waste in Africa. I thought that if I would continue making phone calls to Ahmed that the company would not dump the waste at sea but keep the waste onboard instead until the ship would return to Europe. The reason why I did not raise the issue higher up is because my experience is that it would not be acted upon. ”⁵³³

While the individual police officer appears to have acted out of a genuine desire to prevent the waste from being dumped, the view that the issue could not be reported to more senior authorities is cause for concern.

Under the Basel Convention and European Waste Shipment Regulation, the Dutch state had an obligation to ensure either that the waste was re-imported or, if that was impossible, to ensure that it was disposed of in an environmentally sound manner. The European Waste Shipment Regulation states:

“ If such illegal traffic is the responsibility of the notifier of the waste, the competent authority of dispatch shall ensure that the waste in question is: (a) taken back by the notifier or, if necessary, by the competent authority itself, into the State of dispatch, or if impracticable; (b) otherwise disposed of or recovered in an environmentally sound manner, within 30 days from the time when the competent authority was informed of the illegal traffic or within such other period of time as may be agreed by the competent authorities concerned. ”⁵³⁴

Why did the regulators fail so badly?

The question of why regulators in the Netherlands failed on so many fronts was considered in the report of the official enquiry established by the municipality of Amsterdam. Two key issues emerged, both of which require some further scrutiny.

Regulators unclear about the law

Investigations by the Municipality of Amsterdam (published in the Hulshof Committee report) and by the UN Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, have highlighted a lack of clarity amongst the different regulatory bodies in the Netherlands as to which law or regulations applied.⁵³⁵ In particular, there appeared to be a lack of understanding of the requirements of the Dutch Environmental Management Act and how it applied to the waste that had been offloaded on to the APS barge. Initially, the Municipal Department of Environment and Buildings notified APS that pumping the waste back would contravene the Environmental Management Act.⁵³⁶ However, following consultation with APS and its lawyers, the Department changed its position.⁵³⁷ Port State Control, the institution responsible for inspecting foreign ships and whose mandate is based on provisions of the MARPOL Convention, provided advice to the Amsterdam Port Authority that was incorrect. Port State Control told the Port Director that “no legal basis existed under the MARPOL regulations to prevent the ship from reloading the slops and delivering them to another port” given “the shipowner’s freedom of choice to do so”. As detailed above, under the EU Directive that gives effect to MARPOL, more than one legal basis existed to prevent the ship leaving with the waste on board. While both the Dutch Environmental Management Act and the MARPOL Convention were referenced by relevant authorities – albeit

to no avail – the Basel Convention and the European Waste Shipment Regulation do not appear to have been considered at all, despite the fact that both refer to the export of hazardous waste.

Financial pressure stronger than the rule of law

Investigations into the events in Amsterdam make clear that financial considerations played an important role in the decisions taken to allow the waste to be pumped back on to the *Probo Koala* and to allow the departure of the ship with the hazardous waste on board. Trafigura had signalled to APS that any delay in the *Probo Koala*'s schedule, which would cause the ship to miss its scheduled arrival and stay in Paldiski, would cost US\$250,000.⁵³⁸ When the authorities initially did not give permission to reload the toxic waste on to the *Probo Koala*, the director of APS, fearing that the ship would leave and that APS would have to pay for the extra processing costs, complained to the Department of Environment and Buildings (DMB) on the evening of 3 July.⁵³⁹

Financial concerns, then, added pressure to already difficult proceedings. The messy situation soon became even more complicated when APS sought an injunction over the *Probo Koala*'s bunkers (which were owned by Trafigura Beheer BV, who had chartered the ship). They took this action as security, in case APS was forced to pay for the treatment of the waste, since Trafigura had refused to pay the extra costs of this. The local authorities then intervened to try to convince Trafigura to give APS a bank guarantee for treating the waste. Trafigura refused.⁵⁴⁰

The Hulshof Committee report noted that the “idea of urgency” played a role in the decision of the authorities that there were no grounds for prohibiting reloading. “The Committee presumes that the idea of urgency was inspired by financial considerations.”⁵⁴¹

The Hulshof report concluded: “Regardless of the chosen solution, civil servants of various authorities are recommended to take strong measures to ensure that financial considerations will not stand in the way of making pure and prompt decisions.” While various civil servants were confused as to which legislation applied in this case, the pressure put on them because of financial considerations, and their submission to that pressure “clouded [their] perception with regard to the core of the matter”.⁵⁴²

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SECTION II

THE FIGHT FOR JUSTICE

CHAPTER 10

10



THE RIGHT TO AN EFFECTIVE REMEDY AND REPARATION

All victims of human rights violations have the right to an effective remedy. This right has been recognized under various international and regional human rights treaties and instruments⁵⁴³ and also as a rule of customary international law.⁵⁴⁴

The Committee on Economic, Social and Cultural Rights (CESCR) has clarified the obligation of states to ensure an effective remedy for violations of economic, social and cultural rights under Article 2 (1) of the International Covenant on Economic, Social and Cultural Rights (ICESCR, or the Covenant). The Committee has stated that “the Covenant norms must be recognized in appropriate ways within the domestic legal order, appropriate means of redress, or remedies, must be available to any aggrieved individual or group, and appropriate means of ensuring governmental accountability must be put in place”.⁵⁴⁵

Specifically in relation to the right to health, the Committee has emphasized that any person or groups who are victims of a violation of the right to health “should have access to effective judicial or other appropriate remedies at both national and international levels. All victims of such violations should be entitled to adequate reparation, which may take the form

of restitution, compensation, satisfaction or guarantees of non-repetition.”⁵⁴⁶

The right to an effective remedy is a broad right, which has both substantive and procedural elements. It requires that victims be provided with:

- » equal and effective access to justice;
- » adequate, effective and prompt reparation for harm suffered;
- » access to relevant information concerning violations and reparation mechanisms.⁵⁴⁷

International human rights monitoring bodies have stated that the right to an effective remedy requires that all allegations of violations are investigated thoroughly, promptly and effectively through independent and impartial mechanisms.⁵⁴⁸ The UN Human Rights Committee has also emphasized that, where investigations reveal violations, states parties must ensure that those responsible are brought to justice. The failure to investigate allegations or failure to bring to justice perpetrators of such violations could in itself give rise to a breach of the International Covenant on Civil and Political Rights (ICCPR). The Human Rights Committee has stated that these obligations arise notably in respect of violations recognized as crimes under domestic and international law.⁵⁴⁹ Under the Basel Convention, states parties

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are required to treat illegal traffic in hazardous waste as a criminal offence and put in place appropriate national legislation to prevent and punish illegal traffic.⁵⁵⁰

Reparation is the term for the concrete measures that should be taken to address the suffering of victims and to help them rebuild their lives. The aim of reparation measures is to “as far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed.”⁵⁵¹

There are five recognized forms of reparation, which include a broad range of measures aimed at repairing the harm caused to survivors and victims. These are: restitution, compensation, rehabilitation, satisfaction and guarantees of non-repetition.⁵⁵²

Restitution includes measures aimed at re-establishing, as far as possible, the situation that existed before the violation happened, such as restoration of land, employment status and so on.⁵⁵³

Compensation involves monetary payment for “any economically assessable damage.”⁵⁵⁴ Although the damage caused by the violation and the amount of compensation related to it has to be evaluated in economic terms, this does not mean that compensation covers only material damage. The UN Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law⁵⁵⁵ define damage quite broadly, including: “**a**) physical or mental harm; **b**) lost opportunities, including employment, education and social benefits; **c**) material damages and loss of earnings, including loss of earning potential; **d**) moral damage; **e**) costs required for legal or expert assistance, medicine and medical services, and psychological and social services.”⁵⁵⁶

Rehabilitation aims to address any physical or psychological harm caused to victims, including “medical and psychological care as well as legal and social services.”⁵⁵⁷

Satisfaction includes important symbolic measures such as: verification of the facts and full and public disclosure of the truth; public apology, including acknowledgement of the facts and acceptance of responsibility; and judicial and administrative sanctions against persons liable for the violations.⁵⁵⁸

Guarantees of non-repetition include measures which also contribute to prevention, such as reviewing and reforming laws which contribute to or allow violations; promoting the observance of international standards by public officials; and strengthening the independence of the judiciary.⁵⁵⁹

Not all these forms of reparation would necessarily be required for all human rights violations. In each situation, a determination would need to be made about what reparation measures are needed to address the specific harm caused. This process should take into account the views of the victims, who will best know their needs, and the ultimate decision should be proportionate to the gravity of the violation.

In order for a remedy to be effective, a victim must have practical and meaningful access to a procedure that is capable of ending and repairing the effects of the violation.⁵⁶⁰ Where a violation is established, the individual must actually receive the relief needed to repair the harm.⁵⁶¹ The remedy should also be affordable and timely.⁵⁶²

Where an individual has suffered human rights violations at the hands of several states, he or she is entitled to a full remedy for all of the violations. So long as the right to an effective remedy remains unfulfilled in relation to an act for which a particular state is responsible, that state remains under the obligation to provide

meaningful access to a procedure capable of providing an effective remedy.⁵⁶³

As discussed earlier in this report, all states are under an obligation to protect individuals from infringements of their human rights by third parties. As part of this duty, states are also required to take adequate steps to investigate and provide effective remedies against human rights abuses. The UN Guiding Principles on Business and Human Rights, developed by the UN Special Representative to the Secretary-General on Business and Human Rights, reiterate this obligation:

“ States must protect against human rights abuse within their territory and/or jurisdiction by third parties, including business enterprises. This requires taking appropriate steps to prevent, investigate, punish and redress such abuse through effective policies, legislation, regulations and adjudication. ”⁵⁶⁴

The CESCR has also highlighted that:

“ It is of utmost importance that State Parties ensure access to effective remedies to victims of corporate abuses of economic, social and cultural rights, through judicial, administrative, legislative or other appropriate means. ”⁵⁶⁵

The following chapters describe the efforts undertaken in three different countries: Côte d'Ivoire, the Netherlands and the UK, and the limitations, to date, of those efforts in providing victims with effective remedies. The efforts to provide a remedy to the victims and hold those responsible to account included: the establishment of a National Commission of Enquiry in Côte d'Ivoire, a criminal prosecution in Côte d'Ivoire, a financial settlement between Trafigura and the state of Côte d'Ivoire, clean-up operations in Côte d'Ivoire, criminal prosecution in the Netherlands and a civil claims case in the UK.

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11



THE LIMITS OF JUSTICE IN ABIDJAN

“ We don’t know the facts. What needs to be done:

- **punish those responsible: those who are really guilty have not been punished;**
- **with Trafigura’s money make a medical centre to follow up so that we know the long-term health consequences;**
- **take care of those in the affected area: this has not been done. ”**

GENEVIÈVE DIALLO

Resident of Akouédo⁵⁶⁶

In the aftermath of the toxic waste dumping, the Ivorian authorities took a number of legal and other measures to uncover the truth about what had happened and bring those responsible to justice. The Prime Minister established a National Commission of Enquiry and the State Prosecutor initiated prosecutions against a number of private actors and public officials. Victims’ associations and the government also attached themselves to the prosecution as *parties civiles* seeking damages.

However, despite these initial steps, follow-up action was limited. The National Commission of Enquiry completed an investigation and published a report, but its key findings with respect to why the dumping happened and who was responsible were not pursued for reasons that remain unclear.

Although three executives of the Trafigura Group were initially charged by the prosecutor, these charges were ultimately dropped. In 2007 the Ivorian government entered into a settlement agreement with the Trafigura Group. Under this agreement, the government received total compensation amounting to CFA95 billion (approximately US\$200 million). This money was intended to compensate the state and the victims, and to pay for clean-up of the waste. However, the nature of the settlement created obstacles to the victims’ pursuit of justice and remedy. The settlement provided surety for bail and required that ongoing prosecutions against Trafigura parties be discontinued. It also limited the rights of the victims to seek compensation.

This chapter examines the various attempts made to uncover the truth, pursue prosecutions and obtain legal redress for victims in Côte d’Ivoire.

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The National Commission of Enquiry

“ To all, we promise to accomplish our mission in all independence and all impartiality, without passion or hatred, with the sole aim of bringing to light the truth. ”

On 14 September 2006 the Prime Minister announced his decision to create a National Commission of Enquiry (National Commission or Commission) on the toxic waste dumping in Abidjan.⁵⁶⁷ The Commission was created by decree on 15 September 2006 and its mission was to:

- » carry out an enquiry into the dumping of toxic waste in the Abidjan district;
- » identify those who may be involved in the event; and
- » determine their degree of responsibility.⁵⁶⁸

It was not specifically mandated to make recommendations to the Ivorian authorities.

The Commission was composed of 14 experts drawn from Ivorian institutions, civil society, and the legal profession. It was chaired by a ‘Magistrat Hors Hiérarchie’ (high-ranking judge), Fatoumata Diakite. Under the enabling statute, all Ivorian authorities were obliged to provide any information requested by the members of the Commission.⁵⁶⁹

The National Commission interviewed 78 individuals as part of its fact-finding process. These included witnesses, victims and a number of public officials involved in various aspects of the dumping, including port and customs officials, the governor of the District of Abidjan, and the director of the company managing the dumpsite. In its final report, published on 21 November 2006, the National Commission made a number of findings. These included systemic failures by Ivorian institutions in respect of the adequate discharge of their mandates, and ethical and administrative failings by

individuals. As described in Chapter 8, the National Commission found deficiencies in relation to organization and control among most of the Ivorian authorities concerned with the dumping and its aftermath, and a lack of understanding of their statutes and powers.

In its report, the National Commission further stated that:

“ The attitude observed by the Commission among certain actors display hints of corruption and unrestrained pursuit of gains [with] a disregard [for] human life. ”⁵⁷⁰

In addition to public officials, the report made findings in relation to private individuals and companies, including: Salomon Ugborogbo, the head of Compagnie Tommy, and executives and employees of the Trafigura Group, including from Puma, Trafigura’s subsidiary in Côte d’Ivoire, and West African International Business Services (WAIBS).

The establishment of the National Commission and the publication of its findings were important steps taken by the Ivorian government to expose the truth in relation to the toxic waste dumping. However, the National Commission’s powers were relatively limited: the statute establishing the National Commission did not prescribe how the government should take forward the Commission’s findings; nor did it reference any follow-up mechanisms that could provide access to judicial recourse to ensure effective sanctions and remedies. For example, the statute did not require that public officials or private individuals found to be accountable be removed from public office or prosecuted. As a result, whether or not this was done appears to have been discretionary. As described earlier in Chapter 8, although the Prime Minister suspended officials named by the National Commission from public office, the then President reinstated the same officials by decree, just days after the publication of the National Commission’s report.



Claude Dauphin and Jean-Pierre Valentin, Trafigura executives, in custody in Abidjan, 16 November 2006.

© ANP/AFP

FINDINGS OF THE NATIONAL COMMISSION OF ENQUIRY

The key factual findings relating to individuals and companies made in the report of the National Commission of Enquiry on the toxic waste in the district of Abidjan include:

- » Salomon Ugborogbo, from Compagnie Tommy, was found to be the “principal actor” in the dumping of the waste; the Commission determined that the permits and licences granted to him were “troubling and led to suspicions of fraudulent collusion.”⁵⁷¹
- » Trafigura, through the behaviour of two employees, was found to have breached the Basel and MARPOL conventions. In making this finding, the Commission determined that: “Neither Mr Paul Short nor Mr Marrero could ignore the Tommy company’s technical incapacity.” The Commission relied on the letter from Salomon Ugborogbo to Jorge Marrero dated 18 August 2006, which stated the intention “to discharge” rather than “to treat” the waste at Akouédo.⁵⁷²
- » Trafigura executives, Jean-Pierre Valentini and Claude Dauphin, were found to have been aware of the fact that Côte d’Ivoire did not possess the required facilities to process the waste.⁵⁷³ The Commission relied on testimony provided by the executives when they were questioned by police in Abidjan after the dumping.
- » The head of Puma Energy, N’zi Kablan, was found to have played an “active part in the transfer of illicit toxic waste”. The Commission found that N’zi Kablan had been informed of the nature of the waste and had acted as an intermediary for Ugborogbo’s letter to Marrero.⁵⁷⁴
- » WAIBS was found to be “partly responsible” because it should have verified the technical capacity of Compagnie Tommy.⁵⁷⁵

Nor was there any provision made for implementing the recommendations made by the National Commission. The Commission, recognizing this limitation, called for the establishment of a mechanism to take forward its recommendations but no such mechanism was ever established.

The criminal case in Côte d’Ivoire

In September 2006, Ivorian state prosecutors initiated criminal investigations into individuals alleged to have played a role in the dumping of the toxic waste and in the aftermath.

The charges brought by the prosecutor and criminal investigations

During September the authorities arrested and charged a number of individuals in connection with offences relating to the toxic waste dumping. These included:

- » Claude Dauphin and Jean-Pierre Valentini of Trafigura and N’zi Kablan of Puma (Trafigura’s subsidiary);
- » Salomon Ugborogbo, the head of Compagnie Tommy;
- » the Director of WAIBS and three other WAIBS employees;
- » the Commander of the Port Captaincy;
- » three customs agents;
- » the General Director of Maritime and Port Affairs;
- » two port agents;
- » two garage owners/mechanics.

The charges brought against these individuals included offences such as poisoning and breaches of public health and environment laws, as well as breaches of the national law domesticating the Basel Convention relating to the movement of hazardous waste (see box, right).⁵⁷⁶

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IVORIAN LAW

The Law relating to the protection of Public Health and the Environment against the effects of toxic and nuclear industrial waste and harmful substances (Loi No. 88651 du 07 juillet 1988 portant protection de la Santé Publique et de l'Environnement contre les effets des déchets industriels toxiques et nucléaires et des substances nocives)⁵⁷⁷

Article 1 of this law prohibits: "all acts relating to the ... import, transit, transport, deposit ... of toxic and nuclear industrial waste and hazardous substances". Article 3 further provides that, when the offence is committed in the context of corporate activity, criminal liability is incumbent on any person "assigned or not, who by their function, has the responsibility for managing, monitoring or controlling this activity".

The act goes on to say that: "When the offence is committed in the course of a business activity, the criminal responsibility rests with the individual, who through his or her functions, is responsible for the management, supervision or control of that activity."

The Environmental Code

(Framework law No. 96-766 of 3 October 1996)

Article 99 prohibits illegal import of waste. Article 101 of the Code states that the penalty for whoever engages or provides for the "import, transit, storage, burying or spillage on the national territory of dangerous waste" or "executes an agreement to authorize such activities" is a prison sentence of 10 to 20 years and a fine. The court can also order the seizure and elimination of such waste at the cost of the owner.⁵⁷⁸ The Act also states: "Whoever shall proceed to or arrange for the purchase, sale, import, transit, storage, landfill or dumping on the national territory of hazardous wastes or sign an agreement for the authorization of such activities shall be punished..."

The Ivorian Criminal Code

Article 342(4) of the Ivorian Criminal Code makes poisoning a criminal offence. The Code also sets out a definition of an accessory to a crime. Several of those involved in the import and dumping of the waste in Abidjan were charged with poisoning.

Salomon Ugborogbo, the head of Compagnie Tommy, was charged with offences relating to poisoning and with offences under public health and environmental law.⁵⁷⁹ Claude Dauphin, Chairman and co-founder of Trafigura's Dutch parent company, and Jean-Pierre Valentini, director of the West Africa Trafigura Group, were arrested when they flew into Abidjan in the aftermath of the dumping.⁵⁸⁰ They, along with N'zi Kablan of Puma, were detained in Abidjan's MACA prison.

N'zi Kablan was charged with poisoning while Claude Dauphin and Jean-Pierre Valentini were charged with being accessories to poisoning. All three Trafigura employees were charged with offences under the Law relating to the protection of Public Health and the Environment against the effects of toxic and nuclear industrial waste and harmful substances (Public Health Law), and breaches of the Environmental Code. When first arrested, they were also charged with domesticated offences under the Basel Convention.⁵⁸¹

The prosecutor was able to bring charges against the executives and employees of the various companies, but not against the corporate entities themselves. Under Ivorian law, legal entities cannot be held criminally liable for these specific offences.⁵⁸² This presents legal challenges for any prosecutor; in seeking to hold individuals criminally liable within a corporation, the prosecutor must "pierce the corporate veil" – look behind the legal entity at the roles played by specific individuals in order to allocate responsibility. This can be very challenging in practice, particularly when there is a lack of transparency with respect to corporate decision-making processes or when the crime itself is the cumulative result of a number of decisions (or failed decisions) and, therefore, blame cannot be allocated to one specific individual. In these instances, employees are often able to hide behind the shield of the corporation, and multinational companies

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MACA Prison, February 2009. This is where Trafigura executives were held in pre-trial detention until February 2007, when Trafigura reached a financial settlement with the state of Côte D'Ivoire.
© AMNESTY INTERNATIONAL

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are able to use the complexity of their organization, networked firms and long supply chains to escape legal responsibility.

Under the Ivorian Public Health Law, a provision exists for establishing supervisory liability for illegal acts carried out during corporate activity. Article 3 states that, when carried out within the context of corporate activity, liability should fall on any person “assigned or not, who by their function, has the responsibility for managing, monitoring or controlling this activity”.⁵⁸³ The provision suggests a two-step analysis: firstly determining whether or not the conduct was carried out within the context of corporate activity, and secondly identifying those who have management, monitoring or controlling responsibilities for the activity in question. While broadening criminality for this offence to individuals who are in a supervisory role, this still requires that the prosecutor look behind the corporate veil in order to be able to identify those who are in the relevant positions of authority.

No charges were laid by the prosecution against Jorge Marrero and Paul Short of the Trafigura Group, even though the National Commission found that the two “...could not ignore the Tommy company’s technical incapacity”.⁵⁸⁴ Although these two men were not physically present in Côte d’Ivoire, legal and diplomatic action could have been taken to make them appear before a court there. In light of the findings of the National Commission, it is not clear why the Ivorian authorities did not take action to bring Jorge Marrero and Paul Short to account.

On 22 December 2006, approximately three months after they had first been detained, the two French Trafigura executives Claude Dauphin and Jean-Pierre Valentini, obtained a court order granting them provisional release on bail. However, the Ivorian Public Prosecutor immediately appealed this order and, as a result, the two executives remained in detention pending a determination being made of the appeal. They remained in detention in MACA

CORPORATE CULPABILITY

A sufficient legal deterrent must exist in order to stop corporate actors from causing or contributing to illegal activities which lead to human rights abuses. In theory, three levels of culpability are possible when prosecuting illegal conduct which is committed during the course of corporate activity.

The first level is proving the culpability of the corporate entity. This is possible when domestic legal systems, through their criminal, penal or administrative codes, explicitly recognize that legal persons, such as corporations, can be held legally responsible for the illegal act which is committed. In these scenarios, it is likely that the mental element (*mens rea*) required for establishing the guilt or innocence of the legal person will be clearly defined. This is beneficial in that it clarifies the threshold of legal liability for the corporate entity, and also provides clarity with respect to attaining legal redress through the courts.

A second level of culpability involves proving supervisory responsibility for the illegal act which has been committed. This means that individuals in decision-making positions or positions of control and influence should be held accountable for allowing the illegal acts to occur. This can be facilitated by specific legal provisions in domestic law which clearly state that corporate officers who are in positions of control, influence and/or management in relation to the illegal activity, such that they should have known about and/or prevented the illegal activity from happening, are accountable.

A third level of culpability involves proving the legal responsibility of all other individuals, agents or employees who were either indirectly or directly involved in the commission of the illegal act which was committed in the course of corporate activity.

In situations where the domestic law does not recognize the legal liability of legal persons for the illegal act committed, such as in Côte d’Ivoire, it is essential that adequate legal provisions be in place to ensure that culpability can be established at the second and third levels.

prison until 14 February 2007, which was the day after a legal settlement was entered into by the Trafigura Group and the state of Côte d’Ivoire. The criminal investigations into the toxic waste dumping continued until October 2008.

In addition to the criminal charges, victims, associations and the government attached themselves to the prosecution as “*parties civiles*” seeking damages.⁵⁸⁵

The settlement agreed between the Trafigura Group and the state of Côte d'Ivoire

On 13 February 2007 the state of Côte d'Ivoire and Trafigura reached a settlement, under which Trafigura agreed to pay the state the sum of CFA95 billion (approximately US\$200 million) for compensation and clean-up costs, as well as a further CFA15 billion as bail and surety for the Trafigura executives who had been charged and detained in MACA prison.⁵⁸⁶ The settlement further stated that Trafigura would pay an additional CFA5 billion towards the cost of a household waste disposal treatment unit, once it had been built by the state.⁵⁸⁷

The Ivorian government entered into the settlement six months after the dumping occurred – without public consultation with the victims and without a full assessment of the human rights and environmental impacts that could arise from the dumping. The settlement was entered into on a final and conclusive basis and not as a provisional arrangement pending a full assessment of the impacts of the dumping. This means that it was agreed with prejudice to bringing any future claim and as a final resolution of the matter.

In the Ivorian settlement, Trafigura Beheer BV, Trafigura Ltd and Puma Energy are jointly referred to as the “Trafigura Parties” and are stated to act on behalf of their directors and employees, as well as their subsidiaries and the directors and employees of such subsidiaries.⁵⁸⁸

Under the terms of the Ivorian Settlement, the Government of Côte d'Ivoire agreed to:

- » waive its right to pursue proceedings or charges in the present or in the future against the Trafigura Parties.
- » formally withdraw its legal action for responsibility and damages and its claim for civil injury against Trafigura.
- » discharge Trafigura from all measures taken against it by withdrawing all proceedings for seizure of property and, more generally, all requirements for bail or sureties against the Trafigura Parties.
- » provide Trafigura a guarantee that the state would take on any claim relating to the dumping, and would compensate victims.⁵⁸⁹



Newspapers advertised the names of people affected by the toxic waste who were entitled to financial compensation following the financial settlement between Côte d'Ivoire and Trafigura. © AMNESTY INTERNATIONAL

CHAPTER 11

Problems with the settlement agreement

Terms of the Ivorian Settlement are expansive and far reaching

The term “Trafigura Parties” is broadly defined and appears to provide any individual and corporate entity linked to the Trafigura Group with immunity from any form of legal action relating to the toxic waste dumping within Côte d’Ivoire, including prosecutions for criminal actions. The clause waiving proceedings or charges against the Trafigura Group is particularly problematic in that it provides guarantees of legal impunity, despite the fact that charges against three Trafigura executives were outstanding at that time. Bail and surety was provided for these same individuals. The state agreed to take on any future claims against the Trafigura Group but without creating a mechanism for these to be brought forward. As detailed below, victims report that they were neither informed nor consulted about the agreement; this underscores a larger issue – that victims were not even aware that their rights were being waived by the government.

Ambiguity in the terms of the agreement relating to compensation

Under the settlement, there is a lack of clarity about how the compensation should be allocated. The agreement provided for payment of CFA95 billion (US\$200 million) to cover compensation to both the state of Côte d’Ivoire and the victims, as well as clean-up costs. CFA22 billion (approximately US\$44 million) was earmarked for clean up and CFA73 billion (approximately US\$156 million) for compensation. However, the agreement contained no detail about the type of damage that should be compensated, nor the amounts that should be variously allocated to the state and the victims.

Procedural inadequacies

Failure to provide information and consult with victims

The settlement with Trafigura provoked public outrage from victims about the lack of prior consultation by the state, particularly in relation to the agreement on compensation.⁵⁹⁰ As noted above, at the time of the settlement, the state had not quantified the scope of the harm to victims nor determined the total number of people and businesses affected. In fact, the government drew up a list of victims only after the settlement had been reached. Despite the fact that the state did not have full information, under the settlement, the state waived any right to make future claims against Trafigura.

Lack of payout to victims

As time passed, victims of the waste dumping also became concerned about the amount of money that the state was continuing to retain from the settlement, rather than paying out to victims. The state reserved the bulk of the CFA73 billion (US\$156 million) compensation money for itself, stating, in June 2007, that it would spend part of the money on “social and community projects” in a number of areas of Abidjan. The state only allocated one third of the CFA73 billion compensation money to victims.⁵⁹¹ Available information suggests

that not all of this money has been paid out to victims, and some victims may not have received any compensation. The last available government figures are from 2008. According to these data only 63 per cent of victims recorded by the government as having suffered health impacts received payouts; it seems, however, from the figures that over 90 per cent of those recorded as having suffered economic loss received compensation.⁵⁹² The status of the social and community projects that the compensation money was intended to fund has never been clarified. Amnesty International has asked the present government to provide information on these projects and on the present status of the compensation fund. At the time of printing, no information had been received.

Compensation for health impacts – a flawed payment and distribution process

In June 2007, four months after the settlement was agreed, the government began the process of distributing compensation to victims of the waste dumping. The government drew up a list of 95,247 victims who were entitled to compensation and divided these individuals into three categories: 1) the families of those who had died; 2) the “walking ill”; and 3) people who had been hospitalized.⁵⁹³

Under the first category, relatives of the 16 individuals whom the state recorded as having died due to exposure to the waste received the largest payout of CFA100 million each (around US\$205,000). Under the third category, the 75 individuals who had been recorded as hospitalized following the dumping were allocated CFA2 million (around US\$4,000) each.⁵⁹⁴

Under the second category, over 95,000 people classified as “walking ill”, who had been seen by one of the emergency medical teams, were allocated lower payouts of CFA200,000 each (around US\$400).⁵⁹⁵ Overall, the method used by the government

to categorize the harm suffered by victims in order to facilitate compensation was flawed. Neither the second nor third categories took into consideration the severity of the harm suffered or the possibility of any long-term consequences or whether victims would require medical services in the future. Furthermore, medical services were not available for all victims. The emergency response of the Ivorian authorities was commendable under the circumstances, but over-stretched and under-resourced. As a consequence, many affected individuals did not have access to medical centres in the immediate aftermath of the dumping. Therefore, any negative health impacts they suffered were not officially recorded.

After the government compensation scheme was announced at the end of June 2007, there were demonstrations by victims to protest against the low level of payouts and the fact that the government was keeping the bulk of the settlement money. There were also many complaints of victims being left out of the scheme.

The authorities used the medical forms (or *fiches*) that had been completed during the medical emergency as the basis for drawing up the list of victims entitled to receive compensation. However, this led to a number of problems because these forms were not originally created for this purpose. The medical forms only took into account those who had been registered at one of the designated state hospitals or by one of the emergency medical teams. This meant that those who had not seen a doctor, or who sought treatment privately or from traditional healers, were automatically excluded from the scheme. Exact figures vary, but it seems that a substantial number of people were excluded from the compensation scheme on this basis. A survey conducted by Ligue Ivoirienne des Droits de l’Homme (LIDHO) found that only 35 per cent of the victims had been registered by the state.⁵⁹⁶

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Many people working for small businesses near dumpsites also appear to have been unable to access compensation for health impacts because they had to go to work to keep their jobs. A member of the workers' union Collectif des Travailleurs de Vridi (a union which represents approximately 4,000 workers), told Amnesty International that many workers were not registered on the survey forms used by the government to record people who were exposed to the toxic waste.⁵⁹⁷ The reasons for this varied: some employees went for medical consultations before the survey system was put in place; others did not go to public hospitals – some people also chose to self-medicate given the long queues and generic treatment given by medical facilities; in some cases employers would not allow workers time off to go for consultations because it would disturb production; some went to company doctors. A particular concern for these workers is that they were not given compensation by the government because they were not recorded on *fiches*, nor were they included in the compensation paid to companies, which went to the employers.

These difficulties were compounded by the fact that, in some cases, medical teams saw patients but did not register them because the teams did not have any forms. For example, the doctor from MACA prison clinic testified that the *fiches* had only become available around a month after the dumping in mid-September 2006. As a result, although 1,780 victims had been treated in the prison clinic, only 400 *fiches* had been filled in.

Furthermore, even those victims whose names were on the government compensation list often had difficulty in proving their identity. Some did not have official identity cards (or a certificate of parental authority in the case of minors). Others discovered that their compensation had already been collected by another individual with the same name.

Compensation for loss of earnings and livelihood – flawed payment and distribution process

The government scheme also allocated compensation to some, but not all, of the individuals and businesses that had suffered economic loss as a result of the dumping. The government registered a total of 849 individuals in the informal sector (farmers, breeders, garage owners, craftsmen and fishermen) and 33 affected businesses.⁵⁹⁸

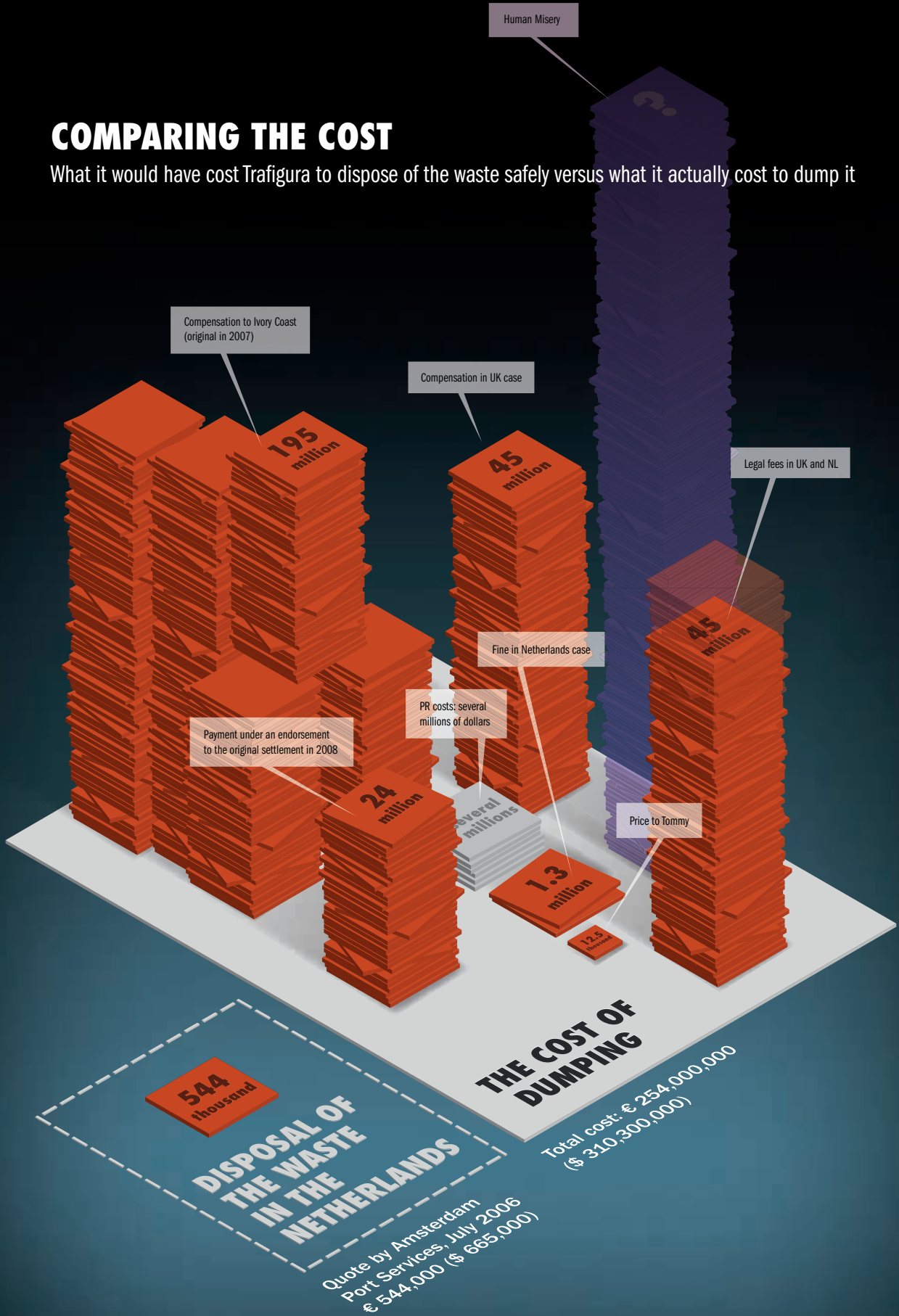
Salif Konate, the head of a collective of garage owners located near one of the dumping points, told Amnesty International that 120 garages had been forced to close temporarily in the weeks following the dumping.⁵⁹⁹ He stated that only 17 of those garages had received compensation and that those who were compensated only received CFA250,000 (roughly US\$500)⁶⁰⁰ per garage, which was “insignificant” and would not even cover one day’s business activity.⁶⁰¹

A government assessment of the impact of the crisis later noted that hundreds of workers had been laid off and businesses had been closed as a result of the dumping.⁶⁰² However, while individual businesses and people who were self-employed in the informal sector were, to some extent, compensated, some employees of affected businesses appear to have faced a very difficult situation. If their workplace stayed open, they had to work next to the toxic waste and were often unable to access medical care, as described above. If the business closed, their employer could access compensation but the employees could not.

After concluding his mission relating to the dumping of toxic waste in Côte d’Ivoire in 2007, the Special Rapporteur on toxic waste and human rights stated that:

COMPARING THE COST

What it would have cost Trafigura to dispose of the waste safely versus what it actually cost to dump it



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“ I acknowledge that the Government has attempted to take steps in the registration of victims, those that registered at the health centres received free medical treatment during the wake of the crisis. However, there is much more that needs to be done. Throughout my meetings with various stakeholders, the complaints seem to be very similar. Some complain of not being able to get registered to receive compensation, others claim to be compensated, although not adequately, while others have still not received any compensation whatsoever. Many victims, apart from feeling the direct threat to their health, have also had to leave their homes and businesses. ”⁶⁰³

Government suspension of payment process

On 19 August 2009, the government announced the suspension of the payment process because of reported identity fraud and a problem of identification in the payment documents. It is not clear how many people on the official list of victims had yet to receive their compensation when the scheme was suspended, nor how many people were victims of identity fraud. Although the authorities have placed some information in the public domain, it is not easily accessible. As highlighted above, according to data on a government website, dated 28 October 2008, only 63 per cent of those registered as experiencing health impacts had received payments, although almost all of those who registered as having suffered economic losses had been paid.⁶⁰⁴

Victims’ representatives have been vocal in demanding information about what happened to the money.⁶⁰⁵ As noted above, at the time of writing the government had not provided any clear information about the money, how it has been spent, how much is left or how those with outstanding claims will be able to access the scheme that was suspended in August 2009.

The settlement agreement– immunity for the Trafigura Parties

As a term of the Ivorian Settlement, and in exchange for compensation, the government agreed that it: “waives once and for all its right to prosecute, claim, or mount any action or proceedings in the present or in the future” against the Trafigura Parties.⁶⁰⁶

The implication of this clause is that all members of the Trafigura Group received and will continue to enjoy in the future a blanket immunity from any legal action relating to the toxic waste dumping in Côte d’Ivoire.

The government agreed to this clause, despite charges having already been brought against three executives of the Trafigura Group – Dauphin, Valentini and Kablan – who were in custody at that time, and despite previous findings of the National Commission that two other employees of the corporate group, Morrero and Short, were aware that Compagnie Tommy did not have the capacity to treat the waste correctly.

The release of the three Trafigura Group executives

On 14 February 2007, one day after the settlement had been signed, the Ivorian court granted the three Trafigura Group executives immediate release on bail. That same day, Dauphin and Valentini left the country and did not return during the course of the outstanding criminal proceedings in relation to the dumping of the toxic waste.

The release of these executives sparked public outrage in Côte d’Ivoire. Victims’ groups, who had not been consulted as part of the settlement negotiations, stated that they were astonished when the news was announced that the government had struck a deal with the company. Questions were asked about what this implied for the outcome of the criminal prosecution against the executives.⁶⁰⁷

In an interview conducted shortly after the settlement, one of the Trafigura Group's executives, Eric de Turckheim, stated that the decision of the court to allow the executives to be released on bail was independent of the settlement. When asked by a journalist whether the settlement money paid by Trafigura to the state could be interpreted as "ransom money", he said:

“ That would be totally false. It just so happens that we reached an agreement with the government of Abidjan a few hours before the Court of Appeal made a decision about the detention of our two managers. But the two events are independent. ”⁶⁰⁸

This statement made by the company, denying that a link existed between the release of the three executives and the settlement agreement, is not credible in light of the settlement's provisions. Money was provided as surety and bail. In addition, a "Note" to the settlement explicitly stated that, among the "necessary documents" that had to be presented to the bank before the money would be released, was a statement from a court official certifying the actual release of the executives, their boarding of an airliner and the take-off of the said airliner, all in the presence of a bank representative. This same condition was also included in the bank credit letter issued by the Côte d'Ivoire International

Bank for Commerce and Industry, under which it was stated that the money would only be paid to the Ivorian government upon presentation of the document confirming that the Trafigura executives had been released.⁶⁰⁹

Public statements by the Ivorian prosecutor after the settlement expose the heavy degree of involvement of the then President, Laurent Gbagbo, in securing the release of the executives. The acting Public Prosecutor told a journalist that, in view of Trafigura's "effort [to] compensate victims before the trial" for such a significant sum, the President of Côte d'Ivoire was entitled to say to him as prosecutor: "Listen, I think that on this point of compensation, the representatives of the company Trafigura have made a significant gesture. I also need to make an appreciable gesture which is the provisional release on bail of those charged," and to ask him as the prosecutor to take that on board.⁶¹⁰

The Public Prosecutor stated that the authorities had received assurances that Dauphin and Valentini would appear in court for the criminal proceedings, since Trafigura had business interests in Côte d'Ivoire. In reality, neither Dauphin nor Valentini returned to Côte d'Ivoire, and the criminal proceedings continued against the other parties in their absence.

4. ENGAGEMENTS DE L'ETAT DE COTE D'IVOIRE

4.1 L'Etat de Côte d'Ivoire considère que les Parties Trafigura ont satisfait à leurs obligations.

En conséquence, le Protocole sortira son plein et entier effet à tous égards, tant pour le présent que pour l'avenir et l'Etat de Côte d'Ivoire réitère sa renonciation définitive aux poursuites de toutes natures à l'encontre des Parties Trafigura.

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Dismissing charges against the three executives before trial

One year later, the prosecution against the three Trafigura executives – Dauphin, Valentini and Kablan – was discontinued, following a finding made by the court that there was insufficient evidence to proceed with the charges that had been brought against them. Considering Claude Dauphin and Jean-Pierre Valentini together, the court considered that there was no case against them for being an accessory to poisoning, because the investigation “revealed no action performed personally by the accused”.⁶¹¹ The environmental and public health charges against Dauphin and Valentini were also dismissed, as the court found that the investigation had shown that neither had committed a “reprehensible act”,⁶¹² and that both had found themselves at the centre of proceedings because they travelled to Côte d’Ivoire to help.

The court made this finding despite the damaging evidence provided by Claude Dauphin during his confession to the prosecutor in which he admitted that: “It is the Trafigura Company and, to a certain extent, Monsieur Marrero, who are entirely responsible for these actions”⁶¹³ and findings made by the National Commission concluding that Côte d’Ivoire lacked the appropriate facilities for treating the toxic waste, as admitted by Dauphin and Valentini during interrogations.⁶¹⁴

In its assessment, the court did not go on to find that a contravention of the law had occurred within the context of corporate activity and, thus, did not go on to consider the issue of Dauphin and Valentini’s resulting supervisory liability by virtue of Article 3 of the Public Health Act (that is, their roles in managing, monitoring or controlling the dumping of the waste). This appears to have been decided despite the findings of the National Commission, and without considering other evidence, such as that referenced in this report, with regard to direct knowledge

of the events and ability to control and/or influence the outcome.⁶¹⁵

The court also held that there were no grounds to pursue a case for poisoning against N’zi Kablan of Puma Energy. The court held that N’zi Kablan did not carry out any acts falling within the Environmental Act and Public Health Law, and further stated that he had gone “beyond the obligations” imposed upon him.⁶¹⁶ Again, this finding is in sharp contrast to the National Commission’s findings that Kablan had played an “active role” in the illicit import of the toxic waste through his dealings with Compagnie Tommy.⁶¹⁷ The court did not address this inconsistency with the findings of the National Commission.

The court also found that there was no case to answer against two other Trafigura executives, Jorge Marrero and Paul Short, on the grounds that:

“ Investigations undertaken at the first and second degree of the preparation of the case did not enable us to ascertain their full respective identity, such that they were not charged. ”⁶¹⁸

The court found that “in any case, no criminal act could legitimately be imputed to them”. The court commented that Short and Marrero had specified the nature of the waste in an email and specified some precautions to be taken. The court further found that Compagnie Tommy had asserted to them that it had acquired the services of a qualified chemist and was intending to use a suitable site for discharging the slops.⁶¹⁹ Again, this finding contrasts with those made by the National Commission, which had found that Short and Marrero “could not ignore the technical incompetence of Compagnie Tommy”, that Ugborogbo’s letter (Trafigura’s contract with Compagnie Tommy) made clear that he was agreeing only to discharge of but not to treat the waste, and that Short and Marrero could not have been convinced by this letter.⁶²⁰

Infringements of three domestic laws were alleged in this case. Article 3 of the Public Health Act states that, if the crime is committed during the course of corporate activity, all persons who were managing, monitoring or controlling the activity should be held to account.⁶²¹ Applying this law to the case at hand should have exposed all three executives, who were in managing, monitoring or controlling positions, to possible criminal liability.

Proceeding to trial

In contrast to the decision made with respect to the Trafigura executives, the Ivorian court found that there was sufficient evidence to proceed to trial against 12 other non-Trafigura individuals implicated in the toxic dumping. These individuals included: the head of Compagnie Tommy (Salomon Ugborogbo), the Commander of the Port Authority, two WAIBS employees, WAIBS shipping agent, three

customs officials, the Director for Maritime Affairs at the Ministry of Transport, a port agent and two mechanics.⁶²²

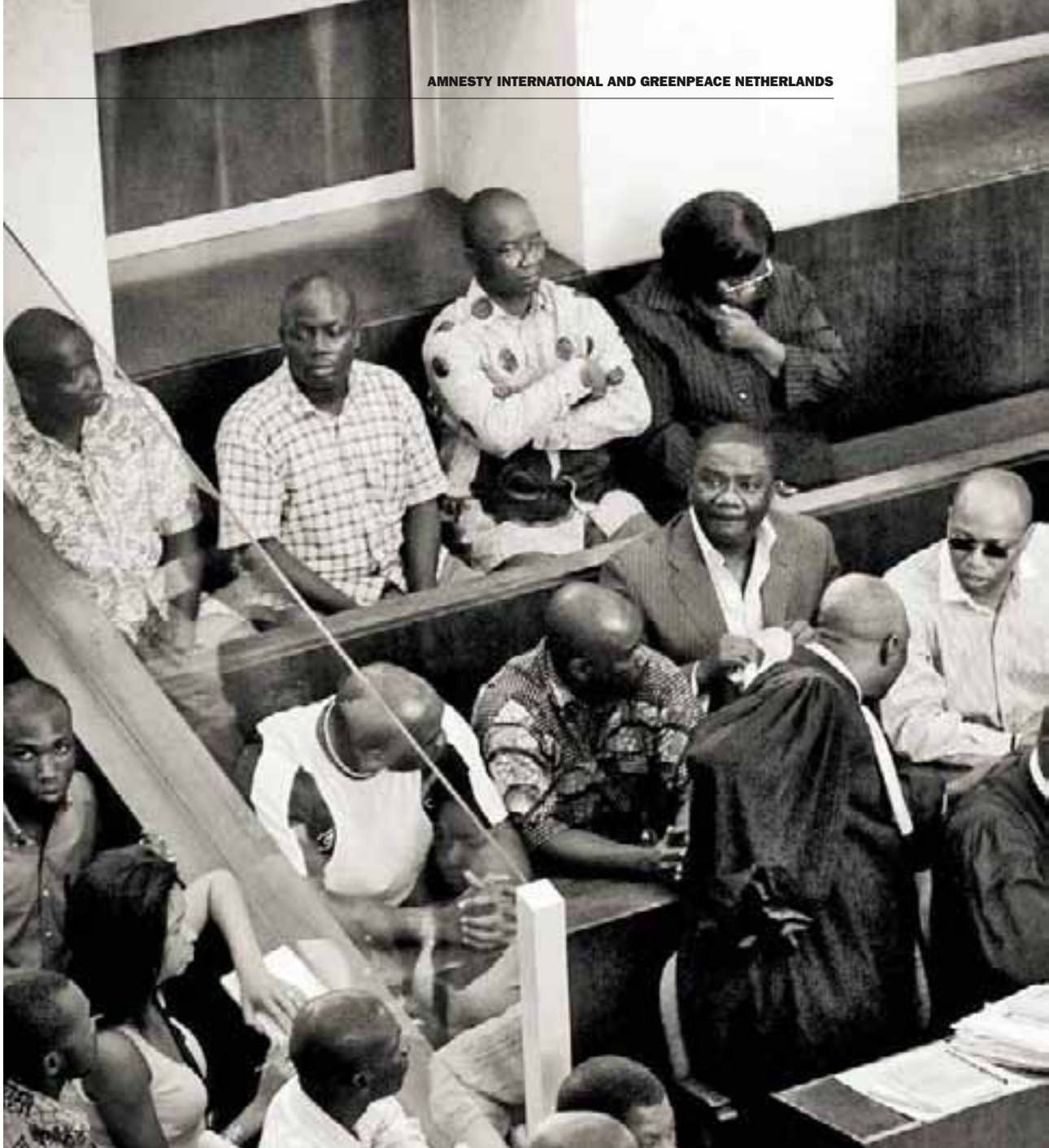
In relation to the Port Commander, the court found that he had failed to prevent Compagnie Tommy and the vessel *Probo Koala* from polluting the port area, and that he authorized and assisted the vessel to leave the port area, even though he knew there existed a case of pollution.

The criminal case came to trial on 29 September 2008 and ended on 22 October 2008. No representative from the Trafigura Group was present during the trial. N'zi Kablan, the head of Trafigura's Ivorian subsidiary Puma Energy, who had been summoned as a witness for the trial, left the country a few days before the trial started. According to available information he has not come back since.

Women protesting about the toxic waste dumping. Photo taken on the day the trial started, 29 September 2008
© ANP/EPA/LEGNAN KOULA



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Throughout the trial, defence lawyers for the remaining non-Trafigura individuals accused raised fair-trial issues, some of which were linked to Trafigura's role and lack of attendance at the trial.⁶²³

Guilty verdicts

Ultimately, only two individuals were convicted: Salomon Ugborogbo, the head of Compagnie Tommy, and Essoin Kouao from WAIBS, the company that acted as a shipping agent.

No responsibility was imputed to the state of Côte d'Ivoire, and all the state officials were acquitted.

Salomon Ugborogbo was convicted of both the poisoning charge and the charges relating to breaches of public health and environmental laws. He was sentenced to 20 years in prison. The WAIBS employee, Essoin Kouao, was found guilty of being an accessory to poisoning and being an accessory to breaches of public health and environmental laws. He was sentenced to five years in prison.⁶²⁴ Both men have since been released from prison. Salomon Ugborogbo's early release is reported to have occurred during the political turmoil that engulfed Côte d'Ivoire in 2010, when many prisoners were able to leave prison. However, his release is not official.



Lawyers talk to their clients during their trial in a courthouse in Abidjan, on 29 September 2008.

© ANP/AFP/KAMBOU SIA

Failure to prosecute members of the Trafigura Group

The text of the settlement, specifically the agreement to waive future prosecutorial action against any member of the Trafigura Group, raises questions about the court's decision that there was insufficient evidence to proceed with the charges against the three Trafigura executives. Amnesty International and Greenpeace believe that sufficient evidence existed to pursue the charges to trial against the three Trafigura executives either for their direct involvement in the criminal acts alleged and/or by virtue of their positions of control and influence within

the corporate group and with respect to the dumping of the toxic waste. Diplomatic and formal channels should have been engaged to bring forward prosecutions against other Trafigura employees, such as those named by the National Commission, where evidence existed showing either their direct involvement or supervisory responsibility.

In this case, the judicial process appears to have been compromised by the terms of the settlement agreement. In reality, no meaningful attempt was made to prosecute any of the Trafigura executives and employees after the agreement was reached.

The Ivorian government should not have agreed to waive the right to investigate and prosecute all Trafigura parties in relation to the dumping of the toxic waste. In doing so, the government breached its international human rights obligations to provide victims with an effective remedy, which require it to investigate and prosecute in a fair and accountable manner the crimes alleged against the parties at hand.

CHAPTER 12

12



CLEAN-UP AND DECONTAMINATION

“ Toxic wastes stayed long and I’m worried about what may happen to us in the long term. Toxic waste removed elsewhere have been stored in our village. I’m worried for our lives and the lives of our children in the long term. ”

M N'TAMON N'DRIN
Farmer, Djibi ⁶²⁵

The clean-up

On 14 September 2006, almost four weeks after the dumping took place, the Prime Minister of Côte d'Ivoire announced that a clean-up and decontamination process would begin on 17 September. The Ivorian government contracted Tredi, a French company, to carry out the work. On 16 September 2006 Tredi sent a team of 25 people to Abidjan to undertake the clean-up. ⁶²⁶

Full details of the contract between Tredi and the Ivorian state have never been made public. However, some details of the content of the original contract emerged during subsequent reviews of the clean-up and decontamination process. According to this information, the amount of waste and polluted soil covered by the contract was estimated to be approximately 2,500 tonnes. ⁶²⁷



French experts setting up a pumping system for toxic waste at Akouédo, 17 September 2006. © ANP/AFP/KAMBOU SIA

Those in charge of the decontamination process faced a number of challenges. Firstly, as previously described, the waste had been dumped at a number of different sites, and, while some were readily identified, it was not clear where all of the waste had ended up. Secondly, each dumping point had different characteristics and required specific cleaning methods adapted to the site's features. ⁶²⁸

At the Akouédo dumpsite, for example, liquid waste had been dumped in three different locations. At one of the dumping points the waste had entered a lagoon through a stream. This lagoon was treated *in situ*. At Dokui, an entire ravine had to be dug out to clean the site. The area around MACA prison also presented difficulties as it had three dumping points, one of them being much more difficult to clean because the waste had spread down a slope. ⁶²⁹

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The clean-up and decontamination work led to further distress amongst people in the affected sites, as the movement of the waste brought a return of the smell.⁶³⁰ Commenting on the decontamination effort in October 2006, the UN Office for the Coordination of Humanitarian Affairs (OCHA) noted that: “The sites of Akouédo 1 and 2, Abobo Veneers and MACA have been treated. Despite the end of works on certain sites, odours persist forcing local residents to flee.”⁶³¹

As work progressed, it became clear that the volume of polluted material that required removal was far greater than the 2,500 tonnes originally provided for under the contract agreed between Tredi and the state of Côte d’Ivoire. The contract was amended to take account of the larger quantities of contaminated material that required removal.⁶³²

By February 2007 Tredi had removed some 9,322 tonnes of contaminated material from affected sites in and around Abidjan.⁶³³ In March 2007, part of the waste was exported by ship to the French port of Le Havre and transported to the French town of Salaise-sur-Sanne in France, where it was incinerated at Tredi’s facilities.⁶³⁴ The state of Côte d’Ivoire conducted the export in accordance with the terms of the Basel Convention.⁶³⁵ However, not all of the contaminated material recovered by Tredi was exported to France, and it is not clear where the remaining material was taken, or how it was treated. Although Amnesty International and Greenpeace asked the government of Côte d’Ivoire to explain how the waste had been dealt with, no answer had been received at the time of writing.

However, even with the removal of more than 9,000 tonnes of contaminated material, decontamination was not complete, and several sites required more work. In March 2007 Tredi reportedly submitted a new proposal to deal with remaining polluted sites along Route d’Alépé near Djibi village. However, a new contract was never agreed by

the Ivorian state,⁶³⁶ and the decontamination work carried out by Tredi effectively stopped. Speaking later, in October 2007, a spokesperson for Tredi commented that more than 6,000 tonnes of heavily polluted material was still present.⁶³⁷

The settlement and Trafigura’s involvement in the decontamination process

The reasons for suspending the Tredi clean-up have never been made clear.⁶³⁸ However, it appears to be related to the out-of-court settlement reached between Trafigura and the Ivorian government on 13 February 2007 (see chapter 11).⁶³⁹ Under the settlement, of the CFA95 billion (approximately US\$190 million) that Trafigura agreed to pay, CFA22 billion (approximately US\$44 million)⁶⁴⁰ was designated for costs related to the decontamination.⁶⁴¹

The settlement also specified that Trafigura was responsible for identifying any other sites that might still contain waste as a result of the dumping, and the supplementary decontamination of those areas.⁶⁴² To that end, both Trafigura and the Ivorian government agreed to commission an audit of the progress made under the Tredi contract. A French company, Burgéap, was hired by the state⁶⁴³ to conduct the audit, which was to be carried out in three phases:

- » Phase 1: Collection of existing documents and preparation of a plan for further investigations.
- » Phase 2: Further investigations at the sites.
- » Phase 3: Definition of further work to be done regarding decontamination.

Phase 1 of Burgéap’s audit was concluded by July 2007, at which point the government and Trafigura decided not to proceed with the planned Phases 2 and 3.⁶⁴⁴ Instead, the parties reached an agreement to clean up dumping points at one site on the Route d’Alépé.⁶⁴⁵ This decision was reportedly based on Burgéap’s initial investigations at two

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Vridi, Abidjan, Côte d'Ivoire, 4 December 2006. The Ivorian national water company SODECI sent workers to clean up the ditches alongside the streets in the Vridi industrial district. The ditches had been contaminated by the toxic waste discharged from the Wasteel courtyard, which had spread on to the streets via the overflow hole. The men were working inside the ditches. According to a local business, PKL, the workers initially wore gloves but no masks. After a few days they refused to work because they were too ill. According to PKL they were then replaced by others, described as "poorer people", who did the work with no gloves or no mask, no cap or no shirt. Some did not even have shoes. © M. KONATE

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locations at d'Alépé, which had found ongoing impacts related to the waste dumping, most notably bad smells.⁶⁴⁶ This was the same site that Tredi had earlier identified as requiring further decontamination.

Burgéap recommended biodegradation to treat dumping points along the Route d'Alépé, which meant treating the waste on site, rather than removing it. This was different from the process proposed by Tredi, which was to remove the contaminated soil from the area.⁶⁴⁷ A Canadian company, Biogénie, was then contracted to carry out the on-site biodegradation process.⁶⁴⁸

BIODEGRADATION

Doubts have been expressed by experts as to the suitability of the technique of biodegradation for cleaning up the dumping sites near Djibi village.⁶⁵³

Biodegradation, or land farming, is generally achieved by inserting oxygen into the affected soil. Oxygen is needed for the aerobic deconstruction of chemical substances. However, with this technique, mercaptans and other volatile substances can easily escape.

In addition, this technique uses micro-organisms, which generally do not function well under conditions with a high pH. This may be the case for the deeper parts of the affected soil near Djibi. For this technique to be used appropriately, the affected soil would need to be made more acidic (to lower the pH).

Apart from doubts about the suitability of biodegradation as a cleaning method, there are also other concerns, which relate to the ongoing environment in which people from Djibi village must live. People remain concerned about the safety of soil exposed to *Probo Koala* waste, even after bioremediation. Given the scale of the health effects in the aftermath of the dumping and the fact that there has never been a complete disclosure of the content of the waste, the fears about working with waste-affected soil are understandable.



Canadian company, Biogénie, was contracted to carry out the on-site biodegradation process. © AMNESTY INTERNATIONAL

In April 2008, approximately seven months after the start of the Biogénie biodegradation process at d'Alépé, Trafigura stated that it was agreed by all parties that only a limited amount of additional decontamination work was required. According to Trafigura “a thorough risk analysis has already been carried out, together with the majority of agreed remediation operations”.⁶⁴⁹

On 4 April 2008, under an endorsement to the original settlement, Trafigura paid an additional sum of CFA10 billion (approximately US\$24 million)⁶⁵⁰ to the government of Côte d'Ivoire.⁶⁵¹ Of this, CFA1.5 billion (US\$3.6 million) was to cover the cost of operations to be carried out by private Côte d'Ivoire companies to remove polluted material, CFA1.5 billion was to pay the cost of biological treatment of the polluted land by the Canadian company Biogénie, and CFA2 billion (US\$5 million) represented the cost of environmental monitoring over a four-year period.



Djibi, Abidjan, January 2010: hundreds of bags with contaminated material. © N.EATON/B.KOURA

The remaining CFA5 billion (US\$12 million) was marked as financial aid to the government and was apparently intended to be spent on health-related social projects.

The sums paid were in full and final settlement of the original agreement, and effectively liberated Trafigura from any further responsibility regarding decontamination.⁶⁵²

An incomplete decontamination process

Despite the substantial work done to clean up and decontaminate the affected areas, several sources have documented serious failures in the process, including some sites not being properly dealt with, even several years after the dumping.

Following a visit to Abidjan two years after the dumping in August 2008, the UN Special Rapporteur on Toxic Waste and Human Rights expressed concern that the sites had not yet been decontaminated and that they “continue to pose a threat to the health of thousands of people.”⁶⁵⁴ The Rapporteur also noted that people continued to complain of headaches, skin lesions, nose, throat and lung problems, as well as digestive problems.⁶⁵⁵

When Amnesty International visited Abidjan in February 2009, researchers found large bags containing contaminated material on the outskirts of Djibi village and along the Route d’Alépé. These bags had been left lying in heaps next to a major road which local villagers use on a daily basis. The bags

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were also close to dwellings. Many were ripped open and exposed to the elements. The barbed wire surrounding them had not been properly maintained, so it would have been easy for people, including children, to cross it. A local man who had been hired by the authorities to guard the site told Amnesty researchers that he had not been paid for months but that he continued to monitor the site because he was concerned about the bags lying about in such an unsecured state.

In the Vridi industrial district, where up to a third of all the waste from the *Probo Koala* may have been dumped,⁶⁵⁸ local people claim that the sites have never been properly decontaminated. Reportedly, the concrete drainage system in Vridi, which had distributed the waste, was emptied of toxic waste and sediment. However the drainage system was never replaced, despite being potentially contaminated by the dumping.⁶⁵⁹

In 2009, during Amnesty International's visit, people in Vridi claimed they could smell the typical *Probo Koala* smells whenever it rained.⁶⁶⁰ The same is true for people in and near the village of Djibi who complain of "*Probo Koala* smells" in periods of heavy rain.⁶⁶¹

The incomplete nature of the clean-up was acknowledged by the government during an interview with Amnesty International in February 2009. The head of the Ivorian environmental agency CIAPOL and a senior official of the Ministry of Environment told Amnesty International that a follow-up programme of work, jointly led by CIAPOL and the Bureau National d'Etudes Techniques et de Développement (BNEDT), was due to commence shortly and would run for a four-year period. CIAPOL would take the lead responsibility for the environmental study, and, because of its engineering expertise, BNEDT would lead the excavation works.⁶⁶²

LEFT: Bags of hazardous waste material left exposed in Abidjan more than two years after the dumping, February 2009. © AMNESTY INTERNATIONAL

RIGHT: Vridi, Abidjan, Côte d'Ivoire, 18 September 2006. *Probo Koala* waste had entered Canal Petroci (drainage canal) in Vridi. It was discovered by staff of a nearby factory when they were looking for the source of a very bad smell near their premises. © M. KONATE



However, a filmmaker visiting Djibi one year later in January 2010 observed:

“ The site at Djibi is not protected. The pile of bags, hundreds of them, are less than 100m from the houses of Djibi. And people walk by the bags at all time, farmers are farming not far away, some of the bags are even wide opened. Cows are on site. The ‘DANGER’ sign is almost on the ground. Some old fences are also on the ground. In the village, everybody still smelled the waste from their houses whenever it rains. Although the site has security guards since at least the beginning of this year, one can easily get on the site. People are walking around all day. So the security is only worried if you are a stranger trying to film or photograph. ”

BAGASSI KOURA

Film-maker, visiting Abidjan in January 2010⁶⁶³

In mid-2010, Biogénie returned to Djibi village. According to local people, they gathered together the contaminated material, including the sacks seen by Amnesty International, at one location near the village to treat it on site. The process of collecting the contaminated material at Djibi reportedly led to a resurgence of the smell, and people interviewed by telephone in December 2010 stated that some villagers had again displayed symptoms of ill health, and many people are afraid of the implications of re-exposure.⁶⁶⁴ The village had asked the government to provide medical personnel to conduct a health assessment but no medical assessment took place.⁶⁶⁵

Lack of monitoring and fears about ongoing impacts

To this day, the people of Abidjan have not been made aware of the exact composition of the waste, nor do they know exactly where it was dumped and in what quantities. Although a clean-up operation was undertaken, it is clear that this was not thoroughly completed. As noted above, in some areas people have reported a recurrence of the “*Probo Koala* smell”, particularly during rainy periods,⁶⁶⁶ and some continue to complain about health effects, which they believe are linked to exposure to the waste.

The medical response officially finished at the end of October 2006. Since then, there has been no ongoing health monitoring and no research or analysis by the government into the possible long-term implications of the exposure. One doctor interviewed by Amnesty International in 2011 stated that he had noticed an increase in respiratory problems, particularly the persistence of asthma in some patients, who only started to have this condition after exposure to the toxic waste.⁶⁶⁷



Open-air sewer system allegedly contaminated by the waste.
© M. KONATE

TRAFIGURA CLAIMS NO ONGOING HEALTH RISKS

In December 2008 Trafigura commissioned, through its lawyers, McGuire-Woods, an environmental consultancy called WSP, to undertake an environmental audit around the Abidjan area, including visiting 14 of the suspected dump sites. According to Trafigura, WSP's report concluded “that there is no risk to human health from contaminants specifically relating to slops at the dump sites tested”. Trafigura also stated that “WSP essentially looked for ‘marker’ elements that could only have come from the slops. ...Given that material equivalent to approximately 18 times the original volume of the slops was removed from the sites, it is not surprising that there was none to be found.” According to Trafigura WSP also identified a number of other environmental issues, unrelated to the waste, at some of the dumpsites.⁶⁶⁸ Apart from a summary, Trafigura has refused to make the reports of this WSP study publicly available. The conclusions that Trafigura drew from the reports can therefore not be verified.⁶⁶⁹

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However, such anecdotal evidence is insufficient to draw conclusions, and clearly a robust system should have been put in place to monitor the affected population over time.

“ Now after the toxic waste dumping we are even more worried that we are having to eat the contaminated foodstuffs. Despite the prohibition on cultivating, people are still growing produce (such as bananas) in the affected areas and this stuff must end up in the local market. We also drink the water but we are anxious about it. We don’t have any information about the impact of the waste on the water table. ”

RACHEL GOGOUA

President of the Association of the victims of Akouédo Extension ⁶⁷⁰

The UN Special Rapporteur on Toxic Waste and Human Rights called on the government of Côte d’Ivoire, after his mission to the country, to engage in a broad consultative process on the “outstanding issues and measures required to address possible long-term human health and environmental effects of the incident”; “conducting a health survey in affected areas and a mapping of outstanding health issues and providing adequate medical assistance to victims, including treatment of new and long-term manifestations of illnesses as a result of the dumping”; and “[e]nsure full access to information for those affected on measures taken to address possible long-term adverse effects on health and the environment of the incident”. ⁶⁷¹

Victims of the toxic waste dumping have a right to know whether or not the waste can have long-term impacts, and, if so, what these are and how they can receive treatment. Ongoing monitoring of the population would provide some reassurance. Amnesty International and Greenpeace have asked the government of Côte d’Ivoire why this was not done, using the compensation secured through the settlement with Trafigura, but at the time of writing, no response has been received.

Trafigura has claimed that the waste could not have serious or long-term impacts. However, the company has refused to make public scientific data that it holds, so that this can be subject to independent scrutiny (this issue is discussed in greater detail in the Annex to this report).

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Maize from the baby food company Protein Kisse-La (PKL) in Vridi, Abidjan, 18 September 2006. The waste from the Probo Koala was dumped approximately 30 meters in front and 100 meters behind the factory.

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THE LIMITS OF JUSTICE INTERNATIONALLY – THE NETHERLANDS AND THE UNITED KINGDOM

“ Why do the big industrialized countries who know [that the waste is toxic] dump in a country which has no treatment structure: it’s a nastiness. We are treated like we have no value, we don’t know anything ... one can take advantage of us. ”

GENEVIÈVE DIALLO,
Resident of Akouédo⁶⁷²

In addition to the legal efforts made in Côte d’Ivoire, criminal prosecutions and a civil action were initiated in the Netherlands and the United Kingdom respectively, based on different legal breaches.⁶⁷³ These legal actions expose the challenges involved in pursuing justice in cases involving a multinational corporate group and where the chain of events spans multiple jurisdictions.

A successful but limited criminal prosecution in the Netherlands

On 26 September 2006 Greenpeace filed a report with the Dutch Public Prosecutor requesting that a criminal investigation be instigated into offences relating to the dumping of toxic waste in Côte d’Ivoire. In June 2008, the Dutch Public Prosecutor brought charges relating to the illegal export

of waste from the Netherlands to Africa as well as other criminal offences, against Dutch-based Trafigura Beheer BV, Naeem Ahmed, one of Trafigura Ltd’s London-based executives, and Captain Chertov of the *Probo Koala*. Charges were also brought against Amsterdam Port Services (APS) and its director in relation to breaches of the Environmental Management Act. The Municipality of Amsterdam was charged with being a party to the transfer of hazardous waste to the *Probo Koala* or, alternatively, with giving APS permission to transfer hazardous waste back on to the *Probo Koala*.⁶⁷⁴

Two years later, on 23 July 2010, the Dutch Court of First Instance handed down guilty verdicts on a number of counts. Trafigura was found guilty of violations of the European Waste Shipment Regulation (EWSR) and of delivering and concealing hazardous goods. Naeem Ahmed was found guilty of delivering hazardous goods while concealing their hazardous nature. And the captain of the *Probo Koala* was found guilty of complicity in forgery regarding the information provided on documents relating to the ship’s waste, and complicity in the delivery of hazardous goods.

APS and its director were found to have violated the Dutch Environmental

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Management Act by transferring the waste back to the *Probo Koala* from the APS barge.⁶⁷⁵ However, the court also found that APS had “made an excusable error of the law” because it was entitled to rely on the advice provided by the Environment and Buildings Department of the Amsterdam Municipality (DMB) with respect to permission to return the waste to the *Probo Koala*.⁶⁷⁶ On that basis, the court accepted an “absence of all guilt” defence put forward by APS.⁶⁷⁷

THE GUILTY VERDICTS – AMSTERDAM COURT OF FIRST INSTANCE

Charge 1: Exporting waste from an EU country to an ACP state in violation of Section 18 of the European Waste Shipment Regulation (EWSR)⁶⁷⁸

Trafigura Beheer BV was found guilty of exporting waste on board the *Probo Koala* to an ACP (African, Caribbean, and Pacific Group of States) state in contravention of Section 18 paragraph 1 of the EWSR. The court rejected Trafigura’s defence that the waste generated on board the *Probo Koala* was the result of normal operations of a ship. Furthermore, the court stated that the export of the waste had been done with “malicious intent”.⁶⁷⁹

Trafigura raised a number of other defences which were rejected by the court, including the following.

Trafigura argued that the charge that it had exported waste to Côte d’Ivoire could not be proven since there were no plans to export the waste to Côte d’Ivoire when the *Probo Koala* was in the Netherlands, and since the export effectively ended when the *Probo Koala* entered the territorial waters of an ACP state, Mauritania or Togo.⁶⁸⁰ This argument was rejected by the court, which held that the “act of export must be viewed as a whole”⁶⁸¹ and that it began in the Netherlands and ended in Côte d’Ivoire.

Trafigura argued it had committed an excusable error of law by assuming that the waste fell under MARPOL and that its ignorance of the law should be a mitigating factor. The court rejected this argument, since Trafigura showed no specific circumstances that could justify the defence:

“ The defence has put forward that Trafigura was absent of all guilt since it assumed that the slops did not fall under the EWSR, but instead, under MARPOL. This appeal to an excusable miscarriage of justice does not hold. After all, invoking an absence of knowledge of the law can only benefit a suspect under special circumstances, and Trafigura has not put forward this type of special circumstance. ”⁶⁸²

Charge 2: Delivering goods which [to their knowledge] presented a hazard to life or health and concealing the hazardous nature of the goods (contrary to section 174 of the Dutch Penal Code)

Trafigura Beheer BV and Captain Chertov were also found guilty of having “delivered goods to APS which, to their knowledge, presented a hazard to life or health, and of having concealed the hazardous nature of the goods,” contrary to section 174 of the Dutch Penal Code. Trafigura’s London-based executive Naeem Ahmed was held to have “provided the actual supervision for this act.”⁶⁸³

Charge 3: Forgery (Contrary to Section 225 of the Dutch Penal Code)

The court found Captain Chertov guilty of being complicit in forgery under Section 225 of the Dutch Penal Code.⁶⁸⁴ In order to discharge the waste at Amsterdam, Captain Chertov had to complete a form called “Notification of ships waste and (remainders of) noxious substances”. Captain Chertov noted on the form that the waste consisted of “tank washings”. The court held that he “knew the waste was not just tank washing water”, because he had been “involved in the washing operations from beginning to end”.⁶⁸⁵

Trafigura and Ahmed were acquitted of involvement in the forgery on the basis that the single piece of evidence against them (the captain’s statement, which had indicated involvement on the part of Trafigura) was considered insufficient.⁶⁸⁶ During the court proceedings Trafigura’s defence acknowledged the fact that the company had instructed the captain of the *Probo Koala* not to disclose the existence of the waste in Tunisia, and argued that the absence of a similar email in relation to the events of Amsterdam proved that Trafigura was not involved in forgery in Amsterdam and that it was the captain’s own decision to fill in the papers in the way he did.

The court in Amsterdam found Trafigura guilty of illegally exporting waste to Africa. © ANP/EVERT ELZINGA



The sentences

Trafigura Beheer BV was fined €1 million for breaches under Charges 1 and 2.⁶⁸⁷ Captain Chertov was found guilty of Charges 2 and 3, and given a five-month suspended prison sentence.⁶⁸⁸ Naeem Ahmed was found guilty of the Charge 2; he was given a six-month suspended prison sentence and a fine of €25,000.⁶⁸⁹

The court noted that Trafigura Beheer BV's violation of the EWSR was "the most serious offence",⁶⁹⁰ and criticized Trafigura for its actions. The court stated that:

“ Trafigura may justifiably and with reason be blamed for having done precisely that which the EWSR, the Fourth Lomé Convention and the Treaty of Basel all aim to prevent, namely the exporting of waste to the Third World and causing harm to the environment . ”⁶⁹¹

The judgement highlighted Trafigura Beheer BV's failure to have had a proper plan for disposal of the waste when producing it,⁶⁹² its failure to check that Abidjan possessed the proper facilities to process the waste before discharging it,⁶⁹³ and also criticized the circumstances surrounding the contract with Compagnie Tommy.⁶⁹⁴

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Claude Dauphin enters Zurich airport's terminal after having been released from prison in Abidjan, 15 February 2007. © ANP/EPA/KLAUS ROSZA



The judgement was particularly critical of the company for accepting the price of US\$35 per m³ even after it was aware of the true composition of the waste and had been quoted €950 per m³ by APS. It stated that:

“ Under these circumstances, Trafigura – which, by that point, also knew the exact composition – never should have agreed to allow processing to be carried out at this price. ”⁶⁹⁵

The court remarked that the solution chosen by Trafigura was done “on the basis of commercial considerations”.⁶⁹⁶ The court also criticized Trafigura for the fact that no representatives from the company had appeared in court in person, leaving it to their lawyers to provide evidence on their behalf. The court commented further that:

“ In a case such as the current one, a legal entity may be expected to at least appear at the hearing on the merits of the case in order to explain its standpoint, and to offer the Court and the Public Prosecutor’s Office the opportunity to ask questions about certain choices which were made. ”⁶⁹⁷

In passing sentence on the captain of the *Probo Koala*, the court took into consideration that he did not act in direct pursuit of gain, but instead, under the pressure of his immediate client. In addition, the court accepted that the captain of the *Probo Koala* “did not do all of this at his own initiative, but that, to a significant degree, he was sailing by the compass of (the agent of) Trafigura. Naturally, he was the person in command of the ship; however, in this position, he was nonetheless dependent to a great extent (including in an economic sense) upon the person commissioning his services.”⁶⁹⁸

The Appeal Process

Trafigura Beheer BV, Naeem Ahmed and the Public Prosecutor all appealed against the verdict. Trafigura Beheer BV and Naeem Ahmed appealed to have their sentences annulled, while the prosecutor appealed on the basis that neither Trafigura nor Naeem Ahmed had been found guilty of forgery, as well as against the fact that the municipality had obtained immunity.

On 1 July 2011, the Dutch Court of Appeal annulled the verdict against Naeem Ahmed on the basis that the Court of First Instance did not have jurisdiction once the economic offences (forgery) were lifted.⁶⁹⁹ The Public Prosecutor has appealed this decision.

On 23 December 2011 the Amsterdam Court of Appeal issued a judgement which upheld the €1 million fine against Trafigura Beheer BV. The court considered it was “proved that Trafigura failed to disclose the harmful character of the waste to APS, knowing that the waste was harmful for life and/or health and moreover that Trafigura illegally exported the waste to Côte d’Ivoire after it had been given back by APS.”⁷⁰⁰ The Court of Appeal went on to state:

“ The Court of Appeal believes the requirements on waste producing companies are justifiably very strict when it comes to the handing over and disposal of this waste in an environmentally sound manner. This is an important aspect of worldwide socially responsible entrepreneurship. The fact that as a globally operating group of companies Trafigura could not have been unaware of this weighs heavily in the Court of Appeal’s judgement. ”⁷⁰¹

However, the appeal judgement raised some uncertainty about the applicable legal regime. The court’s judgement appeared to accept that the waste on board the *Probo Koala* could be considered as MARPOL waste until the

point at which it was discharged to APS, at which point the EWSR and Basel would apply.

With respect to APS, the Court of Appeal found that APS had violated the Environmental Management Act by handing over waste to the *Probo Koala*, which was not a recognized waste processor, but that the company was not liable for punishment, and discharged it from further prosecution. Like the Court of First Instance, the Court of Appeal found that APS could rely on the notification provided by Municipal Department of Environment and Buildings that returning the waste to the *Probo Koala* was permitted.

With respect to the Municipality of Amsterdam, the Court of Appeal also found that it was immune from prosecution since “...the granting of permission to pump back waste or failure to take enforcement action is an action performed in the scope of an exclusive administrative responsibility assigned to the municipality.”⁷⁰²

As of the date of writing this report, both Trafigura Beheer BV and the Public Prosecutor have filed a notice to appeal the decision to the Supreme Court.

In 2008 Claude Dauphin, Trafigura’s chairman, had initially been charged with a number of offences, including the illegal export of waste from the Netherlands. The charges did not progress at the time. On 30 January 2012 the court decided that separate legal proceedings could continue against Claude Dauphin. Claude Dauphin has appealed this decision. At the time of writing this was pending.

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A welcome but limited prosecution

The decisions of the Court of First Instance and Court of Appeal confirm that the company acted illegally and committed breaches of European and Dutch law. The decisions also confirm that the waste carried by the *Probo Koala* was highly toxic and harmful for life and health.

While this is a significant step towards justice, the fact remains that the prosecution was limited. It focused on events and legal breaches that occurred in the Netherlands alone. It did not consider whether Trafigura was implicated in any other illegal actions in relation to the waste and the dumping of the waste following illegal export from the Netherlands to Côte d'Ivoire.

The Dutch Penal Code recognizes what is called the “double criminality rule”, meaning that a Dutch national (including a Dutch company) can be prosecuted for any act committed abroad, provided it is an offence both under the Dutch Penal Code and in the country where that act takes place.⁷⁰³

However in pre-trial court hearings in June 2008, the Dutch Public Prosecutor made clear that he had decided not to include potential crimes committed in Côte d'Ivoire in the investigation, as it “appeared impossible” to conduct an investigation in Côte d'Ivoire, despite attempts to do so.⁷⁰⁴ It is not clear what attempts were made by the Dutch authorities to conduct an investigation in Côte d'Ivoire, or what obstacles were encountered.

The prosecutor's decision greatly limited the scope of the prosecution in the Netherlands and, by extension, restricted the ability of victims from Côte d'Ivoire to attach civil claims to the criminal prosecution.⁷⁰⁵ For example, a claim brought by PKL, an Ivorian baby food company, which alleged that it had suffered economic harm as a result of contamination

of its food products, was found to be inadmissible by the Dutch court because the company had not suffered direct damage as a result of the charges under consideration by the court (which related to Trafigura's conduct in the Netherlands).

Greenpeace appeal against the decision of the Public Prosecutor

In 2009, Greenpeace brought a complaint against the Public Prosecutor's decision not to prosecute Trafigura Beheer BV and Puma Energy, Trafigura Chairman, Claude Dauphin, and specific employees of the Trafigura Group, for criminal offences related to the dumping in Côte d'Ivoire. The alleged offences included: the intentional pollution of the environment in Côte d'Ivoire with substances that constituted a serious public health threat; manslaughter; and serious bodily injury.⁷⁰⁶ Greenpeace argued that the Netherlands could and should prosecute Trafigura for alleged offences committed in Côte d'Ivoire, given that Trafigura Beheer BV is a Dutch company and the acts committed in Côte d'Ivoire were offences in both Côte d'Ivoire and the Netherlands, and therefore met the double criminality rule. Greenpeace asked the court to order the prosecutor to investigate these offences.

However, after a lengthy debate during several court sessions, on 13 April 2011, the Court of Appeal rejected Greenpeace's complaint. The court found that the Public Prosecutor has a margin of discretion in deciding which offences are in the public interest to investigate and prosecute, and that he has sole authority to decide which cases to pursue. In making this decision, the court considered a number of arguments that had been brought by the Public Prosecutor.

It first considered whether the complaint was admissible, and whether Greenpeace was an “interested party”. In making this decision, the court found that aspects of the complaint relating to the criminal acts were beyond

the scope of Greenpeace's purpose as an organization.⁷⁰⁷ On this basis, the court found that Greenpeace had an "insufficiently direct interest" to request a prosecution for some of these illegal acts and, therefore, lacked legal standing on these issues.⁷⁰⁸

The court also stated that, in its view, it would not be feasible or expedient to investigate alleged acts in Côte d'Ivoire.⁷⁰⁹ The court cited potential difficulties in gathering evidence outside of the territory and in obtaining information and cooperation from the Ivorian authorities, and referred to past difficulties that the Dutch authorities had experienced in seeking cooperation and legal assistance from Ivorian authorities. The court also cited the fact that many of the accused had already been prosecuted in the Netherlands, that there had been a prosecution in Côte d'Ivoire, and that a settlement had been paid, as reasons supporting the decision of the prosecutor not to prosecute.⁷¹⁰

The view that it would not be expedient or feasible to undertake an investigation into the events in Côte d'Ivoire is problematic and can be challenged both on practical and legal grounds. In reality, much of the evidence as to what happened in Côte d'Ivoire is in the public domain, as the investigation by Amnesty International and Greenpeace for this report demonstrates. As described in the previous chapter, the Ivorian authorities commissioned and published the findings of both a national and an international enquiry. Moreover, as Greenpeace had argued during the hearings, if there was sufficient evidence to find Trafigura guilty of illegally exporting waste, there should be sufficient evidence to investigate them for events subsequent to the illegal export to Côte d'Ivoire.

Despite the Dutch court's reference to the legal action in Côte d'Ivoire, no prosecution against the corporate entities of the Trafigura Group had ever been carried forward. All charges against individual representatives of

the corporate group had been dropped after Trafigura reached a financial settlement with the government of Côte d'Ivoire, under which all Trafigura parties were granted immunity from prosecution.

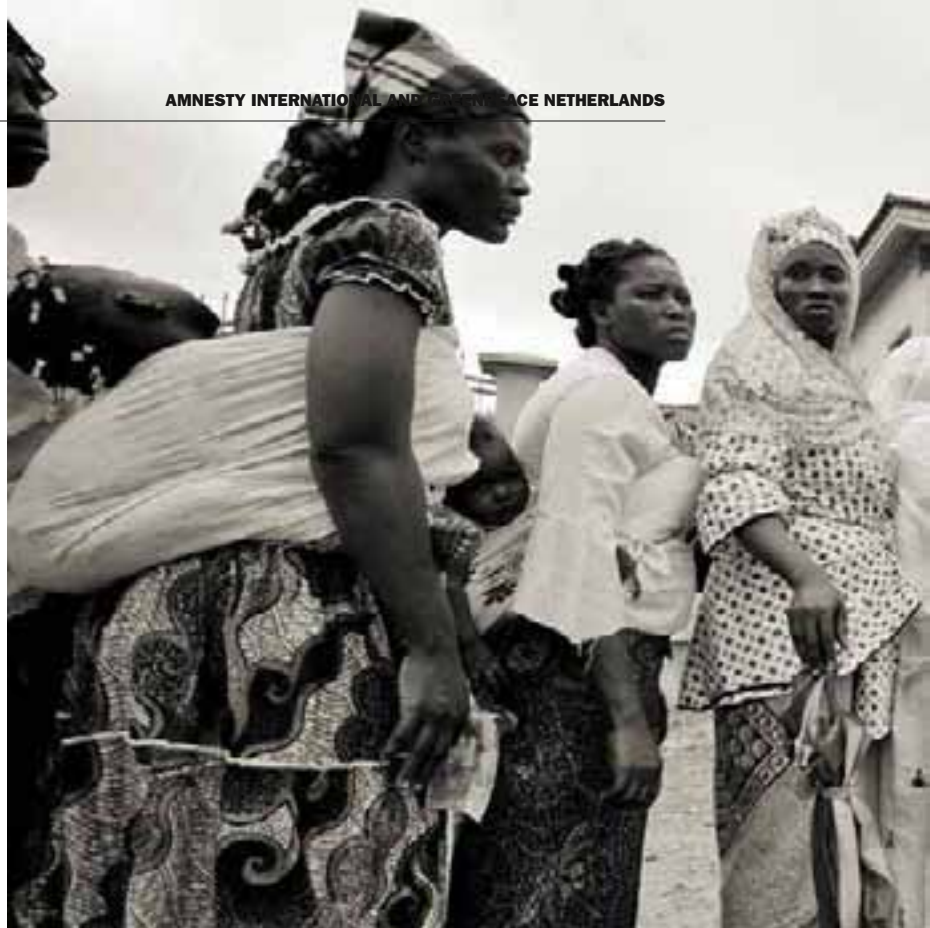
Seeking justice in the United Kingdom

As discussed in Chapter 3, UK-based Trafigura Ltd was directly involved in key decisions relating to caustic washing, the delivery of the waste to Amsterdam and the subsequent delivery of the waste in Côte d'Ivoire. The involvement of the UK company raises questions about whether illegal actions were carried out within the UK's jurisdiction. Although there has been a call in parliament for investigation into the issues, no such investigation has been opened. Amnesty International and Greenpeace consulted a lawyer whose view is that there is sufficient evidence in the public domain to investigate whether Trafigura Ltd was complicit in or facilitated the transfer of hazardous waste.⁷¹¹

The civil claim in UK

Although no criminal investigation has been undertaken in the UK, in November 2006 a civil claim was filed in the High Court of England and Wales against Trafigura Limited and Trafigura Beheer BV (the Trafigura Defendants) for damages relating to personal injury and economic loss.⁷¹² The claim was brought by some 30,000 Ivorians who sought damages for personal injuries that they alleged had been caused by exposure to the toxic waste. The UK law firm Leigh Day & Co undertook to represent the claimants on a "no win no fee" basis, which meant that the victims would not be required to pay legal costs if their case was unsuccessful in court. Under the arrangement the law firm also took on the full costs of evidence gathering and securing expert witnesses.

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THE JOINT STATEMENT

As part of the settlement Trafigura and the claimants agreed a joint statement, which, amongst other things stated that “Leigh Day & Co, in the light of the expert evidence, now acknowledge that the slops could at worst have caused a range of short term low level flu like symptoms and anxiety.”

The text of the joint statement is part of a negotiated outcome between the litigating parties in the context of agreement of a financial settlement in which Trafigura paid out UK£30 million/US\$45 million to the claimants. The expert evidence to which it refers has never been made public and is covered by the confidentiality agreement that formed part of the settlement.

Despite the fact that the joint statement is a negotiated text, the High Court judge took the somewhat unusual step of endorsing the overall settlement, stating:⁷¹⁴

“ ... I knew from my own reading of the papers that the experts were quite clear. The slops could not give rise to the sort of symptoms and illness which was being claimed in some of the press reports. I hope that the media will take account of the joint statement and will put things right and put things in perspective. I need say no more, except to underline that, from where I sit and from what I have seen of the [court] papers, the joint statement is 100 per cent truthful. ”⁷¹⁵

These comments by Mr Justice MacDuff, which are strong statements of conclusion, were made without the due process of a full hearing and legal argument. Moreover, Mr Justice MacDuff did not identify any of the reports or evidence to which he referred, and indeed he was aware that the evidence was sealed as a result of the settlement agreement.

Another judge commenting on the joint statement during a hearing on costs associated with the litigation made the following comment:

“ I further accept [counsel for the claimant]’s submission in relation to the agreed joint statement. It was not a judgement, nor any form of determination, but an agreed text for a public statement that was the result of a long and hard fought negotiation. ”⁷¹⁶

Despite the civil claim being reported as the largest group action of its kind brought in UK legal history, the 30,000 claimants represented less than one third of the people estimated to have been affected by the dumping of the waste.

On 16 September 2009, the parties reached a settlement under which the Trafigura defendants agreed to pay approximately £30 million (US\$45 million) in total to the claimants. Given that there were 30,000 claimants, this total amounted to approximately £1,000 per claimant.⁷¹³ Because the civil claim was settled out of court, there was no final determination of liability by the court.

In agreeing the compensation, a number of terms were agreed to by the parties:

- » There would be no admission of liability by the Trafigura Defendants for the harm alleged by the claimants.
- » The claimants and their lawyers agreed to keep information and materials confidential and also agreed not to comment publicly on the case.
- » Independent experts who had examined medical and other evidence signed confidentiality agreements.
- » The claimants’ law firm, Leigh Day & Co, also agreed that they would not represent any further actions that may be brought by other people affected by the toxic waste.

There are several problems with these provisions. Firstly, the broad confidentiality provisions mean that the medical expert evidence cannot be seen by other victims and cannot



People affected by the dumping of toxic waste queueing to try to access compensation, Abidjan, 9 April 2010. © ANP/AFP/SIA KAMBOU

be challenged or used to aid effective health interventions. Secondly, the requirement that Leigh Day & Co would not act for any other victims is significant. Few other firms in the UK are willing to take on these types of cases. They require particular skills, resources and expertise. The very limited number of law firms that are willing and able to take on such cases constitutes a significant challenge for victims when it comes to access to justice in cases involving corporate actors; the challenge is exacerbated by settlement provisions that bar law firms from acting for other potential clients. However, such provisions are increasingly common.

Despite the limitations of the settlement agreement process, the fact that some of the victims of the waste dumping could access a court in the UK to make a civil claim against Trafigura provided some measure of justice in this case. However, the legal framework that enabled 30,000 Ivorians to seek a remedy in the UK has since been amended and it is unlikely that such cases will be possible in the future. One reason is the cost of mounting such cases. The law firm involved had to put substantial financial resources into the case, to take each claimants' statement, to hire expert

witnesses and to put together all of the factual evidence. Changes introduced in the Legal Aid, Sentencing and Punishment of Offenders Act, abolish what are known as "success fees" payable by defendants, will mean that law firms may not be able to run the risk of taking on these type of cases in the future.⁷¹⁷

The claimants' fight to get their money

The three-year legal process to secure the compensation, however, was not the only hurdle the claimants in the UK case faced. After concluding the settlement they found themselves facing further challenges when it came to receiving the compensation money. The distribution process established by the claimants' lawyers in Abidjan was derailed when a group, calling itself the National Coordination of Toxic Waste Victims of Côte d'Ivoire (CNVDT-CI), falsely claimed to represent them and tried to secure control of the compensation fund.⁷¹⁸ Despite the fact that CNVDT-CI's claim to represent the claimants in the UK case was blatantly false, they obtained an Ivorian court order for the money to be transferred to their bank account.⁷¹⁹

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In an effort to prevent all-out fraud, in February 2010 the claimants' UK lawyers agreed a deal with CNVDT-CI to carry out a joint distribution process. Some people were able to access their money through this process, but it was plagued by reports of irregularities and eventually ground to a halt, with some 6,000 people unpaid. The millions of dollars left in the fund disappeared. Both the UK law firm, and Amnesty International pressed the Ivorian government to investigate the case.

An investigation into the misappropriation of the compensation money was opened in 2011. In May 2012, Côte d'Ivoire's Minister of African Integration, Adama Bictogo, who had become involved in the process in 2010, when he is reported to have tried to facilitate an agreement between the claimants' UK lawyers and CNVDT-CI, was sacked by the President over allegations that he had received some of the compensation money as a "fee" for his role in facilitation.⁷²⁰

where he was met by one of Macfarlanes' partners who questioned him for two days. This individual alleges that he was offered inducements to change his story and was put under considerable pressure to do so. He described the situation:

“ I left Abidjan with Royal Air Maroc... I travelled business class. ...we were booked into the Sheraton. I had never seen such beautiful hotel in my life. I ate very well at the Sheraton.... The day after our arrival, two white men who spoke English arrived. At the beginning we chatted; then they began to ask me a lot of questions. I passed two entire days from 8am to 10pm responding to their questions. We took pauses of 20 minutes from time to time, but it was intense. They spoke of many illnesses such as malaria. They asked me how I could be sure that my illness had been caused by the waste and not something else... They told me to say that I hadn't seen the trucks, even though I clearly remember seeing the trucks discharging the waste in Akouédo. ”

“ I started to feel that I had to agree with them or I wouldn't be going home alive. After all these questions I was no longer even sure of the truth. The whites also knew I had a daughter. They told me that they could take care of her and pay all her expenses. I was astonished that they knew I had a daughter and even knew her name and date of birth. ”⁷²¹

Both Trafigura⁷²² and Macfarlanes⁷²³ have denied the allegations that they acted improperly in respect of the questioning of witnesses. Macfarlanes admit to having met the claimant witness in Morocco and paying for his "travel and related costs". They deny however having offered any inducements or having acted unethically. They have stated that they had "valid and exceptional legal reasons for agreeing to meet the individual referred to", adding "We ... had the right, and indeed duty, to investigate by interviewing the claimants, as their evidence would be likely to have a fundamental bearing on the case."⁷²⁴

Allegations of bribery and witness tampering

In early 2009, the victim's lawyers, Leigh Day & Co, alleged that Trafigura and its lawyers, Macfarlanes, improperly approached lead claimants in the UK civil case in an attempt to make them change their testimonies. They obtained a temporary injunction barring Trafigura's lawyers from contacting claimants in the case, after evidence was presented that some claimants had come under pressure to change their sworn statements. In particular, it was alleged that Macfarlanes, acting for Trafigura, paid for a claimant witness to travel to Morocco

SEEKING TO PREVENT VICTIMS' ACCESS TO KEY INFORMATION

Trafigura has never disclosed all of the information it holds on the content of the Probo Koala waste. As noted in previous chapters of this report, the most thorough analysis of the waste was carried out by the Netherlands Forensic Institute (NFI). This information was handed to lawyers acting for the claimants in the UK case. However, Trafigura had objected to this and brought legal proceedings in the Netherlands seeking to prevent UK lawyers Leigh Day from using the NFI information. Leigh Day had emphasized how important the NFI report was for the victims. On 20 April 2012 the Dutch High Court rejected an appeal by Trafigura in respect of the company's complaint that the prospector had unlawfully handed over the NFI report to Leigh Day.

Macfarlanes and Trafigura also claimed that it was the individual's wish to be interviewed outside of Côte d'Ivoire.⁷²⁵

When the civil case reached a settlement, the allegation was withdrawn.⁷²⁶ It is a matter of concern that the allegations, which were deemed credible enough to grant a temporary injunction, were not subject to any further investigation.

Further allegations of witness-tampering by representatives of Trafigura emerged in 2010 when several of the drivers who had been involved in the transport and the dumping of hazardous waste in Abidjan in 2006 contacted Greenpeace Netherlands. The drivers claimed that representatives from Trafigura had bribed them to make them change their account of the dumping. Greenpeace Netherlands investigated these allegations, including by interviewing several of the drivers and gathering documentary evidence including the written statements that Trafigura allegedly made the drivers sign.⁷²⁷

The drivers claimed that they were approached in 2008, 2009 and 2010 and were each paid CFA 400,00 (around € 600) by Trafigura to state that the waste was not dangerous and that they had not suffered from any health problems as a result of contact with it. The drivers were promised more money if they were to come to London to give evidence in court to support Trafigura's defence in relation to the personal injury claim.

The drivers also claim that written statements were prepared (and signed in 2009) which they were told were to be used in the legal proceedings against Trafigura in the UK and the Netherlands. As far as Amnesty International and Greenpeace are aware, the statements were not used in either court case.

The drivers have described how, contrary to the statements they gave Trafigura, several of them experienced serious physical symptoms from contact with the waste. Their

descriptions are consistent with the expected effects of close contact with the material on the *Probo Koala*. In the immediate aftermath of the dumping, most of the drivers went into hiding, fearing for their lives as panic and anger engulfed Abidjan. Those who came forward to Greenpeace in 2010 have said that they gave statements to people representing Trafigura under duress, fearing exposure in Abidjan. However, by coming forward with their story, they wanted now to offer their apologies to the people of Abidjan.

On the basis of the evidence gathered, Greenpeace asked the Dutch Public Prosecutor's Office to open an investigation into the allegations.

In addition to the drivers, other Ivorian nationals are also said to have been approached by Trafigura and/or its representatives, including two traders in oil products working at a garage in Abidjan. They were allegedly prompted by Trafigura to devalue a statement made by one of the lead claimants in the UK personal injury claim for damages against Trafigura. Greenpeace has obtained these written statements, which the oil traders say are untrue, and these have also been sent to the Public Prosecutor. Trafigura has denied the allegations.

20 May 2010, Dakar:
Some of the truck drivers who came forward to tell Greenpeace their story. At the time Greenpeace investigated the allegations made by the drivers about attempts to bribe them to change their testimony about the waste. All of the drivers are members of the group "Stop chauffeur en Danger" (SCD). © GREENPEACE/MARIETTA HARJONO



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Doumbia Siaka (right picture) and Amado Bakayoko visited Amsterdam in September 2010 to meet the public prosecutor and explain in person the allegations they had made as part of the dossier that Greenpeace had submitted. During their stay, they decided they no longer wished to remain anonymous.

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Trafigura's lawyers have acknowledged that an amount of CFA1.5 million € 2,200 was paid to the drivers in April 2010 for a second statement but claimed that was only because they were forced to do so. According to Trafigura's lawyers, Macfarlanes, "The necessity for this was prompted solely by our learning in 2010 that [name withheld] was seeking to blackmail Trafigura by publicising completely false statements about his evidence."⁷²⁸

In September 2010 two of the Ivorian truck drivers came to the Netherlands to meet the Public Prosecutor and explain in person the allegations they had made as part of the dossier that Greenpeace submitted. These two drivers then decided that, after four years, they would no longer hide their faces and names.

In June 2012 the Dutch Public Prosecutor informed Greenpeace that they would not start criminal investigations into the allegations brought forward. In the letter the prosecutor stated that, while Trafigura Beheer BV is registered in the Netherlands, it is only a formal registration for tax reasons (via a trust office); actual business does not take place from Netherlands. The prosecutor argued that Trafigura Beheer BV cannot be said to have Dutch nationality on this sole basis, and that for this reason, among others, "any connecting factor for jurisdiction of the Dutch courts" is lacking.⁷²⁹

The rationale put forward by the prosecutor in this case is very problematic from the perspective of corporate accountability. If accepted it would mean a company is considered a Dutch entity for some purposes but not for others. This would mean that Trafigura - and companies like it - not only get the tax benefits of the Netherlands but an assurance of legal immunity for prosecution for acts for which other legal and natural persons in the Netherlands could be held to account.

Article 51 of the Netherlands' Criminal Code explicitly states

the Code is applicable to natural as well as legal persons. The Criminal Code also covers the parameters under which crimes committed abroad may be subject to the Netherlands' jurisdiction, stating, in Article 5, that the Code applies to nationals of the Netherlands that commit crimes abroad. The prosecutors' view would appear to apply a restrictive interpretation of Article 5 as referring only to natural persons and legal persons that carry out some commercial activity in the Netherlands.

Amnesty International and Greenpeace have submitted their concerns to the prosecutor. A company incorporated in the Netherlands must be said to have Dutch nationality; jurisdiction over a legal person cannot hinge on the level of that entity's activity in the country.

In relation to the Greenpeace submission and the position of the prosecutor on the nationality issue, the court said that jurisdiction was not automatic, but did not rule on this issue. Therefore, at the time of writing there was not clarity on the legal position.

THE CHILLING EFFECT OF TRAFIGURA'S AGGRESSIVE REPUTATION MANAGEMENT

Trafigura's approach to reputation management has sparked widespread concern about the use of defamation law, particularly in the UK, to unduly restrict reporting of events that are in the public interest. Through its legal and public relations advisers, Trafigura has pressurized media outlets around the world to amend or remove critical coverage, often explicitly threatening legal action. This prompted the former UN Special Rapporteur on Toxic Waste and Human Rights, Okechukwu Ibeanu, to state that he was:

“ greatly concerned by reports that the company has filed or threatened to file libel lawsuits against various civil society and media institutions that have reported on the Probo Koala incident in a critical manner. Such lawsuits may have the effect of stifling independent reporting and public criticism. In this regard, the Special Rapporteur considers that Trafigura, as a public figure in this case, should show restraint. ”⁷³⁰

The impact on reporting of the case has been particularly notable in the UK media. UK defamation law is considered amongst the most claimant-friendly in the world, with the result that a threat of legal action can be sufficient to stop the publication of reports. Several of the major media

outlets in the UK that have investigated and reported on the dumping of toxic waste in Côte d'Ivoire have received legal threats from Trafigura.⁷³¹ Faced with such pressure, a number of UK newspapers have agreed to modify or withdraw articles about the case, and the tone of UK coverage has often been markedly different from that elsewhere in the world.

One incident in particular raised concern in the UK. On 11 September 2009, Trafigura secured a legal injunction in the High Court preventing *The Guardian* newspaper from making any reference to a leaked report by John Minton, a consultant commissioned by Trafigura in 2006 to investigate the *Probo Koala* waste issue.⁷³² In mid-October 2009, a UK Member of Parliament, Paul Farrelly, tabled a parliamentary question in which he used parliamentary privilege to make explicit reference to the injunction. *The Guardian* reported online that it could not report on the parliamentary proceeding.⁷³³ This led to widespread comment on the internet and through social media sites, with substantial attention being focused on the fact that the media's right to report without hindrance on the proceedings of parliament had been compromised. As a consequence of the internet activity, the nature of the injunction became known.

On 27 May 2010, Caroline Lucas, a UK Member of Parliament, raised concerns in Parliament that the UK media were being prevented from reporting freely on the Trafigura case, stating that “new legal actions concerning Trafigura have been launched in the Dutch courts, and are being reported widely in other countries, but not here”.⁷³⁴ Lucas also submitted a parliamentary motion which referred to “allegations that UK nationals and UK firms may have been involved in illegal waste shipments and a subsequent cover-up and that payments were made to truck drivers in return for favourable witness statements”, and stating that “this is not being fully reported in the United Kingdom because of the chilling effect of the UK's libel laws.”⁷³⁵

The motion also called on the government to launch a full enquiry into the allegations against Trafigura and to review the defamation laws to ensure that this matter could be reported fully.⁷³⁶

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UNSUCCESSFUL ATTEMPTS IN FRANCE AND AT THE EUROPEAN COMMISSION

On 29 June 2007, 20 Ivorian victims of toxic waste dumping, with the support of lawyers from a number of French and Ivorian NGOs,⁷³⁷ filed a complaint against the two French Trafigura executives, Claude Dauphin and Jean-Pierre Valentini, before the Paris Prosecutor. They requested that a formal investigation be initiated into charges, including: the administration of harmful substances, manslaughter, active corruption of persons from states other than member states of the European Union (EU), and international organizations other than public institutions of the European Communities, as well as breaches of provisions relating to the transboundary movements of waste.⁷³⁸

After conducting a preliminary enquiry, the French prosecuting authorities made a decision on 16 April 2008 not to investigate further. This decision was made on the basis of:

- » the lack of lasting attachment to the French territory of individuals who may be charged, including Dauphin and Valentini, respectively Chairman of the Board and Director of the Trafigura Group;
- » the fact that subsidiaries and commercial entities belonging to the Trafigura Group were established outside the French territory;
- » the existence of simultaneous criminal proceedings: in addition to the criminal procedure in Côte d'Ivoire, the prosecutor referred to the prosecution in the Netherlands.⁷³⁹

In April 2010, two French NGOs, Robin des Bois and Sherpa, lodged complaints against Estonia and the Netherlands before the European Commission, and requested that the Commission refer the cases to the European Court of Justice. The European Commission rejected both complaints.⁷⁴⁰

In the case of the Netherlands, the Commission referred to the Dutch prosecution as the reason for not taking forward any action against the Netherlands. However, the court action in the Netherlands did not sanction any state actors for their role in allowing the illegal export of toxic waste. Nor has the Netherlands faced any investigation or sanction at the international level for failing to properly discharge its legal obligations under international law.

With respect to Estonia, the Commission argued that, after the *Probo Koala* had left Amsterdam, the Dutch authorities contacted the Estonian authorities and asked them to check whether all the waste was still on board the ship, which the Estonian authorities did. It further argued that Trafigura had misled the authorities by describing the waste as "slops" when it was in fact dangerous waste. Finally, it noted that under EU law there is no obligation on port authorities to check all exports of waste. The legal reasoning in the case of Estonia is weak. Estonia did not have all of the information that was available to the Netherlands, but

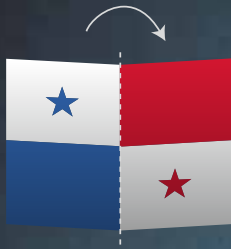
Estonian Port State Control was aware that problematic waste material was on board a ship within its jurisdiction and, under the MARPOL Convention, Estonian Port State Control had the capacity to inspect the ship and the waste. In light of the fact that Dutch Port State Control had asked Estonian Port State Control to measure the waste to ensure it had not been dumped at sea, it is not clear why the Estonian authorities did not consider any further action.

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AN INTERNATIONAL AFFAIR

Operating the Probo Koala



1 PANAMA
Ship registered in Panama
(Flag of Convenience)



2 GREECE
Ship beneficially owned and
commercially operated by
Prime Marine Management
and operated by Falcon
Navigation (also Trafigura's
"Athens office")



3 MARSHALL ISLANDS
Ship owned by Probo
Koala Shipping Inc.



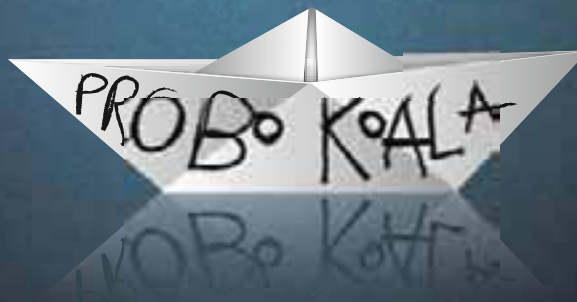
4 THE NETHERLANDS
Ship chartered by Trafigura
Beheer BV (Trafigura's group
holding company)



5 UNITED KINGDOM
Arrangements for caustic
washing made by Trafigura Ltd



6 UKRAINE
Ship captained by
Ukrainian national



7

VICTIMS FAILED BY ALL STATES

The events in this report were truly transnational in nature. The toxic waste was generated by a multinational company, Trafigura, when it decided to carry out caustic washing at sea in the Mediterranean region with full knowledge that the waste that it would produce was dangerous. The company then tried to offload and get the toxic waste processed in the Netherlands. When it considered that it was too expensive to process the waste in the Netherlands, the company wrongfully exported the toxic waste out of the Netherlands and European Union to Africa. It contracted a company, Tommy, in Côte d'Ivoire, that lacked the qualifications or expertise to process toxic waste.

The generation, transport and dumping of the toxic waste spanned the world and the waste was transported by Trafigura from the Mediterranean to the Netherlands, to Estonia, to Nigeria and to Côte d'Ivoire. The effects of this illegal transport of the waste by Trafigura and the dumping of the toxic waste by Tommy, the agents of Trafigura, were borne by the people of Abidjan whose rights to health, including a healthy environment, and work were abused as a result.

The Basel Convention was created to prevent exactly this kind of conduct and effects. The Convention is meant to create a regime of international standards and cooperation between states that can prevent the illegal transboundary movement of hazardous waste. This report highlights how a multinational company was able to circumvent this regime by exploiting loopholes in enforcement and laws in different countries. The report describes the failure of various states to implement their obligations both to prevent the illegal transboundary movement and dumping of toxic waste and to protect the right to health of people who were ultimately impacted by the dumping of the waste.

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The states involved, notably the Netherlands and Côte d'Ivoire, but also others, failed not just in preventing the illegal transboundary movement and dumping of toxic waste, in regulating a multinational company to ensure that it did not abuse these international standards, but they also failed collectively to provide an effective remedy to the victims whose human rights were abused by Trafigura. The abuses were transnational but the remedies were not and as the previous chapters illustrate, the victims and groups working on behalf of the victims have had to go from pillar to post in Côte d'Ivoire, in the Netherlands, in the UK, in France, and even before the European Commission seeking justice and effective remedies. What they have faced are multiple barriers to remedies, piecemeal processes which only look at part of the story and which place the onus on victims to prove the abuses and to even enforce the remedies and claim the compensation that they were awarded.

One might expect that, given the numerous opportunities to secure justice in more than one jurisdiction, the chances of the victims uncovering the truth and obtaining an effective remedy would have been greater. Yet the reality has been very different: despite the numerous efforts that were made, there has been a collective failure by all the states involved to ensure the right to an effective remedy for the victims.

Under international law, as stated earlier, where an individual has suffered human rights violations at the hands of several states, he or she is entitled to a full remedy for all of the violations. So long as the right to an effective remedy remains unfulfilled in relation to an act for which a particular state is responsible, that state remains under the obligation to provide meaningful access to a procedure capable of providing an effective remedy.⁷⁴¹

The Maastricht Principles clarify that “where the harm resulting from an alleged violation

has occurred on the territory of a State other than a State in which the harmful conduct took place, any State concerned must provide remedies to the victim”.⁷⁴² They also state that to give effect to this obligation, states should: a) seek cooperation and assistance from other concerned States where necessary to ensure a remedy; b) ensure remedies are available for groups as well as individuals; c) ensure the participation of victims in the determination of appropriate remedies...”.⁷⁴³

It is not just the government of Côte d'Ivoire which has failed in its obligation to provide an effective remedy to people whose rights to health and work were abused by Trafigura as a consequence of the illegal dumping of toxic waste by its agent Tommy in Abidjan. The Netherlands, the UK and the European Commission have failed to provide meaningful access to the victims to a procedure that would be capable of providing them with an effective remedy. They have also failed to engage in international cooperation with Côte d'Ivoire and each other to ensure effective remedies for the victim, including through prosecution and a full investigation of the company for its illegal acts across multiple jurisdictions; compelling Trafigura to disclose the information that it holds on the content of the waste and the effects of exposure; ensuring that victims receive the compensation that they were awarded as part of settlements in Côte d'Ivoire and the UK; and ensuring monitoring and disclosure of any potential long-term impacts of exposure to the waste.

Failure to prosecute the company and to investigate the role played by members of the Trafigura corporate group

Despite legal actions commencing in a number of jurisdictions, there was a total lack of coordination and international co-operation to prosecute those responsible for the criminal acts in Côte d'Ivoire. To some degree, these actions even appear to have played off against each other in discouraging prosecutions into

the criminal acts that resulted in the human rights abuses committed in Côte d'Ivoire. Criminal charges were only ever brought against employees of the Trafigura Group in Côte d'Ivoire, but not against the corporate group. Gaps in Ivorian law meant that there was no option to prosecute the company itself. Options to prosecute officials who acted in a decision-making capacity were also not properly exercised because of the terms of the settlement reached between the government and Trafigura and the departure of the concerned individuals from the country. No other state has pursued prosecutions against any of the corporate entities involved in the criminal acts in Côte d'Ivoire.. This means that, up to now, the Trafigura Group, including the foreign-based Trafigura Beheer BV and Trafigura Ltd, are yet to be prosecuted for their involvement in the illegal acts that unfolded in Côte d'Ivoire.

The terms of the Ivorian settlement make it very unlikely (it not impossible) for any other prosecutions against members of the Trafigura Group to be brought in the state of Côte d'Ivoire. This means that, should the corporate members of the Trafigura Group ever be brought to account for the commission of crimes in Côte d'Ivoire, this must happen in one of the home states. In the Netherlands, Trafigura Beheer BV was charged with committing domestic offences but not for the full chain of events culminating in the dumping of the waste by its agent in Côte d'Ivoire and the effects of the illegal transport and dumping of toxic waste on people in Abidjan. To the contrary, the Public Prosecutor has refused to pursue charges against two corporate entities of the Trafigura Group for illegal acts committed in Côte d'Ivoire, and this decision has been upheld by the Dutch Court of Appeal. In the United Kingdom, no prosecution has yet been brought against UK-based Trafigura Ltd, despite its executives making key decisions which led to the dumping of the waste in Côte d'Ivoire.

These reflect failures by both states to fulfil their duty to protect and to properly

investigate the role played by the corporate members of the Trafigura Group with respect to the acts committed in Côte d'Ivoire. Without coordinated action by states to investigate and hold multinational companies to account, impunity will prevail.

In this case, three possible levels of accountability existed. Where domestic laws permit, corporate entities should be held accountable for causing or contributing to criminal acts. In addition (or in instances where it may not be possible to hold the corporate entity to account), individuals in decision-making positions or positions of control and influence should be held accountable for allowing the illegal acts to occur. Moreover, employees found to be directly involved in the commission of illegal acts carried out during corporate operations should be legally held to account. Evidence exists which could have been used to tap into international channels to investigate the involvement of foreign-based actors in criminal activity relating to the toxic waste dumping.

In Côte d'Ivoire, charges against the three Trafigura executives, Dauphin, Valentini and Kablan, were dropped, with the judge citing "insufficient evidence". This occurred despite evidence existing that there were viable grounds for pursuing the charges. The reality is that this was a result of the trade-off reached between the Ivorian government and the Trafigura Group in light of the Ivorian settlement reached one year earlier which, effectively, provided legal immunity to all Trafigura associated individuals and corporate entities. In the Netherlands, both Trafigura Ltd's Naeem Ahmed and the *Probo Koala's* Captain Chertov received suspended sentences and Ahmed was fined €25,000 by the Dutch court. Appeals related to the case are ongoing. In France, the public prosecutor decided not to pursue investigations into French nationals, Dauphin and Valentini, due to reasons including the prosecution in Côte d'Ivoire. This is despite the prosecution

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in Côte d'Ivoire having been discontinued, and Trafigura Parties, including employees, enjoying de facto legal immunity in that country. These facts collectively show that, neither the corporate Trafigura Group nor the individuals have ever faced charges for the events that unfolded in Côte d'Ivoire.

In the Netherlands, the legal framework exists for prosecuting illegal acts committed abroad, but in this case the prosecutorial desire to pursue these did not exist. The UK prosecutor, as far as is publicly known, has done nothing, and no steps have been taken either to investigate or to prosecute the company in the UK.

Failure to co-operate to compel Trafigura to disclose the information that it holds, on the content of and the effects of exposure to the waste, to the victims and to ensure monitoring and disclosure of any potential long-term impacts of exposure to the waste

None of the states involved have so far required Trafigura to disclose to the victims the information that it holds on the content of the waste and effects of exposure. The lack of information about the content of the waste and its effects handicapped the medical response in Côte d'Ivoire. Lack of information, particularly about potential long-term effects, has also been highlighted by the victims as one of their primary concerns. Trafigura was not asked to disclose all the information that it holds, on the content of the waste and its own research into potential effects, to victims by the Ivorian government during the settlement process or after. Despite the fact that Trafigura noted in the civil case in the UK that it held information on the composition of the waste and its potential impacts and that it had undertaken scientific and expert studies about exposure to the waste, the UK authorities have never asked for this information to be made available to the victims or to the Ivorian authorities. Instead of treating this as a key issue impacting people's right to health, it has been treated as purely a private matter

between parties in a civil dispute, and the failure to compel the company to reveal the information it holds is also linked to the UK's broader failure to open any investigations itself into the company's conduct.

The Ivorian government has also failed to conduct any long-term monitoring of impacts of exposure to the waste, particularly in terms of environmental and health related effects. However, none of the other governments involved have engaged in international co-operation with the Ivorian government to support such a monitoring process, including through offering technical assistance.

Failure of international co-operation

Even though this particular case involves the transboundary movement and illegal dumping of toxic waste, despite the existence of a specific regime to prevent such occurrences, the failures that were documented in this case are emblematic of those faced by victims of human rights abuses by multinational companies in many other contexts. In moving forward, greater steps are required to end corporate impunity. The bottom line is that prosecutors, law enforcers and ministries of justice must take steps to prosecute and make it clear that corporate entities and directors will be held to account if they commit illegal acts, which abuse human rights, both domestically and abroad. In this situation, the legal breach is clear, however, what has been done about it is not. When the rules that are in place are not enforced, or when mechanics of enforcement are insufficient, the human cost is significant and the framework of hard-won international law is undermined. Without adequate legal enforcement mechanisms holding corporate entities to account for their actions, victims will continue to be denied their right to an effective remedy and failed by states.

SECTION IV

RECOMMENDATIONS

RECOMMENDATIONS

Recommendations to all states

Preventing corporate abuse of human rights and the environment

- » All states should ensure that their legal framework allows for companies (legal persons) to be held criminally liable. States should also ensure that they allocate sufficient resources to enable proper investigation and prosecution of corporations.
- » All states should undertake a review of their regulatory framework in relation to the adequacy of measures in place to (a) ensure companies are required to respect human rights and the environment throughout their operations and (b) ensure the state can investigate and prosecute companies for crimes committed abroad or which have consequences abroad. This legal review should be made public.
- » Companies should be required by law to carry out human rights due diligence throughout their global operations, and to make the results public.
- » All companies should be required by law to disclose full information on any material or substance under the ownership or control of the company which has impacted the environment and public health.

Preventing dumping of toxic waste and closing loopholes in the enforcement of international law

- » All States that have not already done so should ratify the Basel Convention together with the Basel Ban Amendment prohibiting the export of hazardous wastes from developed to developing countries.
- » All states should ensure effective implementation of the IMO prohibitions on blending bulk liquid cargoes during sea voyages and carrying out production processes on board ships. In any case where blending or production processes are carried out on board a ship, the resulting wastes should be covered by the Basel Convention.
- » All states that have the capacity and resources should support and fund the first meeting of the Conference of Parties to the Bamako Convention.
- » States parties to the Basel Convention should ensure that Coker Naptha is defined as a hazardous waste under the Basel Convention.

Accountability and access to justice

- » States that have the capacity and resources should engage with and support the government of Côte d'Ivoire to conduct a long-term follow-up study on the health of the affected population and to ensure that effective remedy is provided to the affected population.

RECOMMENDATIONS

Recommendations to the government of Côte d'Ivoire

- » Publically report on how the compensation money received from Trafigura has been used to date.
- » Establish a process to ensure all of the remaining registered individuals whose health was impacted are able to access compensation from the state
- » Establish a medical study to monitor and evaluate the health of the affected population over time, in order to identify any long-term impacts. If necessary seek international support and assistance to conduct this study
- » Pursue investigations and prosecutions against all of those involved in the misappropriation of compensation funds agreed in the UK out-of-court settlement
- » Publically report on the changes made in law, regulation and practice in Côte d'Ivoire to prevent the illicit import and/or disposal of hazardous waste, and specifically the changes made to the regulatory framework applicable at port area.
- » Ensure that CIAPOL has a permanent location at the port of Abidjan
- » Publically report on the status of the recommendations of the National Commission of Enquiry and establish a mechanism to pursue the implementation of any outstanding recommendations
- » Ensure effective implementation of the IMO prohibitions on blending bulk liquid cargoes during sea voyages and carrying out production processes on board ships. In any case where such processes take place, the resulting wastes should be covered by the Basel Convention.
- » Amend the criminal code of Côte d'Ivoire to allow for companies to be held legally accountable for criminal conduct that can usually be attributed to a legal person.
- » Assess the legality of the Protocol d'accord, including the immunity from prosecution given to Trafigura.

Recommendations to the government of the Netherlands

- » Establish guidance for public prosecutors on the investigation and prosecution of corporate criminal activity abroad with a view to ensuring that public prosecutors pursue cases where corporate criminal activity results in harm to human rights and/or the environment.
- » Ensure that companies that are incorporated in the Netherlands for tax purposes, regardless of the level of activity in the Netherlands, can be held to account for criminal activity resulting in environmental and human rights harm, including for crimes committed abroad or which have consequences abroad.
- » Engage with and support the government of Côte d'Ivoire to carry out a medical study to monitor and evaluate the health of the affected population over time, in order to identify any long-term impacts.

RECOMMENDATIONS

Recommendations to the government of the United Kingdom

- » Given the clear evidence that at least part of the decision-making process on export of the waste from Europe and delivery to Abidjan emanated from London, the Crown Prosecution Service should investigate options for initiating a criminal prosecution against Trafigura and/or individuals in decision-making or supervisory positions within the company and/or other individuals, agents or employees who may have been involved in the commission of illegal acts.
- » Ensure effective implementation of the IMO prohibitions on blending bulk liquid cargoes during sea voyages and carrying out production processes on board ships. In any case where such processes take place, the resulting wastes should be covered by the Basel Convention.
- » Undertake a review of the regulatory framework in the UK in relation to the adequacy of measures to investigate and prosecute UK-registered companies for causing or contributing to illegal acts abroad.

Recommendations to the government of the Norway

- » Undertake and publish a review of the decision not to prosecute Trafigura in relation to the Vest Tank case. This review should include:
 - A comprehensive review of the decision not to prosecute Trafigura in relation to the bringing hazardous waste to Norway. This should take into account all the places where the waste may have been produced, and not just the high seas.
 - An assessment of the applicability of other avenues for prosecution such as those available under domestic pollution control regulations, and provide an explanation as to why these were not considered.
- » Undertake a review of the regulatory framework in Norway in relation to the adequacy of measures to investigate and prosecute companies for crimes committed abroad or which have consequences abroad. Ensure this review is made public.

Recommendation to the government of Mexico

Investigate whether illegal conduct occurred with respect to the export of coker naphtha from Mexican territories in 2006 and 2007.

RECOMMENDATIONS

Recommendations to the European Union and its member states

- » Ensure that the envisaged legislation on non-financial reporting by companies includes:
 - A requirement for companies reports to cover their global operations;
 - a requirement for companies to report on the actual and potential impacts of their global operations on human rights and environment, and to disclose social and environmental impact assessments
- » Adopt a normative framework that requires companies to respect human rights and the environment and to carry out adequate human rights due diligence throughout their operations.
- » Make it mandatory for companies to disclose their lobbying activities and positions in relation to national or international regulatory frameworks.
- » Support and fund the first meeting of the Conference of Parties to the Bamako Convention.

Recommendations to the African Union and member states

- » All AU member states that have not already done so should ratify the Bamako Convention, the Basel Convention and the Basel Ban Amendment at the earliest opportunity.
- » All AU member states should ensure that all requirements of Basel, Basel Ban Amendment and Bamako Convention are transposed into national legislation.
- » The AU should adopt a normative framework that requires companies to respect human rights and the environment and to carry out adequate human rights due diligence throughout their operations
- » Support the first meeting of the Conference of Parties to the Bamako Convention. All AU member states should adopt strong pollution liability legislation.

Recommendations to the UK, Spain, Gibraltar and Malta

- » Establish a clear agreement between Spain, UK and Gibraltar, which includes specific mechanisms, to better control ships operating in the waters around Gibraltar, in order to prevent shipping accidents and marine pollution and to ensure effective policing of shipping activities.
- » Investigate whether illegal conduct occurred in the territorial waters around Spain, Malta or Gibraltar, with respect to toxic waste generation and/or export of hazardous waste from the marine territories of any of these countries during 2006.

Recommendation to Trafigura

Disclose full information on the waste, including scientific and other studies carried out in relation to the waste and its potential impacts.

ENDNOTES

ENDNOTES

1. This figure has been converted to the US\$ equivalent of the actual amounts paid based on historic currency calculations, taken from a number of different sources, and are approximate values.
2. www.trafigura.com/about_us/key_facts.aspx (accessed 24 August 2012).
3. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto and Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370), para 28.
4. www.trafigura.com/useful_links/corporate_brochure.aspx (accessed 24 August 2012).
5. www.trafigura.com/useful_links/corporate_brochure.aspx (accessed 24 August 2012).
6. Trafigura Annual Report 2006, p2.
7. Requisitoir, Broom II, Meervoudige economische strafkamer, Rechtbank Amsterdam submitted 21 June 2010 p49: "set against the gross domestic product of the Côte d'Ivoire. In 2006 this was around US\$18 billion. In 2007 around US\$19 billion. And in 2009 more or less US\$22 billion." Original in Dutch "Afgezet tegen het bruto nationaal product van Ivoorkust. In 2006 bedroeg dat zo'n 18 miljard dollar. In 2007 zo'n 19 miljard dollar. En in 2009 ongeveer 22 miljard dollar." (Greenpeace translation).
8. The Basel Convention was adopted on 22 March 1989, and entered into force on 5 May 1992.
9. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the "Basel Convention").
10. Basel Convention, Article 2, para 21, and Article 9.
11. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Article 4, para 3.
12. Basel Convention, Article 4(1)(b).
13. Basel Convention Article 4.5, Article 11.
14. Basel Convention, Article 4(1)(c).
15. Basel Convention, Articles 8 and 9.
16. Basel Convention, Articles 2(8).
17. Basel Convention, Article 4(4).
18. Basel Convention, Article 1.4.
19. International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (the "MARPOL-Convention").
20. MARPOL Convention Annex II.
21. International Covenant on Economic, Social and Cultural Rights.
22. CESCR, *General Comment 14: The right to the highest attainable standard of health (Article 12)*, UN. Doc. E/C.12/2000/4, 11 August 2000, para 11.
23. CESCR, *General Comment 14: The right to the highest attainable standard of health (Article 12)*, UN. Doc. E/C.12/2000/4, 11 August 2000, para 16.
24. CESCR, *General Comment 14: The right to the highest attainable standard of health (Article 12)*, UN. Doc. E/C.12/2000/4, 11 August 2000, para 15.
25. CESCR, *General Comment 14: The right to the highest attainable standard of health (Article 12)*, UN. Doc. E/C.12/2000/4, 11 August 2000, para 51.
26. See African Commission on Human and Peoples' Rights, Decision on communication of *The Social and Economic Rights Action Centre and the Center for Economic and Social Rights v Nigeria* (155/96), p10. The decision was adopted at the 30th ordinary session of the African Commission on Human and Peoples' Rights, Banjul, 13-27 October 2001, available at www.cesr.org/downloads/AfricanCommissionDecision.pdf.
27. Amnesty International interviews, February 2009 and June 2011, Abidjan and by phone.
28. Testimonies from witnesses interviewed by Amnesty International including Angèle N'Tamon, Françoise Kouadio, Jerome Agoua, Abidjan, February 2009. See also: Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 30, 31, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf.
29. Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 30,31, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf.
30. *Report of the International Commission of Inquiry on the discharge of toxic wastes in the district of Abidjan*, 19 February 2007; Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 14 June 2007, p5. www.dechetstoxiques.gouv.ci/pdf/communiqué-du-porte-parole-du-pr.pdf.
31. Fifteen deaths were recorded in the findings of an independent enquiry set up by the Ivorian Prime Minister (International Commission of Inquiry on Toxic Waste, 19 February 2007, p.2). Sixteen individuals were identified as having died as result of the waste by the Ivorian Ministry of Finance for the purposes of compensating their relatives (Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 14 June 2007, available at www.dechetstoxiques.gouv.ci/pdf/communiqué-du-porte-parole-du-pr.pdf). Seventeen deaths were recorded by the Ivorian criminal court – Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008, p41.
32. Amnesty International interviews, including Salif Konate, Abidjan, February 2009. The UN Special Rapporteur on Toxic Waste also notes that "many businesses forewent commercial earnings for a significant period of time following the contamination" – Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 30. The International Commission of Inquiry also notes that some businesses had to close temporarily and that some workers were absent due to illness – International Commission of Inquiry on Toxic Waste, 19 February 2007, p86. A number of businesses later received compensation from the government for economic losses incurred – see Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 14 June 2007.
33. Amnesty International interview, June 2011 (by phone).
34. Testimony of Chef Motto, Amnesty International interview, May 2011 (by phone).
35. Conference of the Parties (COP) Basel Convention, *Provisional report evaluating the chemical pollution in Côte d'Ivoire and technical assistance for the protection of the environment and health, Plan of urgent action, plan of medium-term action*, Nairobi, undated, p5: "It has been noted through the various investigations that the dumping of toxic waste in highly populated zones had an important psychological impact on the exposed populations but also on the population as a whole. The impact was aggravated by the lack of knowledge on the chemical risks and the consequences of health."
36. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.2. (rec# 5914 Yao Essaie Motto & Others v. *Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
37. Internal Trafigura email dated 27 December 2005 (rec# 5893 Yao Essaie Motto & Others v *Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
38. Internal Trafigura email dated 27 December 2005 (rec# 5914 Yao Essaie Motto & Others v *Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
39. Internal Trafigura email dated 28 December 2005 (rec# 5914 Yao Essaie Motto & Others v *Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).

40. An internal Trafigura email from a London-based employee to colleagues including directors, dated 28 December 2005 stated: “*The PMI product has 1500ppm Mercaptans, high Gums, H₂S [hydrogen sulphide], Cu Corrosion and low Oxidation stability.*” (rec# 7696 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370).
41. Internal Trafigura email dated 1 February 2006 (rec# 10852 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370).
42. Internal Trafigura email dated 27 December 2005 (rec# 5893 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370).
43. Internal email dated 27 December 2005 (rec# 5914, *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370).
44. Internal Trafigura email from a London-based employee to colleagues including directors, dated 28 December 2005 (rec# 7696 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370).
45. Internal Trafigura email from London-based employee to colleagues including directors, dated 28 December 2005 (rec# 7696 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370).
46. “THE APPLICATION OF THE BASEL CONVENTION TO HAZARDOUS WASTES AND OTHER WASTES GENERATED ON BOARD SHIPS”, Secretariat of the Basel Convention, 4 April 2011: “The driving factor for gasoline is the fact that, for instance, in Europe the maximum approved level of sulphur in gasoline is 50ppm while in West Africa it can be as high as 5000ppm or more”. Available at www.basel.int/Implementation/LegalMatters/Ships/tabid/2405/Default.aspx (accessed May 2012).
47. Reply (*Trafigura Limited v British Broadcasting Corporation* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ09X02050) served 20 November 2009, para 315: “... caustic washing had previously been carried out for Trafigura by the Fujairah Refinery Company Limited in the United Arab Emirates and the first consignment of the PMI naphtha had been successfully washed in January 2006.”
48. Meeting minutes of Al-Trabsa Technical Administration Al-Skhirra 15 March 2006 (Rec# 13571 from application notice for claim No. HQ06X03370 and others for the High Court of Justice, Queen’s Bench Division).
- See also Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.3.
49. Meeting minutes of Al-Trabsa Technical Administration Al-Skhirra 15 March 2006 (Rec# 13571 from application notice for claim No. HQ06X03370 and others for the High Court of Justice, Queen’s Bench Division): “damages occurred to the employed such as suffocation”.
50. Meeting minutes of Al-Trabsa Technical Administration Al-Skhirra 17 March 2006 (Rec# 13570 from application notice for claim No. HQ06X03370 and others for the High Court of Justice, Queen’s Bench Division).
51. Rapport de missions, Terminal Pétrolier de La Skhira, Centre International des Technologies de l’Environnement de Tunis, Ministère de l’Environnement et du Développement Durable, République Tunisienne, April 2006, p20 (rec# 13572).
52. Rapport de missions, Terminal Pétrolier de La Skhira, Centre International des Technologies de l’Environnement de Tunis, Ministère de l’Environnement et du Développement Durable, République Tunisienne, April 2006, p19, (rec# 13572).
53. Meeting minutes of Al-Trabsa Technical Administration Al-Skhirra 15 March 2006 (rec# 13571 from application notice for claim No. HQ06X03370 and others for the High Court of Justice, Queen’s Bench Division).
54. Court of Amsterdam, 13/846003-06 (PROMIS), para 5.4.
55. Internal Trafigura email also copying Claude Dauphin dated 18 April 2006 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370).
56. International Commission of Inquiry on Toxic Waste, 19 February 2007, para 2.1; Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto and Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370), para 50.2.
57. International Commission of Inquiry on Toxic Waste, 19 February 2007, para 2.1.
58. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto and Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370), para 50.9.
59. International Commission of Inquiry on Toxic Waste, 19 February 2007, para 2.1.
60. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto and Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370), para 50.1.
61. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto and Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370), para 47; Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.1.
62. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.1.
63. Robin Des Bois, “Ship-breaking.com: Bulletins of information and analysis on ship demolition”, 2012 available at www.robindesbois.org/english/shipbreaking/shipbreaking-2011.pdf; see also Trafigura “*Probo Koala* updates” available at www.trafigura.com/our_news/probo_koala_updates.aspx (accessed May 2012).
64. In an email from Trafigura to Univar dated 5 April 2006 Trafigura gave as the purpose for requiring the caustic: “We are buying product from Pemex, we charter our vessel and purchase caustic to place and add to cargo tanks on-board.” (US Files).
65. Email from Trafigura to Univar employees dated 6 April 2006 (US Files).
66. Email from Univar employee to Trafigura dated 7 April 2006 (US Files).
67. Email from Univar employee to Trafigura dated 7 April 2006 (US Files).
68. Internal Trafigura emails dated 11 and 17 April 2006 (US Files).
69. An email from a Trafigura employee to other Trafigura employees Chartering Tankers, BA Operations, Houston Oil Operations and Athens Staff dated 17 April 2006 (US Files).
70. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.6.
71. This information was collected by Greenpeace Netherlands during evidence given during the trial in the Dutch criminal proceedings against Trafigura.
72. The Dutch Police have come to this conclusion due to the difference of the content in the slop tanks when the *Probo Koala* left the Gibraltar Straits (493,868 cbm) and on its arrival in Amsterdam (544,496 cbm) as seen in the oil records book. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.6 “En route to Amsterdam, the washing of a shipment of naphtha was continued on board the *Probo Koala* on 27 June 2006 during which 23m³ of caustic soda was used (xxi).”
73. Evidence produced in 2010 Dutch court case, including map and documents.
74. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.5 and 5.6.
75. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.5 and 5.6.

ENDNOTES

76. Internal Trafigura Background document, pp1, 2 available at images.volkskrant.com/volkskra/upload/ftp/nieuws/binnenland/trafigura2.pdf (accessed at 4 April 2012).
77. Minton, Treharne & Davies Ltd, "Minton report", 14 September 2006, available at file.wikileaks.org/file/wateron-toxicwaste-ivorycoast-%C3%A92009.pdf (accessed 26 October 2011).
78. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.2.8.
79. Email from the Master of the *Probo Koala* to Falcon Navigation dated 15 April 2006 (rec# 13228, *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370): "GOOD AFTERNOON CPT, GLAD TO ADVISE YOU [THE MASTER OF *Probo Koala*] THAT THE CAUSTIC SODA WASHING WAS SUCCESSFUL."
80. Emails between Trafigura and Univar dated 6 April 2006 (US Files).
81. Email from Falcon Navigation to the Master of *Probo Koala* dated 15 April 2006 (rec# 13228 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
82. See infographic on p30/31 (the infographic is based on the map displayed in Amsterdam court room developed by Dutch police).
83. Internal Trafigura memorandum dated 23 September 2006, p1: "the vessel had taken three consecutive gasoline blendstock cargoes".
84. Amnesty International interview, Abidjan, Côte d'Ivoire, February 2009.
85. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.8. Evidence overview Trafigura Beheer BV, N. Ahmed, S. Chertov, p42, English translation: "It appeared that Malta shipyards does did not wish to receive the slops waste from *Probo Koala* on board PK" on April 10, 2006 (email).
86. Under European law, waste with a low flashpoint is considered to be hazardous waste. Under annex III of Directive 91/689/EEC on hazardous waste, waste substances with a flashpoint of less than 55°C qualify as hazardous waste.
87. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.8. Evidence overview Trafigura Beheer BV, N. Ahmed, S. Chertov, p42, English translation: "It appeared that Malta shipyards does did not wish to receive the slops waste from *Probo Koala* on board PK" on April 10 2006 (email).
88. International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL). Under the MARPOL Convention, to which the Netherlands is a party, states have an obligation to provide adequate port reception facilities for wastes generated during the normal operation of ships – Annex I, Regulation 12.
89. According to Trafigura, Naeem Ahmed told APS that the slops originated from gasoline washing, with the aid of caustic soda, on board the *Probo Koala*. He also allegedly indicated how much caustic soda had been used during the process, and how much was present in the slop tanks. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370) para 64 "On 19 June 2006, Naeem Ahmed of TL contacted APS by telephone and explained to Mr Vonk of APS that Trafigura had a vessel that had been performing caustic washing operations on Naphtha. Mr Ahmed told Mr Vonk that caustic soda and a catalyst had been added to remove mercaptans. As a result, the slops had a concentration of mercaptan sulphur."
90. Indeed, when later called to give evidence at the Dutch criminal trial, two APS executives stated "emphatically" that this was not the case and that, in fact, Trafigura's request involved gasoline washing water (gasoline tank washings), a product that came into APS on a daily basis. APS testified that they would have embarked on an entirely different procedure if Naeem Ahmed, Trafigura's London-based executive, had told them how the waste had originated. Furthermore, one of the executives stated that he had asked Ahmed to confirm his request for a quotation by email, and the contents of this email that was subsequently sent corresponded to the request made by telephone. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.2.
91. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.3.
92. Internal Trafigura email dated 20 June 2006 (rec# 7696 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
93. Notification of ships' waste and (remainders of) noxious substances – *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, p9 and rec# 10130 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370.
94. Statement published by Trafigura on its website www.trafigura.com/our_news/probo_koala_updates.aspx (accessed May 2012).
95. MARPOL Convention, Annex I.
96. See: www.imo.org/mediacentre/pressbriefings/pages/19-msc-90.aspx.
97. MARPOL Convention to which the Netherlands is a party. States have an obligation to provide adequate port reception facilities for wastes generated during the normal operation of ships – Annex I.
98. Basel Convention, Article 2(1).
99. Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, Article 2.
100. Council Regulation (EEC) No 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community.
101. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.15. Internal Trafigura memorandum dated 23 September 2006 para 6, p3.
102. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.18.
103. *Probo Koala* in Amsterdam, feitenrelaas en relevante wetgeving", VROM-Inspectie 31 oktober 2006. Report National Environmental Inspectorate *Probo Koala* in Amsterdam, overview of facts and relevant legislation p19 at <https://zoek.officielebekendmakingen.nl/kst-22343-146-b1.pdf>.
104. See: UK Health Protection Agency, Compendium of Chemical Hazards: Hydrogen Sulphide, 2011, at www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1246260029655 and Hydrogen Sulfide Safety Factsheet, www.safetydirectory.com/hazardous_substances/hydrogen_sulfide/fact_sheet.htm.
105. Bewijsoverzicht Amsterdam Port Services BV, E.M.Uittenbosch Feit 2: artikel 10.1 Wm Amsterdam 15 juni 2010, I.W. Boogert en R.S. Mackor Officieren van Justitie, p17.
106. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.20, 5.22.
107. Bewijsoverzicht Amsterdam Port Services BV, E.M.Uittenbosch Feit 2: artikel 10.1 Wm Amsterdam 15 juni 2010, I.W. Boogert en R.S. Mackor Officieren van Justitie, p24.
108. Evidence Overview for Trafigura Beheer BV, N. Ahmed, S. Chertov, pp37, 38. Facts: Section 174 of the Dutch Penal Code and Section 225 of the Dutch Penal Code.
109. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.22.

110. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.16.
111. Testing by ATM Moerdijk found a COD level of 475,600mg/l (ATM Afvalstoffen Terminal Moerdijk, Analysis of sample 3 July 2006, report published on 8 September 2006). The Netherlands Forensic Institute (NFI) test later identified a COD level of 720,000mg/l (NFI expert report English, Ministry of Justice, NFI, 29 January 2007, Odour incident, APS Amsterdam 10.1 p35).
112. The APS quote was based on a COD level of less than 2000mg/l. The APS estimate to Trafigura on 20 June 2006 was €6,675 for discharge of 250 cbm into a barge or €5,790 for discharge at its installation. Emails from APS to Trafigura Beheer BV Amsterdam, 20 June 2006 (rec# 4674 in application notice for Claim No. HQ06X03370 and others for the High Court of Justice, Queen's Bench Division).
113. An email from BMA to Trafigura c/o Falcon Navigation dated 3 July 2006 (rec# 4696 Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370) states: "Approx. 250cbm slops were discharged last night. Analysis of this slops resulted into a c.o.d. content of 500.000. Therefore the slopdisposal [sic] cost are extremely higher than offered viz. euro 1000,-/cbm."
114. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.16.
115. Trafigura Amended Defence 5 December 2008 para 80 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
116. As at 2 July 2006, €1 = US\$1.2778491244, www.xe.com/ucc/.
117. As at 2 July 2006, US\$1 = €0.5409200000 and US\$1 = €0.7825650000 www.xe.com/ucc/.
118. www.guardian.co.uk/world/2006/oct/20/outlook.development (accessed 23 April 2011).
119. Email from Falcon Navigation to BMA and copied to Trafigura's Athens Operation, Trafigura Athens, who then communicated with Trafigura London (rec# 4696 Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
120. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, p39.
121. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, p39.
122. Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, pp11-12, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*.
123. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.23.
124. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, p24.
125. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, p31.
126. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.29.
127. Although Paldiski was given as the port of call, there was no suggestion that the waste would be disposed of there. Trafigura also stated that the waste would be disposed of "at the next convenient opportunity" (Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.17).
128. Council Regulation (EEC) No 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.
129. Council Regulation (EEC) No 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community, Article 18.
130. Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, pp11-12, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf; The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*.
131. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.21.
132. Internal Trafigura email dated 5 July 2006. The email was read out and shown during the court proceedings in Amsterdam in June 2010. Greenpeace transcription. This email was also reported in the Dutch press in June 2008 by Financieel Dagblad, and others. www.fd.nl/artikel/9378327/trafigura-wilde-gif-probo-koala-zee-lozen (accessed 22 December 2011) and www.scheepsafval.nl/index.php?option=com_content&task=view&id=20&Itemid=41 (accessed 9 January 2012). "Trafigura wanted to dump toxic waste from *Probo Koala* at sea" "After we pass Dover and certainly not in the Baltic."
133. Under a 1994 amendment LC 49(16) calling for the phase out of sea disposal of industrial wastes by 1 January 1996. www.imo.org/KnowledgeCentre/HowAndWhereToFindIMOInformation/IndexofIMOResolutions/Pages/London-Convention-%28LDC,-LC%29-and-London-Protocol-%28LP%29.aspx.
134. Trafigura Amended Defence 5 December 2008 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370) para 100.1.
135. Trafigura Amended Defence 5 December 2008 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370) para 100.4.
136. Email from Falcon Navigation to Trafigura dated 2 August 2006 (Requisitoir, Broom II, Meervoudige economische strafkamer, Rechtbank Amsterdam submitted 21 June 2010, p36.) "Have just received a verbal quotation from Daddo for 7,000 US dollars. I understand there will be no objection to get rid of them at such cost, no? Please confirm and we shall book the service."
137. Email from Trafigura to Falcon Navigation dated 2 August 2006. Requisitoir, Broom II, Meervoudige economische strafkamer, Rechtbank Amsterdam submitted 21 June 2010, p36. "Please proceed and book immediately, thanks."
138. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.30.
139. Trafigura Amended Defence 5 December 2008 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370), paras 101.3-101.5.
140. International Commission of Inquiry on Toxic Waste, 19 February 2007, p67.
141. At 11.57am. Email from Falcon Navigation to Trafigura, Delselve and Comoditex dated 10 August 2006 (rec# 9254 Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
142. At 1.48pm. Email between Comoditex, Falcon Navigation, Delselve and Trafigura dated 10 August 2006 (rec# 9254 Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).

ENDNOTES

143. Email between Comoditex, Falcon Navigation, Delserve and Trafigura dated 10 August 2006 (rec# 9254 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370)
144. At 2:39 pm. Email between Comoditex, Falcon Navigation, Delserve and Trafigura dated 10 August 2006 (rec# 9254 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370)
145. Email between Trafigura, Comoditex, Delserve and Falcon Navigation dated 15 Aug 2006 (rec# 9254 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370)
146. Email between Comoditex, Trafigura, Delserve and Falcon Navigation dated 15 August 2006 at 6.20pm (rec# 9254 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370)
147. From the Decision of the Court of Appeal in Amsterdam, dated 20 June 2008 Parket number 13/846005-08 it becomes clear that a witness has declared that Claude Dauphin was involved in discussing the options for disposal of the waste when the *Probo Koala* was in Nigeria.
148. Email between Trafigura employees dated 16 August 2006 (rec# 9254 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
149. Interview with police officer J. vd Kamp on 21 March 2012 and police officer Y. de Boer on 26 April 2012 (both interviews conducted by Greenpeace).
150. Amnesty International English translation of verdict on *Trafigura Beheer BV*, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.4:
151. Internal Trafigura memorandum dated 23 September 2006
152. Email from Trafigura to the Captain of the *Probo Koala* dated 17 August 2006. Requisitoir, Broom II, Meervoudige economische strafkamer, Rechtbank Amsterdam submitted 21 June 2010, p37.
153. Witness statement of Isabelle N'Gbe, in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, 6 March 2008.
154. An internal Trafigura email dated 17 August 2006 states: "Further to our telecom, please note that we would like to discharge approx 528 Cubic meters of Slops from the *Probo Koala* with ETA Abidjan Aug 19th early AM". Email cited in Requisitoir, Broom II, Meervoudige economische strafkamer, Rechtbank Amsterdam submitted 21 June 2010, p37.
155. Internal Trafigura email dated 17 August 2006 states. Email cited in Requisitoir, Broom II, Meervoudige economische strafkamer, Rechtbank Amsterdam submitted 21 June 2010, p37.
156. An internal Trafigura email dated 17 August 2006. Email cited in Requisitoir, Broom II, Meervoudige economische strafkamer, Rechtbank Amsterdam submitted 21 June 2010, p37.
157. The National Commission of Enquiry refers to Kablan as the "Assistant General Administrator", Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p15.
158. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p25.
159. Trafigura describe ITE as "an Ivorian company which had frequently been appointed by WAIBS to dispose of MARPOL slops and which had a reputation for handling large amounts of slops responsibly and reliably in Abidjan for over 10 years." Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370), para 160.
160. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p25.
161. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p25.
162. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p26.
163. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, para 169. See also Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p26.
164. Trafigura's due diligence obligations under national law, and in relation to human rights impacts, are discussed in Chapter 7.
165. Evidence gathered by Greenpeace Netherlands from testimony of truck drivers. The Ivorian National Commission of Enquiry earlier reported that Compagnie Tommy had hired 12 trucks, Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p38.
166. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008, p13.
167. Procès verbal d'interrogation de Yao Kouassi, 2 February 2007, N° du Parquet 6049/2006, N° de l'instruction 38/2006, pp1-2
168. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p38.
169. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p39.
170. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p39.
171. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p39: "During his interview, Mr Ouattara Moussa, Platform Scale agent for Abidjan, stated that the security reasons given for the closing of the dumpsite were merely a pretext for avoiding the smells given off by the dumped waste."
172. The National Commission is unclear about the number of truck that were unloaded after the site was closed, mentioning three and later five trucks. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p40. According to the drivers interviewed by Greenpeace in 2010 the content of seven truckloads were dumped at Akouédo. See Annex 1 for more details.
173. 21 Mars 2007, NO du Parquet 6049/2006, No de l'instruction 38/2006, in which Meh Yao states: "While the fifth truck was unloading, the villagers stopped the process of unloading the waste due to the intolerable smell." (Amnesty International translation)
174. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp47 and 48; Interviews with drivers, conducted by Greenpeace, May 2010.
175. Quote from driver 2 in written statement to Greenpeace, 12 April 2010. (Driver is member of the organization "Stop chauffeurs en danger".)
176. Quote from driver 6, from written statement to Greenpeace, 1 May 2010.
177. Quote from driver 3, in video interview with Greenpeace, 3 May 2010.
178. Quote from driver 3, in video interview with Greenpeace, 3 May 2010. (Driver is member of the organization "Stop chauffeurs en danger".)
179. Quote from driver 6, from written statement to Greenpeace, 1 May 2010.
180. Quote from driver 1, from written statement to Greenpeace, 16 March 2010. (Driver is member of the organization "Stop chauffeurs en danger".)
181. The full letter, containing a detailed reaction from Trafigura's legal representative to the allegations of bribery and intimidation, can be found at www.novatv.nl/page/detail/nieuws/17569/ (accessed 23 March 2011). See also email from Van Kempen Public Relations & Public Affairs (Dutch PR company working for Trafigura) on May 17, 13:27 to Greenpeace Netherlands: "Onder verwijzing naar uw e-mail van 14 mei jl. bijgaand de reactie van Trafigura. Uw beweringen zijn volstrekt onjuist. Bovendien is uw belissing om – wederom – de media in te schakelen om Trafigura (en deze keer ook haar juridische adviseurs) onrechtmatig zwart te maken, onverantwoordelijk, verkeerd en bijzonder kwaadaardig. Zoals u ongetwijfeld bekend is, hebben Trafigura en Macfarlanes de journalisten rechtstreeks beantwoord."

182. Synthèse de la communication sur la crise des déchets toxiques. Presented at Eighth Meeting of the Conference of the Parties (COP8) to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Nairobi, 29 November 2006, p3, available at www.dechetstoxiques.gouv.ci/pdf/SYNTH%20COMMUNIC%20CONV%20DE%20BALE.pdf (accessed 20 October 2011).
183. Françoise Kouadio, Amnesty International Mission in Côte d'Ivoire, February 2009.
184. Angèle N'Tamon, Amnesty International Mission in Côte d'Ivoire.
185. Witness statement of Enokou Leon Assoa, Military Hospital employee, "Witness statement of Enokou Leon Assoa – HMA employee". In the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, 6 August 2008, para 11 (Leigh Day translation).
186. Dr Bouaffou, Amnesty International interview, June 2011, by phone.
187. Amnesty International interviews with affected individuals, Abidjan, February 2009 and by phone in June 2011.
188. Dr K. Amnesty International interview, June 2011, by phone.
189. Amnesty International interview, June 2011, by phone: "At the end of August 2006, I was away on my annual spiritual retreat, several kilometres from Abidjan. On 28 August, I received a telephone call from my employees at the clinic saying they had notices, for the last few days, a significant increase in patients presenting at the clinic [...] I returned the following morning without finishing my retreat [...]."
190. Amnesty International interview, June 2011 (by phone).
191. Doctors interviewed by Amnesty International in June 2011 (by phone).
192. National Institute of Public Hygiene (INPH) report, p50.
193. Fifteen deaths were recorded in the findings of an independent enquiry set up by the Ivorian Prime Minister (International Commission of Inquiry on Toxic Waste, 19 February 2007, p2). Sixteen individuals were identified as having died as result of the waste by the Ivorian Ministry of Finance for the purposes of compensating their relatives, Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 14 June 2007, available at www.dechetstoxiques.gouv.ci/pdf/communiqué-du-porte-parole-du-pr.pdf. Seventeen deaths were recorded by the Ivorian criminal court, Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008, p41.
194. An evaluation by a team of psychologists who treated people in the aftermath of the crisis noted that violent outbursts against the government authority were linked to anxiety about exposure to the waste. Association des jeunes psychologues de Côte d'Ivoire, Assistance psychologique aux victimes des déchets toxiques, rapport de la phase critique de la crise des déchets toxiques, December 2006.
195. Amnesty International interviews with affected individuals, Abidjan, February 2009.
196. Conference of the Parties (COP) Basel Convention, *Provisional report evaluating the chemical Pollution in Côte d'Ivoire and technical assistance for the protection of the environment and health, Plan of urgent action, plan of medium-term action*, Nairobi, undated, p5: "It has been noted through the various investigations that the dumping of toxic waste in highly populated zones had an important psychological impact on the exposed populations but also on the population as a whole. The impact was aggravated by the lack of knowledge on the chemical risks and the consequences of health."
197. OCHA Situation Report No. 1 (www.onuci.org/OCHA-Situation-Report-No-1).
198. OCHA, Situation Report No. 1, 7 September 2006, p1.
199. Cellule opérationnelle de coordination du Plan National de Lutte contre les Déchets toxiques. Note aux Rédactions Numéro 005/27-09/06-CICG, 27 September 2006, p1. "Prohibition of all activities (farmland, fishing and little commerce) in zones situated next to the zones infected by the toxic waste", WHO, *Position on Toxic Waste in Côte d'Ivoire*, SITREP No. 6, 16 September 2006, p1.
200. Ministère de la Production Animale et des Ressources Halieutiques, Résumé de la contribution du Ministère de la Production et des Ressources Halieutiques à la gestion de la crise les [sic] déchets toxiques, 16 May 2007, pp9, 10. A WHO report notes: "Closure of slaughterhouses around the toxic waste sites. Destruction of farm land located in a 500m perimeter from the affected sites, including all the crops that have been pricked [sic] since the spill. The government will compensate the farmers." WHO, *Position on Toxic Waste in Côte d'Ivoire*, SITREP No7, 19 September 2006, p1.
201. Amnesty International interviews, Abidjan, February 2009.
202. UNEP, *Côte d'Ivoire Seeks Assistance to Mitigate Toxic Waste Crisis*, 8 September 2006, available at www.unep.org/Documents.Multilingual/Default.asp?DocumentID=487&ArticleID=5346&I=en (accessed May 2012).
- On 4 September 2006 the government officially requested international assistance, Office for the Coordination of Humanitarian Affairs (OCHA), Situation Report No.1 *Toxic waste pollution crisis Côte d'Ivoire*, 7 September 2006, p1 (www.reliefweb.int/rw/RWB.NSF/db900SID/KKEE-6TEMPC?OpenDocument, (accessed 13 March 2012)).
- In November 2006 the Prime Minister made a further call for aid to pay the \$30 million cost of decontamination, "Côte d'Ivoire appeals for help to clean up toxic waste", *Terra Daily*, 29 November 2006, available at www.terradaily.com/reports/Ivory_Coast_Appeals_For_Help_To_Clean_Up_Toxic_Waste_999.html (accessed 13 March 2012). Initially US\$13.5 million had been requested.
203. "Je remets en vos mains la démission de mon gouvernement. La situation est grave et exige une réponse grave", www.lemonde.fr/afrique/article/2006/09/07/demission-du-gouvernement-ivoirien-apres-une-pollution-mortelle-de-dechets-toxiques_810339_3212.html (accessed 13 March 2012).
204. RFI, "Le gouvernement balayé par les déchets toxiques", 7 September 2010, available at www.rfi.fr/actufr/articles/081/article_46006.asp (accessed 13 March 2012).
205. Bilan Partiel de la gestion du volet sanitaire de la crise des déchets toxiques par le ministère de la santé et de l'hygiène publique, Octobre 2006. Attached to Witness Statement of Jean Denoman, *Yao Essaie Motto v Others and Trafigura Limited and Trafigura Beheer BV*, "Witness statement of Jean Denoman" in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, 2 December 2006.
206. Plan stratégique national 2006-2009 de lutte contre les déchets toxiques du *Probo Koala* et leur impact sur l'environnement et la santé de la population, December 2006, p5.
207. Plan stratégique national 2006-2009 de lutte contre les déchets toxiques du *Probo Koala* et leur impact sur l'environnement et la santé de la population, December 2006, p5.
208. UN, Office for the Coordination of Humanitarian Affairs, OCHA/GV 2006/O202, OCHA Situation Report No. 10, *Toxic waste pollution crisis*, Côte d'Ivoire, para 10, 27 September 2006. OCHA Situation Report No. 11, *Toxic waste pollution crisis*, Côte d'Ivoire, OCHA/GVA 2006/O204, para 7, 30 September 2006.
- UN News Service, "Côte d'Ivoire: UN sends team to help coordinate response to deadly toxic waste crisis", 11 September 2006. Embassy of the United States, "American Aid & Experts to Assist Those Affected by Toxic Waste", 21 September 2006. WHO, 'Position on Toxic Waste in Côte d'Ivoire', SITREP No. 8, 21 September 2006, p1.
209. National Institute of Public Hygiene, Section 5.2.1.
210. WHO, media report, "Chemical dump in Côte d'Ivoire" 15 September 2006. See: www.who.int/mediacentre/news/notes/2006/np26/en/index.html (accessed 13 March 2012).
211. Hôpital Militaire d'Abidjan, "Bilan de Gestion des Victimes de Déchets Toxiques", 30 November 2006, p2. Attached to Yao Essaie Motto & Others and Trafigura Limited and Trafigura Beheer BV: "In the end, the operation took place from 25 August to 31 October, on which date an end was put to it, owing to the rarity of new cases of intoxication."

ENDNOTES

212. INPH, Section 4.10.
213. INPH Study, Section 5.3.1.
214. INPH Study, Section 5.4.1.
215. INPH Study, Section 5.4.1.
216. INPH Study, Section 5.4.4. See table XVII.
217. INPH Study, Section 5.4.2.
218. Dr K. Amnesty International interview, June 2011, by phone.
219. Dr K. Amnesty International interview, June 2011, by phone.
220. Dr K. Amnesty International interview, June 2011, by phone.
221. Centre Suisse de Recherches Scientifiques en Côte d'Ivoire, Results of Fieldwork conducted between 9 October 2006 and 28 December 2006, Document 2: Epidemiological Section, p31.
222. *Yao Essaie Motto v Others and Trafigura Limited and Trafigura Beheer BV*, "Witness statement of Tiemoko Bleu (GP in the military hospital in Abidjan during the crisis)", in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, undated, para 14; 18 (Leigh Day translation).
223. Angèle N'Tamon, Djibi village nurse, Amnesty International mission in Côte d'Ivoire, February 2009.
224. Dr Bleu noted cardiovascular problems among patients; Dr Bleu, interview with Amnesty International, June 2011; Dr K. and Dr Konan noted gynaecological problems, including cases of miscarriages – interviews with Amnesty International, December and January 2010.
225. Dr Bleu, interview with Amnesty International, June 2011, Dr K and Dr Ipodou, witness statements, "Witness statement of Tiemoko Bleu", in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, 4 December 2008; Amnesty International interview, June 2011 (by phone).
226. Focus group interviews with women in Djibi village, Amnesty International mission in Côte d'Ivoire, February 2009.
227. INPH Study, table xii, section 5.3.4.1.
228. WHO, media report, "Chemical dump in Côte d'Ivoire", 15 September 2006. See: www.who.int/mediacentre/news/notes/2006/np26/en/index.html (accessed 20 October 2011)
229. Amnesty International interview, June 2011.
230. Amnesty International interview, June 2011.
231. Amnesty International interview, June 2011.
232. Dr A, witness statements, "Witness statement of Dr A", in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, 4 December 2008.
233. Dr Bleu, Amnesty International interview, June 2011.
234. International Federation of Red Cross and Red Crescent Societies, *Côte d'Ivoire, Health Hazard*, LD00279, 11 July 2007, p1.
235. Fifteen deaths were recorded in the findings of an independent inquiry set up by the Ivorian Prime Minister (International Commission of Inquiry on Toxic Waste, 19 February 2007, p2). This figure was also cited in the report of Special Rapporteur on Toxic Waste, Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 31, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf. Sixteen individuals were identified as having died as result of the waste by the Ivorian Ministry of Finance for the purposes of compensating their relatives, Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 14 June 2007, available at www.dechetstoxiques.gouv.ci/pdf/communiqué-du-porte-parole-du-pr.pdf. Seventeen deaths were recorded by the Ivorian criminal court, Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008, p41.
236. INPH study, Section 5.4.5.
237. Section 5.4.5, table XVIII, INPH study.
238. Hydrogen sulphide, mercaptans, phenols and thiophenols were found after acidification of the samples with a hydrochloric acid solution. In the alkaline watery phase of the samples these components appear in the basic form, namely as sulphide, mercaptide, phenolate and thiophenolate. A range of mercaptans were identified in the mixture analysed by NFI, including methyl mercaptan, ethyl mercaptan, butyl mercaptan, propyl mercaptan, pentyl mercaptan, phenyl mercaptan, heptyl mercaptan. These compounds were identified in a mixture which had been acidified.
239. The pH of some of the waste fell below 11. Reply (*Trafigura Limited v. British Broadcasting Corporation* in the High Court of Justice, Queen's Bench Division, Claim No. HQ09X02050) served 20 November 2009, p31: "CIAPOL surveyed the dumpsite at Akouédo on 21 August 2006 (the third day after dumping took place). CIAPOL reported the pH value at that time to have reached 10.5." "The report prepared by the French Civil Protection Team dated 13 September 2006 showed the soil at Akouédo to be between pH 9 – pH 10 (this sample was taken after the heavy rains on the night of 3-4 September 2006). Trafigura made "an estimate (p34) of the most rapid likely reduction in pH over time" and that "after around 22 days the pH would drop to 9.5." Well before this the majority of mercaptans would have evaporated with their rate of evaporation reaching maximal values when the pH was between 10.6 and 11. The time taken to reach these higher pH values can only be surmised.
240. Amnesty International and Greenpeace consulted Dr Alastair Hay, Professor of Environmental Toxicology, University of Leeds.
241. Benzene can be absorbed into the body either by inhalation, through the skin, or by ingestion. The chemical is irritating to the eyes, the skin, and the respiratory tract, and any swallowing may cause aspiration into the lungs with the risk of a chemical pneumonitis (oedema, or water retention in the lungs). There may be effects on the central nervous system resulting in the lowering of consciousness. If the concentration is high enough, individuals may become unconscious and die. The effects of inhalation include dizziness, drowsiness, headache, nausea, shortness of breath, convulsions and unconsciousness. The chemical may be absorbed across the skin and, as it removes fat from the skin, the skin will become dry, red and painful. Exposure of the eyes will cause them to become red and painful. Any ingestion will result in abdominal pain, sore throat and vomiting. Exposure to benzene can have effects on the bone marrow and the immune system, and chemical is a recognized cancer-causing agent in humans. Toluene is solvent which is irritating to the eyes and respiratory tract. Like all solvents it has effects on the central nervous system, causing an increasing loss of consciousness as concentrations increase. In high concentrations there may be cardiac dysrhythmia (heart irregularities) and unconsciousness. On inhalation, individuals complain of a cough, sore throat, dizziness, drowsiness, headache and nausea, and may become unconscious. The effect on the skin is to dry it and for it to become red and painful after exposure. Toluene removes fat from the skin and if there is repeated exposure. After ingestion there will be a burning sensation in the intestinal tract and abdominal pain. The effects of inhalation exposure to xylenes are dizziness, drowsiness, headache and nausea. The chemical will irritate the eyes, causing them to become red and painful. The effect on the skin is to dry it and remove fat; the skin will also become red and irritated. Like many solvents, xylenes have an effect on the central nervous system and the higher the concentration the greater the effect. If the concentration is sufficient, individuals will lose consciousness. On ingestion xylenes will cause a burning sensation in the oesophageal tract as well as abdominal pain.

242. *Trafigura Amended Defence*, 5 December, para 80 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370), para 282.
243. Leigh Day & Co and Trafigura, *Agreed Joint Statement*, 19 September 2009, available at www.trafigura.com/our_news/probo_koala_updates.aspx (accessed 13 March 2012), stated: "... the slops could at worst have caused a range of short term low-level flu like symptoms and anxiety".
244. www.rnw.nl/english/article/greenpeace-trafigura-advertisement-was-misleading (accessed 19 June 2012); www.trafigura.com/our_news/probo_koala_updates/articles/trafigura_and_the_probo_koala.aspx (accessed 19 June 2012); www.ethicalcorp.com/communications-reporting/trafigura-%E2%80%93-toxic-ethics. Trafigura director Eric de Turckheim said after the settlement: "From day one, we maintained that the 'trial by media' initiated against us by Leigh Day & Co, and subsequently taken up by journalists working for the BBC and the Guardian, Independent, NRK in Norway, and Volkskrant and Greenpeace in Holland amongst others, was utterly wrong and inappropriate. The English legal system, and not the media, should have been the sole arbiter of this entire process."
245. Amnesty International English translation of verdict on *Trafigura Beheer BV*, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 6.1.6.2.
246. Amnesty International English translation of verdict on *Trafigura Beheer BV*, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 6.10
247. www.trouw.nl/tr/nl/4324/nieuws/article/detail/1114927/2010/07/24/Rechter-laait-weinig-heel-van-verweer-Trafigura.dhtml (accessed 19 June 2012)
248. www.greenpeace.nl/Nieuws_2011/Gif-of-geen-gif-hoe-Trafigura-haar-sstraatje-schoonveegt/ (accessed 19 June 2012)
249. www.jaffevink.nl/ (accessed 19 June 2012)
250. archieff.nrc.nl/index.php/2011/November/14/Binnenland/06/Greenpeace+was+spil+in+info+over+gifschip/check=Y (accessed 19 June 2012)
251. *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV*, "Witness statement of Tiemoko Bleu (GP in the military hospital in Abidjan during the crisis)", in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, undated, para 14,18 (Leigh Day translation).
252. Witness statements taken from doctors show how the medical personnel who responded to the crisis struggled, because they, too, were affected by the waste. Witness statement of Enokou Leon Assoa, Military Hospital employee: "...because the odour at the hospital itself was so unbearable, many of the hospital staff stayed away from work for several days." *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV*, "Witness statement of Enokou Leon Assoa – HMA employee", in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, 6 August 2008, para 11 (Leigh Day translation).
253. WHO, *Position on Toxic Waste in Côte d'Ivoire*, SITREP No5, 13 September 2006, p1.
254. WHO, *Position on Toxic Waste in Côte d'Ivoire*, SITREP No. 5, 13 September 2006.
255. International Federation of Red Cross and Red Crescent Societies, *Côte d'Ivoire, Health Hazard, Final Report*, DREF Bulletin, 11 July 2007, p3, available at www.ifrc.org/docs/appeals/06/MDRCIO01fr.pdf (accessed 20 October 2011)
256. Dr K. Amnesty International interview, June 2011.
257. Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 60, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf (accessed May 2012).
258. Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 60, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf (accessed May 2012).
- BA-NDAW Safiatou, *Cellule opérationnelle de coordination du Plan National de Lutte contre les Déchets toxiques*, 'Synthèse Communication sur la crise des déchets toxiques dans le district d'Abidjan', 29 November 2006.
259. *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV*, "Witness statement of Yao Essaie Motto", in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, 3 March 2008, paras 22,23 (Leigh Day translation).
260. *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV*, "Witness statement of Manasse Goule (SAMU's GP)", "Witness statement of Manasse Goule (SAMU's GP)", in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, undated, paras 15-16 (Leigh Day translation).
261. "The operation took place from 25 August to 31 October, when the government took the view that cases of intoxication were fewer." Hôpital Militaire d'Abidjan, "Bilan de Gestion des Victimes de Déchets Toxiques", 30 November 2006, p2. Attached to *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV*, "Witness statement of Tiemoko Bleu", in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370, HQ06X03393, HQ07X00599, HQ07X01068, HQ07X01604, HQ07X02192, 4 December 2008. www.onuci.org/pdf/situationpenitentiaires.pdf
262. In November 2006, there were between 4,350 and 4,500 inmates. ONUCI, "Rapport sur la situation des établissements pénitentiaires en Côte d'Ivoire", available at www.onuci.org/pdf/situationpenitentiaires.pdf p30 (accessed 13 March 2012).
263. Dr Bouaffou, prison doctor, Amnesty International interview, June 2011, by phone.
264. Amnesty International interviews, February 2009 (in Abidjan) and June 2011, by phone.
265. Dr Bouaffou, Amnesty International interview, February 2009 and June 2011.
266. Dr Bouaffou, Amnesty International interview, June 2011.
267. Amnesty International interview, June 2011.
268. Amnesty International interview, June 2011.
269. Dr Bouaffou, Amnesty International interview, February 2009 and June 2011.
270. Dr Bouaffou, Amnesty International interview, February 2009
271. Dr Bouaffou, Amnesty International interview, February 2009 and June 2011.
272. Witness statement of a member of the Collectif des Travailleurs de Vridi, Interview with Amnesty International mission in Côte d'Ivoire, February 2009.
273. The incidents of public protest were reported in the local and international media at the time. See, for example, *Terra Daily*, "Residents Riot as Côte d'Ivoire Promises Start to Toxic Waste Clean-up", 15 September 2006, at: www.terradaily.com/reports/Residents_Riot_As_Ivory_Coast_Promises_Start_To_Toxic_Waste_Clean-Up_999.html. *Los Angeles Times*, "Ivoriens Incensed Over Toxins", 16 September 2006, at articles.latimes.com/2006/sep/16/world/fg-toxic16
274. WHO, *Position on Toxic Waste in Ivory Coast*, SITREP No. 3, 9 September 2006, p1.
275. Amnesty International interviews with Chef Motto, Françoise Kouadio and Dr K., May 2011, January 2012 and December 2010 respectively.
276. OHCA Situation Report No. 12, 4 October 2006.

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277. Report of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal on its eighth meeting (UNEP/CHW.8/16) available at www.basel.int/meetings/cop/cop8/docs/16e.pdf (accessed 24 October 2011) para 25.
278. BA-NDAW Safiatou, Cellule Opérationnelle de Coordination du Plan National de Lutte contre les Déchets Toxiques, "Synthèse Communication sur la crise des déchets toxiques dans le district d'Abidjan", 29 November 2006, p8 : "Dispositif d'information. Principe de transparence et d'interactivité avec le cœur de cibles à savoir les populations riveraines des sites de déversement".
279. The website was at www.dechetstoxiques.gouv.ci indicated by BA-NDAW Safiatou, Cellule Opérationnelle de Coordination du Plan National de Lutte contre les Déchets Toxiques, "Synthèse Communication sur la crise des déchets toxiques dans le district d'Abidjan", 29 November 2006, p1.
280. BA-NDAW Safiatou, Cellule Opérationnelle de Coordination du Plan National de Lutte contre les Déchets Toxiques, "Synthèse Communication sur la crise des déchets toxiques dans le district d'Abidjan", 29 November 2006; Conseils et Recommendations, available at www.dechetstoxiques.gouv.ci/pdf/CONSEILS%20ET%20RECOMMANDATIONS%202.pdf (accessed 13 March 2012).
281. International Federation of Red Cross and Red Crescent Societies, Côte d'Ivoire, *Health Hazard, Final Report*, DREF Bulletin, 11 July 2007, p2, available at www.ifrc.org/docs/appeals/06/MDRCIO01fr.pdf (accessed 13 March 2012).
282. For example in mid-September, a UN delegation visiting Akouédo village noted that the local population "clearly asked" "for a public conference of the Authorities to explain to them what exactly is happening and what measures are to be taken." WHO, *Position on Toxic Waste in Côte d'Ivoire*, SITREP No. 5, 13 September 2006, p1.
283. Testimonies of Rachel Gogoua, Françoise Kouadio, interview with Amnesty International February 2009.
284. Conference of the Parties (COP) Basel Convention, *Provisional report evaluating the chemical Pollution in Côte d'Ivoire and technical assistance for the protection of the environment and health, Plan of urgent action, plan of medium-term action*, Nairobi, undated, p5: "It has been noted through the various investigations that the dumping of toxic waste in highly populated zones had an important psychological impact on the exposed populations but also on the population as a whole. The impact was aggravated by the lack of knowledge on the chemical risks and the consequences of health."
285. Between 19 September and November 2006, 1,974 victims were seen by psychologists. (Source: Association des jeunes psychologues de Côte d'Ivoire, *Assistance psychologique aux victimes des déchets toxiques, rapport de la phase critique de la crise des déchets toxiques*, December 2006), p5.
286. Association des jeunes psychologues de Côte d'Ivoire, *Assistance psychologique aux victimes des déchets toxiques, rapport de la phase critique de la crise des déchets toxiques*, December 2006), p6.
287. WHO, '*Position on Toxic Waste in Côte d'Ivoire*', SITREP No. 1, 6 September 2006, p1: "B-Humanitarian situation – Displacement of families". "Il a entraîné des déplacements massifs des populations dans les zones fortement adjacentes aux sites de déversement des déchets toxiques tels que Akouédo, les quartiers Lauriers 8 et 9, Génie 2000, etc.", Plan stratégique national 2006-2009 de lutte contre les déchets toxiques du *Probo Koala* et leur impact sur l'environnement et la santé de la population, December 2006, p3
288. Centre Suisse de Recherches Scientifiques en Côte d'Ivoire, Results of Fieldwork conducted between 9 October 2006 and 28 December 2006, Document 2: Epidemiological Section, pp14-5.
289. Testimonies from victims interviewed by Amnesty in February 2009, including Françoise Kouadio and Chef Motto.
290. Testimonies from victims interviewed by Amnesty in February 2009, including Chef Motto.
291. Letter from the Fédération Nationale des Industries et Services de Côte d'Ivoire to the Ministry of Health and Hygiene public, 25 August 2006.
292. WHO, '*Position on Toxic Waste in Ivory Coast*', SITREP No. 6, 16 September 2006, p1 "Most companies around the port zone of Vridi Canal have been closed".
293. Witness statement of a member of the Collectif des Travailleurs de Vridi, interview with Amnesty International, mission in Côte d'Ivoire in 2009.
294. BA-NDAW Safiatou, Cellule Opérationnelle de Coordination du Plan National de Lutte contre les Déchets Toxiques Note aux Rédactions Numéro 005/27-09/06-CICG, 27 September 2006, p1. "Prohibition of all activities (farmland, fishing and little commerce) in zones situated next to the zones infected by the toxic waste", WHO, *Position on Toxic Waste in Côte d'Ivoire*, SITREP No. 6, 16 September 2006, p1.
295. Ministère de la Production Animale et des Ressources Halieutiques, Résumé de la contribution du Ministère de la Production et des Ressources Halieutiques à la gestion de la crise les [sic] déchets toxiques, 16 May 2007, pp9-10. A WHO report notes, "Closure of slaughterhouses around the toxic waste sites. Destruction of farm land located in a 500m perimeter from the affected sites, including all the crops that have been picked since the spill. The government will compensate the farmers." WHO, *Position on Toxic Waste in Côte d'Ivoire*, SITREP No. 7, 19 September 2006, p1.
296. Plan stratégique national 2006-2009 de lutte contre les déchets toxiques du *Probo Koala* et leur impact sur l'environnement et la santé de la population, p7.
297. Ministerial note number 1676, 11 September 2006 as cited in Plan stratégique national 2006-2009 de lutte contre les déchets toxiques du *Probo Koala* et leur impact sur l'environnement et la santé de la population, December 2006, p7.
298. Plan stratégique national 2006-2009 de lutte contre les déchets toxiques du *Probo Koala* et leur impact sur l'environnement et la santé de la population, December 2006, p7.
299. NFI expert report, Ministry of Justice, Netherlands Forensic Institute, 29 January 2007, Odour incident, APS Amsterdam.
300. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, French version, in the annexes the AVR analyses are included dated 03-07-2006.
301. ATM Afvalstoffen Terminal Moerdijk, Analysis of sample 3 July 2006. Report published: 8 September 2006.
302. "Evidence Overview of Amsterdam Port Services B.V.", E.M. Uittenbosch, City Authority of Amsterdam Fact 1: section 10.37 of the Environmental Management Act, Rotterdam 25 May 2010, I.W. Boogert en R.S. Mackor Public Prosecutors, pp. 20-1.
303. Amnesty International English translation of verdict on *Trafigura Beheer BV*, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.9.
304. This was based on what was measured by ATM Moerdijk as 475,600 mg/l on a sample sent by APS on July 3, 2006.
305. ATM Afvalstoffen Terminal Moerdijk, Analysis of sample 3 July 2006. For information on flashpoint, see: European Waste Catalogue and Hazardous Waste List www.environ.ie/en/Publications/Environment/Waste/WEEE/FileDownload,1343,en.pdf.
306. To test for sediments, they would have had to use specialist sampling equipment (absolute bottom sampler), designed to pick up sediments from the bottom of tanks. The choice of NFI to take a running sample was deliberate as it would give a better reflection of the composition of the waste than the combination of a top, middle and bottom sample. (p9 NFI Expert Report "Op 3 juli 2006 heeft het NFI (dhr Bakker) de politie (dhr. J.vd Kamp) geadviseerd over de monstername, Door het NFI is voorgesteld om, indien praktisch mogelijk, monsters te nemen over de gehele diepte van de te bemonsteren tank (zogenaamde running sample), omdat een running sample in principe een completer beeld van de samenstelling van de lading geeft dan de combinatie van een top-, midden, en bodemonster. English translation: "On 3 July 2006 NFI (Mr F. Bakker) notified the police (Mr J. vd Kamp) of the sampling exercise. NFI proposed that, insofar as possible, samples should be taken from all depths of the tank concerned (so called running samples), because in principle a running sample provides a clearer picture of the cargo's composition than the combination of a top, middle and bottom sample." Police officer J. vd Kamp has confirmed to Greenpeace that they did not sample the sediment of the *Probo Koala* waste, 21 March 2012.

307. This was reported during the criminal court hearing in Amsterdam, on June 10 2010. The Judge read out an email saying: "It is very likely that we find solid residues in the cargo tanks and slop tanks due to the caustic washings, these may include caustic soda, sodium sulphide, sodium hydrosulphide and sodium mercaptides Notes taken by Greenpeace.
308. Report Accident investigation following the Vest Tank explosion at Slovag, Revision O3, English version, Bergen, 26 September 2008, available at www.dsb.no/Global/Farlige%20stoffer/Dokumenter/Report_accident_vest_tank.pdf (accessed May 2012)
309. From written testimony from one of the truck drivers to Trafigura. Deposition de [withheld] to Trafigura, February 11, 2009, English translation from para 58: "Je n'ai pu remplir qu'une demi-citerne, soit entre 10 et 15.000 litres. Le liquide était alors très lourd – presque comme de la boue liquide. C'était une sorte de boue épaisse et rougeâtre.
310. Basel Convention, Article. 2 (1).
311. Basel Convention, Article 2 (4)
312. energiaadebate.com/wp-content/uploads/2011/10/Baker1.pdf, available at energiaadebate.com/wp-content/uploads/2011/10/Baker1.pdf (accessed May 2012)
313. The material which left PEMEX was as described in the Material Safety Data Sheet as "coker gasoline". (PEMEX Refinacion Material Safety Data Sheet (coker gasoline) September 9, 2005) Trafigura, however, has always referred to the cargoes as coker naphtha. It is unclear why different terms are used by different people. However, as the properties that are attached to coker gasoline as described in the MSDS from PEMEX are similar to the properties attached to coker naphtha as found in the literature it would appear that these are interchangeable terms for the same type of substance. Coker gasoline and coker naphtha as well as the composition of the waste that was created after the caustic washing all present several similar generic hazards because of the presence of *toxic, irritant and flammable* compounds.
314. Basel Convention, Article 1(1.a). Also, under Article 1(1.b), wastes that are not covered under paragraph 1.a but are defined as, or considered to be, hazardous wastes by the domestic legislation of the Party of export, import or transit."
315. Coker naphtha is included in the following, listed under Annex I of the Basel Convention: -Y9 (Waste streams) Waste oils/water, hydrocarbons/water mixtures, emulsions; and-Y42 (Wastes having as constituents) Organic solvents excluding halogenated solvents. Coker naphtha is therefore presumed to be a hazardous waste.
316. Annex III lists the following: H1: Explosive; H3: Flammable liquids; H6.1: Poisonous (Acute). Substances or wastes liable either to cause death or serious injury or to harm health if swallowed or inhaled or by skin contact. Annex VIII of the Basel Convention (further clarified and presumed hazardous wastes) provides a non-exhaustive listing of wastes presumed to be hazardous. Although "coker naphtha" is not specifically named in this Annex, it is Annex I and III that are the definitive guide to the definition of hazardous waste. In any case Annex VIII includes: A3150 Waste non-halogenated organic solvents; A4060 Waste oils/water, hydrocarbons/water mixtures, emulsions; and A4080 Wastes of an explosive nature.
317. This information was collected by Greenpeace Netherlands during evidence given during the trial in the Dutch criminal proceedings in June 2010 against Trafigura and was based on a big map displayed in the court room of the District Court of Amsterdam.
318. Basel Convention, Art. 4.5 and Art. 11.
319. Such a Basel-sanctioned multilateral agreement as stipulated in Basel Article 11 must contain similar provisions to that as the Basel Convention, such as the requirements for environmentally sound management and prior informed consent. Indeed, the OECD accord does have such a notification and consent requirement.
320. Basel Convention, Art. 9 and Art. 4, para 3.
321. In September 2011, a group of experts in international law gathered in Maastricht, under the auspices of the International Commission of Jurists and Maastricht University, to discuss the extent and the scope of obligations under the ICESCR, and they adopted the Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights. The principles are available at www.maastrichtuniversity.nl/humanrights.
322. Principle 13, the Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights, available at www.maastrichtuniversity.nl/humanrights.
323. Trafigura Beheer BV was found guilty of "violation of a regulation set out in Section 10.60, second paragraph of the Environmental Management Act, committed intentionally by a legal entity", Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 15 and para 8.3.2.15.
324. Internal Trafigura email from a London based employee to colleagues including directors, dated 28 December 2005 (rec# 7696 Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
325. See: www.trafigura.com/PDF/Trafigura%20%20The%20Probo%20Koala%20110721%20v2.pdf
326. Internal Trafigura email from London based employee to colleagues including directors, dated 28 December 2005 (rec# 7696 Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
327. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.2.8.
328. Internal email between Trafigura and Falcon Navigation dated 10 March 2006 (rec# 6580, Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
329. Internal email between Trafigura and Falcon Navigation dated 13 March 2006 (rec# 6580, Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
330. Internal email between Trafigura and Falcon Navigation dated 21 June 2006 (rec# 7400 in application notice for Claim No. HQ06X03370 and others for the High Court of Justice, Queen's Bench Division).
331. Data from the Yearbook 2010 of the "Maritime Safety and Security Bureau" – Spanish Ministry of Public Works.
332. *The Guardian*, UK, "Bay of Gibraltar is 'disaster waiting to happen'", 6 September 2011. See: www.guardian.co.uk/environment/2011/sep/06/bay-of-gibraltar-shipping-pollution (last accessed May 2012).
333. "Gibraltar: Controversia y Medio Ambiente", Jesús Verdú Baeza. Ed. Dykinson, 2008 Treaty Establishing the European Community ("TEC") applies to Gibraltar by virtue of Article 299(4) of that Treaty but provisions relating to the Community Customs Territory, free movement of goods, Common Commercial Policy, Common Agricultural and Fisheries Policies and harmonization of turnover taxes do not apply to Gibraltar.
334. For more information: www.greenpeace.org/international/publications/oceansrescueplan
335. Internal Trafigura email dated 27 December 2005 (rec# 5914, Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
336. Meeting minutes Al-Trabsa Technical Administration Al-Skhirra 15 March 2006, (Rec# 13571 from application notice for claim No. HQ06X03370 and others for the High Court of Justice, Queen's Bench Division) state: "damages occurred to the employed such as suffocation".
337. Meeting minutes of Al-Trabsa Technical Administration Al-Skhirra 17 March 2006 (Rec# 13570 from application notice for claim No. HQ06X03370 and others for the High Court of Justice, Queen's Bench Division): "... in the wake of the incident of the leakage of H₂S and other Sulphur gases on 14 March 2006. Whereas we undertook a meeting on 15 March to reach a solution for the case and demand TankMed to take necessary procedure to prevent the above mentioned gas leakage. Whereas the case is still causing problems in the area including admitting three people to local hospitals in La Skhirra..."

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338. Meeting minutes of Al-Trabsa Technical Administration Al-Skhira 15 March 2006 (Rec# 13571 from application notice for claim No. HQ06X03370 and others for the High Court of Justice, Queen's Bench Division). At the meeting it was agreed that: "Petrol containing high levels of Sulphur or similar substances that cause similar environmental problems shall not be accepted".
339. Rapport de missions, Terminal Pétrolier de La Skhira, Centre International des Technologies de l'Environnement et du Développement Durable, République Tunisienne, April 2006, Section 7 (English translation).
340. Email from Univar employee to Trafigura dated 7 April 2006, (US Files).
341. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.12.
342. Evidence Overview for Trafigura Beheer BV., N. Ahmed, S Chertov Facts: section 174 of the Dutch Penal Code and section 225 of the Dutch Penal Code.; Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.8.
343. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.8.
344. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.8.
345. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370), para 80.
Internal Trafigura memorandum dated 23 September 2006, para 4, page 3.
346. Internal Trafigura memorandum dated 23 September 2006, paras 20, 21 and 22, 5.
347. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 15. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part VI Decisions available in Dutch at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIIgeanonimiseerd.pdf Amnesty International translation p23.
348. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.10.
349. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.9. A quote from a letter dated 28 January 2010 from the expert Bakker of the NFI.
350. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.12.
351. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.12.
352. English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.16.
353. English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.17.
354. Internal Trafigura email dated 28 December 2005 (rec# 5914 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370)
355. Trafigura Annual Report 2006.
356. Council Regulation (EEC) No 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community
357. English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS).
358. Internal Trafigura email dated 28 December 2005 (rec# 7696 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
359. English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS).
360. International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL)
361. Centre for International Environmental Law, Issue Brief: "Normal Operations of a Ship" in MARPOL: A Review of MARPOL's Travaux" 26 June 2012.
362. Internal Trafigura email dated 28 December 2005 (rec# 7696 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No HQ06X03370).
363. Verdict on Naeem Ahmed LJN (National Case Law Number): BN2149, District Court of Amsterdam , 13/846003-08(PROMIS).
364. Verdict on Naeem Ahmed LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-08(PROMIS), para 8.3.1.6
365. Internal Trafigura email dated 17 August 2006 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
366. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.2.2: "With regard to the charge under 1, the defence has – summarised briefly – put forward the point that the EWSR does not apply in this case. All of the waste which is generated on board the ship is regulated by MARPOL, and falls under the exceptional provision of the EWSR. No meaning may be attributed to the stanza, 'generated by the normal operation of a ship', or at least not in any way that is relevant to this case. The EWSR exceptional provision only applies if the waste has been brought on land, and that it has moreover undergone a change in its nature, through mixing or contamination. This was not the case during the pumping operation which took place from the *Probo Koala* to the Main VII, and vice versa. The slops therefore fell under MARPOL and continue to do so. The regimes of the EWSR and MARPOL are mutually exclusive."
367. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.2.7.
368. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.2.7.
369. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.2.7.
370. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.2. 8
371. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.2.8.
372. Judgement, Netherlands Court of Appeal, December 2011.
373. Greenpeace Netherlands translation of court verdict on Trafigura Beheer BV from 23 December 2011, LJN (National Case Law Number): BU9237, Court of Appeal, 23-003334-10, para 4.2.4 "
374. The court of Appeal explained in detail how they reached that conclusion. Very little attention was given in the judgement to the issues of MARPOL and EWSR with regard to possibility that both might apply at different points.

- W.Th. Douma and J.H.A. van Ham, MenR 2012/42 - annotation to Court of Appeal Amsterdam 23 December 2011, case nr. 23-003334-10, LJN BU9237, in: Tijdschrift Milieu en Recht, nr. 3, March 2012, p. 211-220.
375. The MARPOL Convention, in Article 11, subsection (d), designates a list of receiving facilities in each state including their location and their capacity.
376. UNEP/CHW/OEWG/6/2, annex, para. 3 (f), cited in Okechukwu Ibeanu, Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 80, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf
377. Internal Trafigura email dated 17 August 2006 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
378. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp 68-69.
379. www.greenpeace.org/africa/en/News/news/Trafigura-new-corruption-charges (accessed 24 March 2011).
380. Email 28 January 2011 from Greenpeace to Trafigura's PR company Van Kempen and followed by a telephone call on 31 January 2011.
381. Procès Verbal Claude Dauphin, 28 Septembre 2006, Parquet No. 38/2006.
382. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p27.
383. Internal Trafigura memorandum dated 23 September 2006, paras 20-23, p5.
384. Internal Trafigura email dated 24 August 2006 (rec# 8254 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
385. Internal Trafigura email dated 24 August 2006 (rec# 9417 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
386. Internal Trafigura email dated 25 August 2006 (rec# 9417 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
387. Statement by Trafigura, 12 June 2009 available at image.guardian.co.uk/sys-files/Guardian/documents/2009/06/12/StatementofTrafigura120609.PDF
388. Okechukwu Ibeanu, Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 80, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf
389. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp61-2.
390. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp67-8.
391. Statement by Trafigura, 13 May 2009, available at news.bbc.co.uk/2/hi/programmes/newsnight/8049024.stm (accessed May 2012).
392. Environmental Protection Act, 1990, available at: www.legislation.gov.uk/ukpga/1990/43/contents
393. Email from Trafigura to Univar dated 6 April 2006 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
394. Email from Falcon Navigation to the Captain of the *Probo Koala* dated 15 April 2006 (rec# 13228 Analysis of this slops resulted into a c.o.d. content of 500.000 Therefore the slopdisposal [sic] cost are extremely higher than offered viz. euro 1000,-/cbm." in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
395. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.14: "BMA faxed a 'Notification of ships waste and (remainders of) noxious substances' to the port authorities. On this form, "1203 WATER" was filled in for the section "Name of substance or UN number", and "554 m³" was filled in for "Amount of waste to be delivered".
396. Notification of ships' waste and (remainders of) noxious substances (rec# 10130 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
397. Evidence overview Trafigura Beheer BV, N. Ahmed, S. Chertov, p14: "De kapitein verklaarde, daarnaar gevraagd, dat de slops bestonden uit waswater van het schoonmaken van tanks."
398. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370), para 64.
399. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, available in Dutch at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIIgeanonimiseerd.pdf (accessed 25 October 2010). Amnesty International English translation, p10.
400. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.5.
401. Verdict on Naeem Ahmed LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-08(PROMIS), para 1.3.3.3
402. Confirmed by public prosecutor to Greenpeace in a phone call on 24 October 2011.
403. Verdict on Naeem Ahmed LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-08(PROMIS), para 8.3.1.6
404. Verdict on Captain Chertov, LJN (National Case Number): BN2193, Rechtbank Amsterdam, 13/846004-08 (PROMIS) para 7
405. Verdict on Captain Chertov, LJN (National Case Number): BN2193, Rechtbank Amsterdam, 13/846004-08 (PROMIS) para 11.3.2
406. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part IV Consideration of punitive measures, available in Dutch at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIIgeanonimiseerd.pdf Amnesty International translation p14.
407. Internal Trafigura email dated 17 August 2006 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
408. Trafigura email dated 17 August 2006.
409. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370) paras 80-82.3.
410. Trafigura Amended Defence 5 December 2008 (*Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370) paras 80-82.3. Email from BMA to Trafigura c/o Falcon Navigation dated 3 July 2006 (rec# 4696 *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370): "Approx. 250 cbm slops were discharged last night. Analysis of this slops resulted into a c.o.d. content of 500.000 Therefore the slopdisposal [sic] cost are extremely higher than offered viz. euro 1000,-/cbm."
411. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 6.8.
412. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 6.9.
413. This was exposed during a court action in Norway and the issue was also covered in a Norwegian NRK television documentary programme, in June 2008. See: nrk.no/programmer/tv/brennpunkt/1.6104693

ENDNOTES

414. Norwegian NRK television documentary programme, in June 2008. See: nrk.no/programmer/tv/brennpunkt/1.6104693
415. Verdict 26-052011 Gulatin Court, case number 10-098238 AST-GULA/AVD1. "The cleaning/desulphurization included cargoes of coker gasoline of 30 000-40 000 m³ from the following ships: - Tanker Highland, reg. no.V7IK9 – Tanker Tver, reg. No ELT15, Tanker Actic Blizzard, Reg. No 9HNK8, Tanker Thorm Thyra, reg.no. OUVN2 – Tanker Puze reg.no V7KY8 – Tanker Afrodite, reg. No.C6UI7" and "In total around 180 000 m³ gasoline was delivered, washed and loaded at the installation."
416. Documentary programme by NRK (Norwegian Broadcasting Corporation), Brennpunkt, "Vest Tank was washing 'dirty gasoline'" (Vest Tank vasket skitten bensin), 19 June 2008. See: www.nrk.no/programmer/tv/brennpunkt/1.6053050
417. Documentary programme by NRK (Norwegian Broadcasting Corporation), Brennpunkt, "Vest Tank was washing 'dirty gasoline'" (Vest Tank vasket skitten bensin), 19 June 2008. See: www.nrk.no/programmer/tv/brennpunkt/1.6053050
418. Air samples were then found to contain hydrocarbons and mercaptans: "mercaptans and hydrocarbons existed in the tests near Vest Tank" – Report – Air samples for analysis of sulphurous compounds and solvents, X-LAB AS, June 2007, p3.
419. Reuters, "Norway probes Trafigura over fuel transport", 2 July 2008, available at uk.reuters.com/article/2008/07/02/norway-shipping-probe-idUKL0244000420080702
420. *Teknisk Ukeblad* (Weekly Norwegian magazine), 11 July 2009. See: www.tu.no/natur/artikkel214397.ece, internal translation, Report on the health problems in Gulen and Masfjorden communes after the accident at Vest Tank's facilities in Sløvåg, English translation, p9.
421. Reuters, 'Norway probes Trafigura over fuel transport', 2 July 2008, available at uk.reuters.com/article/2008/07/02/norway-shipping-probe-idUKL0244000420080702
422. a) The Norwegian Climate and Pollution Agency (klif)'s homepage, 31 May 2011. www.klif.no/no/Aktuelt/Nyheter/2011/Mai/Vest-Tank-leder-domt-i-lagmannsretten
b) Bergens Tidende (daily Norwegian newspaper) 31 May 2011. See: www.bt.no/nyheter/lokalt/Vest-Tank-leder-dmt-til-fengsel-2511577.html
423. NRK (Norwegian Broadcasting Corporation), 6 July 2010. See: www.nrk.no/nyheter/norge/1.7198583.
424. NRK (Norwegian Broadcasting Corporation), 6 July 2010: "–Vi har til det fulle demonstrert et stort hull i vårt lowerk når noen begår kriminalitet i internasjonalt farvann, og vi ikke får straffet dem i Norge, sier miljøvernminister Erik Solheim. Det er en helt uakseptabel situasjon som vi vil bruke internasjonalt initiativ for å rette opp i, sier Solheim. Vi skal også se om det er behov for endringer i norsk lowerk for å kunne straffe selskapet." www.nrk.no/nyheter/norge/1.7199059
425. This information was collected by Greenpeace Netherlands during evidence given during the trial in the Dutch criminal proceedings in June 2010 against Trafigura and was based on a map displayed in the courtroom of the District Court of Amsterdam.
426. Protocol of agreement (Protocole d'accord) between the State of Côte d'Ivoire and the Trafigura Parties, 13 February 2007, Article 4(2).
427. Appeal decision of the Netherlands Court of Appeal, 23 December 2011
428. CESCR, *General Comment 14: The right to the highest attainable standard of health (article 12)*, UN Doc E/C.12/2000/4, 11 August 2000, para 15.
429. CESCR, *General Comment 14: The right to the highest attainable standard of health (article 12)*, UN Doc E/C.12/2000/4, 11 August 2000, para 51.
430. CESCR, *General Comment 14: The right to the highest attainable standard of health (article 12)*, UN Doc E/C.12/2000/4, 11 August 2000, para 39.
431. Safe and healthy working conditions are a fundamental aspect of the right to work, Article 7 (b) provides that: The States Parties to the present Covenant recognize the right of everyone to the enjoyment of just and favourable conditions of work which ensure, in particular: ...b) safe and healthy working conditions.", International Covenant on Economic, Social and Cultural Rights.
432. Basel Convention.
433. Basel Convention.
434. Basel Convention, Article 2.8.
435. Basel Convention, Article 4.4.
436. Loi 88-651 du 7 juillet 1988 portant protection de la santé publique et de l'environnement contre les effets des déchets industriels toxiques et nucléaires et des substances nocives; Loi n° 96-766 du 3 octobre 1996 portant Code de l'Environnement; International Commission of Inquiry on Toxic Waste, 19 February 2007, p69.
437. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, National Commission of Enquiry on the Toxic Waste in the District of Abidjan, established under Arrêté No. 2006-167/PM/CAB, 15 September 2006, Article 2. See also: Toxic waste website created by the Ivorian government, www.dechetstoxiques.gouv.ci/faits1.php (accessed 13 March 2012).
438. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p17-23.
439. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p17.
440. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp58-9.
441. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p59.
442. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p69.
443. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp56-9.
444. Under the decree, the procedure for obtaining a licence is as follows: a request is sent by the managing director of Maritime Affairs and Port Authorities to the Licence Commission for consideration. If the Commission expresses a favourable view, the president of the Commission addresses a letter to the Minister in charge of marine trading for approval. This approval must then be given within 15 days. Decret n° 97-615 du 16 octobre 1997, portant réglementation de l'exercice de la profession d'avitailleur maritime dans les ports ivoiriens (Decree no.97-615 of October 1997, which contains the regulatory scheme for the carrying out of the maritime Chandler trade in the Ivorian ports). Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp17-19.
445. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp17-23.
446. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p21.
447. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p21. Procès Verbal Dan Pascal, 6 December 2006, Parquet No. 38/2006.
448. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp19-20, p57.
449. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp58-9.
450. Letter No. 00145/DOM/DMDGS/YAP/OG dated the August 9 2006 in accordance with Article 4 of the Statutes of the Port Autonome. See Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p22.
451. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p69.
452. Law No. 96-766, Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p69.
453. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008, p31
454. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p69.
455. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p28.

456. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p78.
457. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp78-81.
458. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p31.
459. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p71.
460. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p36.
461. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p36.
462. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p78.
463. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p78.
464. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p79.
465. "N'ont pas vérifié si l'importation de ces déchets était compatible avec une gestion efficace et écologiquement rationnelle des déchets", ni si elle était effectuée "de manière à protéger la santé humaine et l'environnement contre les effets nocifs qui pourraient en résulter" International Commission of Inquiry on Toxic Waste, 19 February 2007, p69.
466. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006.
467. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p74
468. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p74
469. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p72
470. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p72
471. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p52.
472. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp72, 73,74,75.
473. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p98
474. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p99
475. Décrets n° 2006-396, 2006-397 et 2006-398 du 26 novembre 2006.
476. "Affaire des déchets toxiques : Konan Banny défie Gbagbo" ,Afrik.com, 28 November 2006, available at www.afrik.com/article10766.html (last accessed 13 March 2012)
477. Decree 91-662 establishing CIAPOL and its mandate, Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p86-7.
478. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p36.
479. Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 58.
480. Law 2001-478, 9 August 2001, concerning the Statute of the District of Abidjan; Law 2003-208, 7 July 2003, Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p88.
481. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp88-91.
482. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp 92 and 93.
483. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp88-95.
484. Procès Verbal, 11 January 2007, Djedi Amondji Pierre.
485. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p89.
486. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p95.
487. Committee on Economic, Social and Cultural Rights, General Comment 14 on the right to health , para 15.
488. Basel Convention; Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa
489. Committee on Economic, Social and Cultural Rights, General Comment 14 on the right to health, para 16.
490. Committee on Economic, Social and Cultural Rights, General Comment 14 on the right to health, para 11, General Comment 15 on the Right to Water, para 48.
491. Committee on Economic, Social and Cultural Rights, General Comment 14, para 11.
492. Notification of ships' waste and (remainders of) noxious substances (rec# 10130 Yao Essafe Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370.
493. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.15.
494. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.11. Bewijsvoorzicht Amsterdam Port Services B.V., E.M.Uittenbosch Feit 2: artikel 10.1 Wm Amsterdam 15 juni 2010, I.W. Boogert en R.S. Mackor Officieren van Justitie, p17.
495. Okechukwu Ibeanu, Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, page 8, para 24, available at www2.ohchr.org/english/bodies/hr-council/docs/12session/A-HRC-12-26-Add2.pdf
496. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.17.
497. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.17-5.29.
498. www.imo.org/blast/mainframe.asp?topic_id=159
499. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.26.
500. Although Paldiski was given as the port of destination, this was not given as the destination for delivery of the waste. With regard to the waste the *Probo Koala* was instructed to go "to sea for orders". (The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, p30) and Trafigura also stated that the waste would be disposed of "at the next convenient opportunity" (Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.17)
501. Annex to Kabinetsstandpunt *Probo Koala*, 16 May 2007, p7. <https://zoek.officielebekendmakingen.nl/dossier/22343/kst-22343-169-b1?resultIndex=161&sorttype=1&sortorder=4>.
502. MARPOL Convention, Article 2(3)(a): "Discharge, in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying."

ENDNOTES

503. Internal Trafigura email dated 27 December 2005 (rec# 5914, *Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV* in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370).
504. Evidence Overview for Trafigura Beheer BV, N. Ahmed, S Chertov, pp36-8. Facts: Section 174 of the Dutch Penal Code and Section 225 of the Dutch Penal Code.
505. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006.
506. Article 10.37 of the Environmental Management Act van 13 juni 1979, houdende regelen met betrekking tot een aantal algemene onderwerpen op het gebied van de milieuhygiëne: "Het is verboden zich door afgifte aan een ander van bedrijfsafvalstoffen of gevaarlijke afvalstoffen te ontdoen."
507. Dutch Environmental Management Act, available at: docs1.eia.nl/cms/Environmental%20Management%20Act%20[May%202004].pdf. under section 10.37, para 2, the Act list certain exceptions to the prohibition on transfer of industrial or hazardous waste. This issue is addressed in the *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, p26.
508. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala* ("The Hulshof Report"), p26.
509. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.23-26.
510. Okechukwu Ibeanu, Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 44, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf (accessed May 2012)
511. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala* ("The Hulshof Report")
512. Basel Convention, Article 1.4.
513. International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL).
514. Annex II, MARPOL 73/78.
515. Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues.
516. A similar requirement is also contained in the Dutch 1983 Act on the Prevention of Pollution from Ships. Wet van 14 december 1983, houdende regelen ter voorkoming van verontreiniging door schepen
517. Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, Article 7.
518. Email from Falcon Navigation to BMA dated 3 July 2006 (rec# 4696 in application notice for claim No. HQ06X03370 and others for the High Court of Justice, Queen's Bench Division).
519. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, pp 34 and 42.
520. Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, Article 7(2).
521. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.14.
522. Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, Article 10.
523. Directive 2001/106/EC of the European Parliament and of the Council of 19 December 2001 amending Council Directive 95/21/EC concerning the enforcement, in respect of shipping using Community ports and sailing in the waters under the jurisdiction of the Member States, of international standards for ship safety, pollution prevention and shipboard living and working conditions (port State control). The fact that the *Probo Koala* was 20 years old should also have been a consideration in the decision to carry out an enhanced inspection. Under Annex V, article 2, "bulk carriers older than 12 years of age, as determined on the basis of the date of construction indicated in the ship's safety certificates" are subject to expanded inspection.
524. Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, Article 11(2).
525. Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, Article 6.
526. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala* ("The Hulshof Report"), p34.
527. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala* ("The Hulshof Report"), p24
528. Committee on Economic, Social and Cultural Rights, General Comment 14 on the right to health, para 39.
529. In September 2011, a group of experts in international law gathered in Maastricht, under the auspices of the International Commission of Jurists and Maastricht University, to discuss the extent and the scope of obligations under the ICESCR, and they adopted the Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights. The principles are available at www.maastrichtuniversity.nl/humanrights.
530. Principle 13, the Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights, available at www.maastrichtuniversity.nl/humanrights.
531. Replik Mr L.W. Boogert Mr R.S. Mackor (held by prosecutor in court 1 July 2010). English translation, p3.
532. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.4:
533. Police officer Y. de Boer, interviewed by Greenpeace in Amsterdam on 26 April 2012.
534. Council Regulation (EEC) No 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community, Article 26(2).
535. Okechukwu Ibeanu, Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 43, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf
536. Section 10.37 of the Environmental Management Act. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.24.
537. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 5.26.
538. Internal Trafigura memorandum dated 23 September 2006 para 10, p4.
539. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006, pp 29, 31, 51.
540. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala*, 30 November 2006.
541. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala* ("The Hulshof Report"), p29.
542. The *Hulshof Report of Findings*, from the investigation into the state of affairs around the arrival, stay and departure of the *Probo Koala* ("The Hulshof Report"), p62.

543. Article 8, Universal Declaration of Human Rights; Article 2 (3), International Covenant on Civil and Political Rights; Article 2, International Covenant on Economic, Social and Cultural Rights; Article 6, International Convention on Elimination of All Forms of Racial Discrimination; Article 2, Convention on the Elimination of All Forms of Discrimination Against Women; Article 14, Convention Against Torture; Article 13, European Convention for the Protection of Human Rights and Fundamental Freedoms; Article 25, American Convention on Human Rights.
544. Prosecutor v. André Rwamakuba, Case No. ICTR-98-44C-T, Decision on Appropriate Remedy, para 40 (31 January 2007); Prosecutor v. André Rwamakuba, Case No. ICTR-98-44C-A, Decision on Appeal Against Decision on Appropriate Remedy, paras 23-25 (13 September 2007); and Cantoral-Benavides v. Perú, 2001 Inter-Am. Ct. H.R. (ser. C) No. 88, at para 40 (Dec. 3, 2001).
545. UN Committee on Economic, Social and Cultural Rights, General Comment 9: The domestic application of the Covenant, UN Doc. E/C.12/1998/24, 3 December 1998, para 2.
546. Committee on Economic, Social and Cultural Rights, General Comment 14: The right to the highest attainable standard of health (Article 12), E/C.12/2000/4, 11 August 2000, para 59.
547. Principle 11, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm (accessed 26 October 2011). Though the Basic Principles focus on specific obligations of states in relation to gross violations of human rights law and serious violations of humanitarian law, they are derived of obligations of states contained in numerous international treaties and other instruments, which also apply to all human rights violations.
548. Human Rights Committee, General Comment 31, Nature of the General Legal Obligation Imposed on States Parties to the Covenant, CCPR/C/21/Rev.1/Add.13, 26 May 2004, para 15, views of the Committee on the Elimination of Racial Discrimination, LK v. Netherlands, CERD/C/42/D/4/1991, para 6.9. For further details see International Commission of Jurists, *The Right to a Remedy and to Reparation for Gross Human Rights Violations: A practitioners' guide*, (ICJ, 2006), pp49, 57-79.
549. Human Rights Committee, General Comment 31, para 18.
550. Basel Convention, Articles 4.4 and 9.5.
551. Para 125, Chorzow Factory Case (Germany v. Poland), Permanent Court of Arbitration, 1928.
552. Principle 18, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
553. Principle 19, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
554. Principle 20, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
555. These principles were adopted by the General Assembly, resolution 60/147 of 16 December 2005, they "do not entail new international or domestic legal obligations but identify mechanisms, modalities, procedures and methods for the implementation of existing legal obligations under international human rights law and international humanitarian law which are complementary though different as to their norms" (see preamble to the Basic Principles), available at www2.ohchr.org/english/law/remedy.htm.
556. Principle 20, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
557. Principle 21, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
558. Principle 22, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
559. Principle 23, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
560. Principles 2(b), 3(c), 11(a), 12, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
561. Principles 2(c), 3(d), 11(b), 15-23, Basic Principles and Guidelines on the Right to Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law (Basic Principles), adopted by General Assembly resolution 60/147 of 16 December 2005, available at www2.ohchr.org/english/law/remedy.htm.
562. Committee on Economic, Social and Cultural Rights, General Comment 9, para 9.
563. Article 47, Articles on Responsibility of States for Internationally Wrongful Acts.
564. Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework, Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises, John Ruggie, A/HRC/17/31, 21 March 2011.
565. Economic and Social Council, Statement on the Obligations of States Parties regarding the corporate sector and economic, social and cultural rights, E20 May 2011, para 5.
566. Genevieve Diallo, resident of Akouédo, Amnesty International interview, February 2009 (Abidjan).
567. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p5.
568. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p6.
569. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp6-12.
570. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p99: "les attitudes observées par la Commission chez certains acteurs, laissent transparaitre des indices de corruption et de recherche effrénée de gains au mépris de la vie humaine."
571. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp67 and 68.
572. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp61 and 62.
573. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p61.
574. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp63 and 64.
575. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p64.

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576. Under domestic law, the State of Côte d'Ivoire has forbidden the import of toxic waste into its territory through the Environmental Code and the Law relating to the protection of Public Health and the Environment against the effects of toxic and nuclear industrial waste and harmful substances. Initial charges included direct violations of the Basel and MARPOL conventions; these were subsequently dropped and the relevant domestic offences were pursued. International Commission of Inquiry on Toxic Waste, 19 February 2007, pp68-9; Procès Verbal, Claude Dauphin, 25 September 2006, Parquet No. 38/2006.
577. Loi 88-651 du 7 juillet 1988 portant protection de la santé publique et de l'environnement contre les effets des déchets industriels toxiques et nucléaires et des substances nocives, available at legis.ci/questionsenvironnementdechets1.php (accessed 17 November 2011).
578. Loi n° 96-766 du 3 octobre 1996 portant Code de l'Environnement, available at docs.google.com/viewer?a=v&q=cache:KS011E6z1BcJ:www.tresor.gov.ci/documenta-tion/pdf/code_Cl/Code_environnement.pdf+code+de+l%27environnement+cote+d%27ivoire&hl=en&gl=uk&pid=bl&srcid=ADGEEsJPR3ifeb5Awyg6-E2Uq-7cbqAJY1OnOYBbZUKL3eJeD0A2QGfK_Y5WC60oFxFzjxHW-OmH18wKqQambRhxPQ76QjUz5mlA7jcZ9L4GEWg1gma_zLVrzXLhHjQkAhLC9_9&sig=AHIEtbTsCJ2fSBBXKmJznGuBdXUekU7nQ (accessed 17 November 2011).
579. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008
580. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008.
581. In Dauphin's second "Record of Interrogation for First Hearing", dated 25 September 2006, the charges against him are set out as follows: "That he did in Abidjan, from 19 to 20 August 2006 ... violated the provisions of the BASLE [sic] Convention concerning cross-frontier movements of dangerous waste and their elimination by undertaking illicit conveyance of dangerous wastes towards Ivory Coast; that he did, at the same time and place, infringe the provisions of Environmental Law by causing to be stored on Ivorian territory waste materials which polluted the environment in the Abidjan District. These actions are covered by the BASLE Convention under its Article 1 and following on the one hand and by Articles 97, 99 and 101 of Environmental Law on the other."
582. This is because, under Ivorian criminal law, corporate entities cannot be held criminally liable for the specific charges that were brought. Loi n° 1981-640 du 31 juillet 1981, instituant le Code penal, article 97, available at: www.unhcr.org/refworld/category,LEGAL,,CIV,3ae6b5860,0.html
583. Loi 88-651 du 7 juillet 1988 portant protection de la santé publique et de l'environnement contre les effets des déchets industriels toxiques et nucléaires et des substances nocives: "Lorsque l'infraction est commise dans le cadre de l'activité d'une personne morale, la responsabilité pénale incombe à toute personne physique préposée ou non, qui de par ses fonctions, a la responsabilité de la gestion, de la surveillance ou du contrôle de cette activité. La personne morale en cause est tenue solidairement avec le ou les condamnés au paiement des amendes, réparations civiles, frais et dépens." Available at legis.ci/questionsenvironnementdechets1.php (accessed May 2012).
584. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp61-2.
585. The state of Côte d'Ivoire, three victims' groups and the representatives of two deceased individuals attached their claim to the prosecution as "parties civiles", claiming damages (the state of Côte d'Ivoire had originally abandoned its "partie civile" claim after the settlement with Trafigura but started it again once charges against the Trafigura parties had been dropped). Although the court was due to make a decision on these claims at the time of the trial, the decision was postponed to a subsequent hearing. As at April 2011, this decision was still pending. After the trial, further claims were commenced on behalf of deceased individuals against Trafigura and the state of Côte d'Ivoire. These claims are also still pending. FIDH – L'AFFAIRE DU « *Probo Koala* » OU LA CATASTROPHE DU DEVERSEMENT DES DECHET TOXIQUES EN COTE D'IVOIRE
586. Protocol of agreement (Protocole d'accord) between the State of Côte d'Ivoire and the Trafigura Parties, 13 February 2007.
587. Protocol of agreement (Protocole d'accord) between the State of Côte d'Ivoire and the Trafigura Parties, 13 February 2007, Article 2.4. On 4 April 2008 Trafigura made a second payment of CFA10 billion (approximately US\$20 million) to the government as full and final payment under the settlement agreement. This was to cover additional clean-up costs and included the extra CFA5 billion that had originally been earmarked for the construction of a household waste disposal treatment unit.
588. Protocol of agreement (Protocole d'accord) between the State of Côte d'Ivoire and the Trafigura Parties, 13 February 2007.
589. These clauses are translated from French.
590. See for example www.afrik.com/article11203.html (14 February 2007).
591. Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 21 June 2007.
592. République de Côte d'Ivoire, Ministère de l'Economie et des Finances, Situation des Paiements des Victimes des Déchets Toxiques, 29 October 2008, available at www.tresor.gov.ci/dgtcp/evenements/dechets_toxiques.htm (last accessed 20 November 2011).
593. Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 21 June 2007; see also République de Côte d'Ivoire, Ministère de l'Economie et des Finances, Situation des Paiements des Victimes des Déchets Toxiques, 29 October 2008, available at www.tresor.gov.ci/dgtcp/evenements/dechets_toxiques.htm (accessed 20 November 2011).
594. Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 21 June 2007, p6.
595. Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 21 June 2007, p5.
596. Ligue Ivoirienne des Droits de l'Homme (LIDHO) Rapport Annuel 2009.
597. Witness statement of a member of the Collectif des Travailleurs de Vridi, BIAO-CI, interview with Amnesty International, mission in Côte d'Ivoire in 2009.
598. Communiqué du porte parole de la présidence de la République relatif à l'indemnisation des victimes des déchets toxiques, 21 June 2007, p5.
599. Witness statement of Salif Konate, interview with Amnesty International, mission in Côte d'Ivoire in 2009.
600. As at 21 June 2007, CFA BCEAO1 = \$0.0020426155.
601. Witness statement of Salif Konate, interview with Amnesty International, mission in Côte d'Ivoire in 2009.
602. Report of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal on its eighth meeting (UNEP/CHW.8/16), para 25, available at www.basel.int/meetings/cop/cop8/docs/16e.pdf (accessed 24 October 2011).
603. Office of the High Commissioner for Human rights, "Special Rapporteur on Toxic waste concludes his mission to Côte d'Ivoire", 8 August 2008, available at www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=9000&LangID=E (accessed May 2012).
604. République de Côte d'Ivoire, Ministère de l'Economie et des Finances, Situation des Paiements des Victimes des Déchets Toxiques, 29 October 2008, available at www.tresor.gov.ci/dgtcp/evenements/dechets_toxiques.htm (accessed 20 November 2011)
605. RFI, "Déchets toxiques, les sous mal réparés", 26 June 2007, available at www.rfi.fr/actufr/articles/090/article_53319.asp; IciLomé "Côte d'Ivoire: manifestation des victimes des déchets toxiques", 17 July 2007, available at www.icilome.com/nouvelles/news.asp?id=1&idnews=8497; Koffi.net, "Déchets toxiques. Répartition des 100 milliards de Trafigura - La grande magouille de la présidence", 28 June 2007, available at: www.koffi.net/koffi/actualite/11829-Dechets-toxiques-Repartition-des-100-milliards-de-Trafigura-La-grande-magouille-de-la-presidence.htm

606. Protocol of agreement (Protocole d'accord) between the State of Côte d'Ivoire and the Trafigura Parties, 13 February 2007, Article 4(2).
607. www.afrik.com/article11203.html (14 February 2007) (accessed May 2012).
608. "Déchets toxiques ivoiriens: 'Trafigura n'a aucune responsabilité', *Le Figaro*, available at www.lefigaro.fr/international/20070214.WWW00000531_dechets_toxiques_ivoiriens_trafigura_na_aucune_responsabilite_.html (accessed May 2012).
609. Documentary Letter of Credit, Côte d'Ivoire International Bank for Commerce and Industry (BCICI).
610. 'Le protocole est un bon arrangement', *Fraternité Matin* (Abidjan), 18 mars 2007, available at fr.allafrica.com/stories/200703191773.html (only with subscription)
611. On the charge of being accessories to poisoning, the court found that, because Marrero and Short had informed WAIBS and Puma of the arrival of the *Probo Koala*, and appointed WAIBS and Tommy to deal with the slops, they did not commit an offence personally. On this basis, that charge was dismissed. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008.
612. Court of Appeal of Abidjan Ruling No 42, Hearing of 19 March 2008, pp25,26.
613. Procès verbal d'Interrogatoire, Claude Dauphin, 28 September 2006
614. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, p61.
615. See: Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, for details of the evidence contained therein.
616. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008, pp26-9.
617. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp62-3.
618. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008, pp24-5.
619. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008, pp24-5.
620. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, pp61-2.
621. Loi 88-651 du 7 juillet 1988 portant protection de la santé publique et de l'environnement contre les effets des déchets industriels toxiques et nucléaires et des substances nocives: "Lorsque l'infraction est commise dans le cadre de l'activité d'une personne morale, la responsabilité pénale incombe à toute personne physique préposée ou non, qui de par ses fonctions, a la responsabilité de la gestion, de la surveillance ou du contrôle de cette activité. La personne morale en cause est tenue solidairement avec le ou les condamnés au paiement des amendes, réparations civiles, frais et dépens.", Available at legis.ci/questionsenvironnementdechets1.php (accessed May 2012).
622. Court of Appeal of Abidjan Ruling No. 42, Hearing of 19 March 2008.
623. Defence teams for the accused complained that the absence of key witnesses from Trafigura precluded their ability to defend their own cases. On 1 October 2008, Salomon Ugborogbo's lawyer, for Compagnie Tommy, made a formal request for the Trafigura executives, Jean-Pierre Valentini and N'zi Kablan, to be called as witnesses. Other defence lawyers, including those representing the State of Côte d'Ivoire, also argued that the appearance of representatives from Trafigura was necessary in order to get at the truth. FIDH- « L'AFFAIRE DU « PROBO KOALA » OU LA CATASTROPHE DU DEVERSEMENT DES DECHET TOXIQUES EN COTE D'IVOIRE », April 2011, p29.
624. Coud d'appel d'Abidjan, Arrêt d'acquiescement et de condamnation, 22 October 2008. 2008.PDF
625. N'Tamon N'Drin, Djibi village farmer, Amnesty International interview, February 2009 (Abidjan).
626. "L'équipe dépêchée en Côte d'Ivoire par TREDI International pour l'enlèvement des déchets toxiques, est composée de 25 membres dont 23 techniciens." Présentation de Tredi International, Cellule Opérationnelle de Coordination du Plan National de Lutte contre les Déchets Toxiques, Cabinet du Premier Ministre, République du Côte d'Ivoire, 20 September 2006.
627. Burgeap, *Environmental Audit in response to paragraph 2.2 of the protocol agreement signed on the 13/02/07 between the parties of the Côte d'Ivoire nation and Trafigura*, Report of the Audit – phase 1, p7-8. A version of the Tredi contract is included in the report; however, it is not clear whether it is the full contract. It is likely that the Tredi contract was the product of an official Technical Assistance Mission by the French government on 7 September 2006. An UNDAC expert was present during discussions between the government of Côte d'Ivoire and Tredi. A report of the meeting between UNDAC representatives and Côte d'Ivoire authorities is found in Annex II of the report of the UNDAC mission, 11-19 September 2006.
628. Information confidentially obtained by Greenpeace Netherlands from a source closely involved in the clean-up process; see also OCHA Situation Report No. 5, 14 September 2006: "The authorities are still endeavouring to compile a complete inventory of all dumping sites. The characteristics of the sites are very different in size and nature. One, for example, is beside the main municipal waste site, others are alongside roads, and one is in a channel leading to a lake. Some sites consist of liquid waste; at others, the waste has already infiltrated into the ground."
629. Information confidentially obtained by Greenpeace Netherlands from a source closely involved in leading the clean-up process.
630. This was confirmed by victims interviewed by Amnesty International. Chef Motto, Amnesty International interview; February 2009 (Abidjan) and May 2011 (by phone), Desire N'Tamon, Amnesty International interview, December 2010 and May 2011 (by phone).
631. OHCA Situation Report No. 12, 4 October 2006.
632. Burgeap, *Environmental Audit in response to paragraph 2.2 of the protocol agreement signed on the 13/02/07 between the parties of the Côte d'Ivoire nation and Trafigura*, Report of the Audit – phase 1, pp8-9.
633. Burgeap, *Environmental Audit in response to paragraph 2.2 of the protocol agreement signed on the 13/02/07 between the parties of the Côte d'Ivoire nation and Trafigura*, Report of the Audit phase 1, p10
634. www.dechetstoxiques.gouv.ci/faits1.php (accessed 23 March 2011)
635. Information confidentially obtained by Greenpeace Netherlands from a source leading the clean-up process.
636. According to sources close to the clean up operation. A programme broadcast on Nova Television on 18 October 2007 www.novatv.nl/page/detail/uitzendingen/5523# reported that the Ivorian government had suspended the contract with Tredi. In addition, in a letter by the Ministry of Finance to the President of the Cellule Opérationnelle de Coordination du Plan National de Lutte contre les Déchets Toxiques sent on March 9, 2007 the reason for terminating the contract is laid out: "Compte tenu des évolutions enregistrées dans la gestion du dossier des déchets toxiques, je confirme qu'il ne me semble pas opportun d'approuver de nouveaux avenants avec la société TREDI." "En effet, aux termes des dernières négociations conduites par la Présidence de la République, la société TRAFIGURA s'engageait, entre autres, à prendre en charge les frais de dépollution de nouveaux sites éventuels et de consolidation des sites déjà traités." "Dans ces conditions, il me paraît indiqué de définir les modalités pratiques de mise en œuvre de ce nouveau schéma." "Aussi, ai-je sursis à l'approbation de l'avenant n°6 afin qu'il y soit pourvu selon la nouvelle donne." Burgeap, *Environmental Audit in response to paragraph 2.2 of the protocol agreement signed on the 13/02/07 between the parties of the Côte d'Ivoire nation and Trafigura*, Report of the Audit – phase 1, p9.

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637. A spokesperson for Tredi on a programme broadcast on Nova Television on 18 October 2007 commented that: "There is definitely more than 6,000 tonnes of heavily polluted material. And that the new government has chosen a new approach." www.novatv.nl/page/detail/uitzendingen/5523# (accessed 9 January 2012).
638. Greenpeace wrote to the Ivorian government requesting clarification but did not receive an answer.
639. Burgeap, *Environmental Audit in response to paragraph 2.2 of the protocol agreement signed on the 13/02/07 between the parties of the Côte d'Ivoire nation and Trafigura*, Report of the Audit – phase 1, p9.
640. As at 13 February 2007, CFA 1=USD 0.0019851987 www.xe.com/ucc/
641. Protocol of agreement (Protocole d'accord) between the State of Côte d'Ivoire and the Trafigura Parties, 13 February 2007, Article 2.1.
642. Protocol of agreement (Protocole d'accord) between the State of Côte d'Ivoire and the Trafigura Parties, 13 February 2007, Article 2.2.
643. Under the terms of the settlement agreement, both the state and Trafigura took responsibility for this. Under the Settlement, Trafigura undertook to *arrange and bear the costs of the audit* by contacting the relevant state agencies and/or a company of "international standing" - Protocole d'accord between the State of Côte d'Ivoire and the Trafigura Parties, 13 February 2007, Article 2.2. "Les Parties Trafigura s'engagent à prendre en charge l'identification et la dépollution complémentaire des sites pouvant encore contenir des déchets se rapportant aux Evènements. Les frais relatifs à l'audit et au constat prévus au présent paragraphe 2.2 seront pris en charge par les Parties Trafigura." "The Trafigura Parties undertake to be responsible for identifying and removing any additional pollution from sites that may still contain waste materials arising from the Events.. The costs relating to the audit and to the joint inspection provided for under paragraph 2.2 shall be borne by the Trafigura Parties."
644. "Lors de la réunion de restitution de la première phase, tenue à Paris le 6 juillet 2007, les deux Parties ont souhaité modifier le déroulement de la deuxième phase de l'Audit en fixant une priorité d'intervention sur les deux sites de la route d'Alépé sur la commune d'Abobo", Burgeap, *Environmental Audit in response to paragraph 2.2 of the protocol agreement signed on the 13/02/07 between the parties of the State of Côte d'Ivoire and Trafigura*, Report of the Audit – Phase 2, p3, "During restitution meeting for the first phase, held in Paris on 6 July 2007, both Parties wanted to change to course of the second phase of the audit by setting as a priority intervention on the two sites of Alépé and Abobo." (Amnesty International translation)
645. Burgeap, *Environmental Audit in response to paragraph 2.2 of the protocol agreement signed on the 13/02/07 between the parties of the Côte d'Ivoire nation and Trafigura*, Report of the Audit - Phase 2, p3.
646. Burgeap, *Environmental Audit in response to paragraph 2.2 of the protocol agreement signed on the 13/02/07 between the parties of the State of Côte d'Ivoire and Trafigura*, Report of the Audit – phase 2, p17.
647. The government of Côte d'Ivoire did not approve new amendments to the contract proposed by Tredi for Route D'Alépé, which apparently would have entailed removing the contaminated soil that had been collected, as well the clean-up of one big sandy and remote zone. Information confidentially obtained by Greenpeace Netherlands from a source closely involved in the clean-up process.
648. Enviro2B, Déchets toxiques ivoiriens: nouveau retard, 2 Octobre 2007, available at www.enviro2b.com/2007/10/02/dechets-toxiques-ivoiriens-nouveau-retard/ (accessed 23 March 2010). Greenpeace made contact with Biogénie early 2010. The company declined to comment and referred Greenpeace to the government. Greenpeace then contacted the Côte d'Ivoire's environmental agency, CIAPOL, in June 2010 and again in November 2010 to request information but received no answers.
649. www.novatv.nl/page/detail/uitzendingen/5523# Nova TV, Netherlands, 18 October 2007 (last accessed 9 January 2012). Concerns are expressed that the method of biodegradation would not be suitable for the kind of pollution found at sites in Abidjan where toxic waste from Probo Koala had been dumped.
650. www.trafigura.com/our_news/probo_koala_updates.aspx#aPhQ0w1HC5PP press release April 2008, (last accessed June 2010).
651. Avenant au Protocole d'Accord du 13 février 2007, 4 April 2008.
652. "Following a final endorsement in April 2008, the Ivorian State confirmed it was completely satisfied that Trafigura had complied with all of its obligations under the February 2007 Agreement", Trafigura, "Probo Koala Factsheet", January 2010, available at www.trafigura.com/PDF/TrafiguraProboKoalaFactsheetEnglish.pdf (accessed May 2012).
653. www.novatv.nl/page/detail/uitzendingen/5523# Nova TV, Netherlands, 18 October 2007 (last accessed 9 January 2012). Concerns are expressed that the method of biodegradation would not be suitable for the kind of pollution found at sites in Abidjan where toxic waste from Probo Koala had been dumped.
654. Okechukwu Ibeanu, Special Rapporteur on the adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, cited in IRIN, "Côte d'Ivoire: UN warns toxic waste still a threat", 19 August 2008. www.irinnews.org/Report.aspx?ReportId=79894 (accessed May 2012). A year later, in September 2009, in an official report on the dumping, he repeated the same concern, Okechukwu Ibeanu, Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 61, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf (accessed May 2012).
655. Office of the High Commissioner for Human rights, "Special Rapporteur on Toxic waste concludes his mission to Côte d'Ivoire", 8 August 2008, available at www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=9000&LangID=E (accessed 26 October 2011).
656. Okechukwu Ibeanu, Special Rapporteur on the adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, cited in IRIN, "Côte d'Ivoire: UN warns toxic waste still a threat", 19 August 2008. www.irinnews.org/Report.aspx?ReportId=79894 (accessed May 2012). A year later, in September 2009, in an official report on the dumping, he repeated the same concern, Okechukwu Ibeanu, Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 61, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf (accessed May 2012).
657. Office of the High Commissioner for Human rights, "Special Rapporteur on Toxic waste concludes his mission to Côte d'Ivoire", 8 August 2008, available at www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=9000&LangID=E (accessed 26 October 2011).
658. According to written detailed statements made by the truck drivers to Trafigura, evidence gathered by Greenpeace.
659. Interview with source close to the decontamination process. Name withheld at request of interviewee.
660. Testimony of a member of the Vridi Workers Union, Amnesty International mission in Côte d'Ivoire, February 2009.
661. Testimony of Chef Motto, Amnesty International mission in Côte d'Ivoire
662. CIAPOL employees, Amnesty International interview, February 2009.
663. Greenpeace Netherlands, interview with Bagassy Koura, January 2010.
664. Desire N'Tamon (Djibi village), interview with Amnesty International December 2010.
665. Nurse Angèle N'Tamon, Amnesty International interview, December 2010.
666. Testimonies of Salif Konate and Chef Motto Amnesty International interviews, February 2010, May 2011 (by phone)
667. Dr Bleu, Interview with Amnesty International, June 2011 (by phone)
668. www.trafigura.com/our_news/probo_koala_updates/timeline/2009/july/wsp_publishes_independent_repo.aspx?top=237 (last accessed 10 June 2012)

669. Key information was subjected to a confidentiality clause following the out of court settlement of the civil claim in the High Court of England and Wales in 2009.
670. Rachel Gogoua, President of the Association of the victims of Akouédo Extension, Amnesty International interview (Abidjan), February 2009.
671. Okechukwu Ibeanu, Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 86(f), available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf (accessed May 2012).
672. Genevieve Diallo, Akouédo resident, Amnesty International interview, Abidjan, February 2009.
673. A claim was also filed with the French prosecutor based on the nationality of two Trafigura executives. This is not discussed in detail in this report.
674. Claude Dauphin, Trafigura's Chairman, was initially charged with a number of offences, including the illegal export of waste from Europe to an African Caribbean Pacific (ACP) state but successfully appealed against his summons.
675. APS had argued that they were not liable "since the waste had not been accepted at the time it was transferred back to the *Probo Koala*." This was rejected by the court. The court instead held "that the acceptance procedure set out in this permit had in fact been completed at the time of the physical collection of the slops", which meant that "[a]fter this collection, APS was only allowed to turn the slops over to a certified waste processor". The court went on to hold that "the *Probo Koala* was not a certified waste processor" and that consequently "by returning the slops to that vessel, APS thus acted in violation of Section 10.37 of the Environmental Management Act." Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, available in Dutch at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf (accessed 25 October 2010) Amnesty International translation, p8.
676. The court held since the "Municipality is the only institution charged with the administrative enforcement of Section 10.37" the "authority to enforce the law must... qualify as an exclusive administrative duty." This meant that "the Public Prosecutor's Office may not prosecute it for these acts, and is thus barred from prosecuting the case." "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, available in Dutch at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf (accessed 25 October 2010). Amnesty International translation p7.
677. Rechtspraak.nl, "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, p8, available at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf (accessed 25 October 2010).
678. Council Regulation (EEC) No. 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community. This law has subsequently been replaced by (EC) Directive No. 1013/2006 of the European Parliament and Council of 14 June 2006 on shipments of waste – applicable since 12 July 2007
679. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.2.2
680. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para. 13.1.2.
681. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.2.13.
682. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 12.; "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, p8, available at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf
683. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), p10. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, available in Dutch at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf (accessed 25 October 2010).
684. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS).
685. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), p11. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, p11, available at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf (accessed 25 October 2010).
686. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 7.6. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, pp11-12, available at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf (accessed 25 October 2010).
687. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), p 24. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, pp23-4, available at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf.
688. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), pp 23 and 24. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, pp23-4, available at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf, Amnesty International, pp23-4.
689. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), p23. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, pp23-4, available at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf.
690. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 13.3.2.
691. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, available in Dutch at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIlgearonimiseerd.pdf (accessed 25 October 2010). Amnesty International English translation, p20.
692. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 13.3.4.
693. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 13.3.3.
694. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 13.3.8.

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695. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 13.3.8.
696. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 13.3.9.
697. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 13.3.1. "The Court admonishes Trafigura for choosing not to account for its methods during the public hearing. In a case such as the current one, a legal entity may be expected to at least appear at the hearing on the merits of the case in order to explain its standpoint, and to offer the Court and the Public Prosecutor's Office the opportunity to ask questions about certain choices which were made."
698. "Samenvatting vonnissen Broom II" (Summary of verdicts), Part III Assessment of the merits of the cases, available in Dutch at www.rechtspraak.nl/NR/rdonlyres/B23246A4-B778-4F10-8F76-DBB2E8AE334B/0/SamenvattingvonnissenBROOMIIgeanonimiseerd.pdf (accessed 25 October 2010). Amnesty International English translation, p14.
699. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS).
700. Amsterdam court website (accessed 5 January 2012): www.rechtspraak.nl/Organisatie/Ge-rechtshoven/Amsterdam/Nieuws/Pages/FineimposedonTrafigura.aspx
701. Amsterdam court website (accessed 5 January 2012): www.rechtspraak.nl/Organisatie/Ge-rechtshoven/Amsterdam/Nieuws/Pages/FineimposedonTrafigura.aspx
702. Amsterdam court website (accessed 5 January 2012): www.rechtspraak.nl/Organisatie/Ge-rechtshoven/Amsterdam/Nieuws/Pages/FineimposedonTrafigura.aspx
703. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS).
704. The examination in court of the case had taken place during the hearings held on 26 June 2008, 2 July 2008, 2 and 10 April 2009, 28 October 2009, 6 November 2009, 10 and 16 March 2010 (pre-trial reviews) and the hearings held on 1, 2, 10, 15, 16, 21, 24 and 28 June 2010 and 1, 2 and 9 July 2010 (hearings on the merits of the case). English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), p1. In his address during the pre-trial review on 26 June 2008 the public prosecutor stated: "The question whether offenses possibly committed in Côte d'Ivoire should be part of this investigation has been considered. It has been decided that it should not. It has appeared impossible to conduct an investigation in the Ivory Coast, in spite of attempts to do this." ("De vraag of eventueel in Ivoorkust gepleegde strafbare feiten onderdeel zouden moeten zijn van dit onderzoek is onder ogen gezien. Hiervan is afgezien. Het is niet mogelijk gebleken om onderzoek in Ivoorkust te doen, ondanks pogingen daartoe.")
705. For example, a claim brought by PKL, an Ivorian baby food company, which alleged that it had suffered economic prejudice as a result of contamination to its food products, was found to be inadmissible by the Dutch court. The Dutch court found that the company had not suffered direct damage as a result of the charges under consideration by the court (which related to Trafigura's conduct in the Netherlands). Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 1.2.2. At this same hearing, the Court considered that: "even without further investigation, it could be determined that direct damage was not inflicted upon Protein Kissee s.a. as a result of the offences with which Trafigura is being charged (Section 333, Dutch Code of Criminal Procedure (Sv)), and has found its claim to be evidently inadmissible."
706. The complaint was made under Article 12 of the Dutch Code of Criminal Procedure; relevant sections cited include: s.173a, 287, 302, 307, 308, 309, 225 and 140 of the Dutch Criminal Code.
707. This included the criminal law provisions (manslaughter, serious bodily injury, criminally negligent homicide, serious and criminally negligent bodily harm or an offence committed in office or while carrying on a profession) under which Greenpeace demanded prosecution.
708. Judgement of the Court of Appeal of the Hague, Decision given on account of the Complaint under Section 12 of the Dutch Code of Criminal Procedure (to be further referred to as: DCCP) received at the Registry of this Court of Appeal on 16 September 2009 and lodged by Stichting Greenpeace Nederland, English translation p15.
709. Judgement of the Court of Appeal of the Hague, Decision given on account of the Complaint under Section 12 of the Dutch Code of Criminal Procedure (to be further referred to as: DCCP) received at the Registry of this Court of Appeal on 16 September 2009 and lodged by Stichting Greenpeace Nederland, English translation pp17-21.
710. Judgement of the Court of Appeal of the Hague, Decision given on account of the Complaint under Section 12 of the Dutch Code of Criminal Procedure (to be further referred to as: DCCP) received at the Registry of this Court of Appeal on 16 September 2009 and lodged by Stichting Greenpeace Nederland, English translation pp17-21.
711. Legal advice obtained by Amnesty International.
712. The claim was brought against both Trafigura's UK-based subsidiary Trafigura Ltd, which took the relevant operational decisions that led to the dumping, and Trafigura's Dutch parent company Trafigura Beheer BV.
713. As at 16 September 2009, USD1=EUR 0.6803733179, www.xe.com/ucc/
714. Civil Procedure Rules, Rule 21.10; this is mandatory when the settlement involves children and protected parties. This is done to ensure that the monies are appropriate and properly invested; to provide protection from the lack of experience or skill of their lawyer; and to ensure that the lawyers are only paid the proper amount of their costs, available at www.justice.gov.uk/courts/procedure-rules/civil/rules/part21 (accessed May 2012)
715. Mr Justice MacDuff's statement continues: "[...] I have been following what has been happening in the media both in the newspapers and on television and radio. I have myself witnessed how wildly inaccurate some of the statements have been. It can all be put right with the Final Joint Statement. Speaking for myself, I hope the press [...] who have made statements which now turn out to be wrong will take note of the Joint Statement." available at www.trafigura.com/PDF/Official%20TRANSCRIPT%20of%20MacDuff%20hearing%20of%2023.09.09%20OPEN%20SESSION.PDF (accessed May 2012).
716. *Motto & Ors v Trafigura Ltd & Anor* [2011] EWHC 90201 (Costs) (15 February 2011), paras 70 and 109.
717. Legal Aid, Sentencing and Punishment of Offenders Act, 2011.
718. CNVDT-CI did not appear on any of the court documents in the UK case and the High Court confirmed that only Leigh Day had authorization under the settlement agreement to distribute the compensation money to the named claimants.
719. The account was placed under an escrow, with SGBCI (Société Générale de Banques en Côte d'Ivoire) as a trustee until "the competent jurisdiction gives a definitive ruling on the question of possession of the [compensation fund]". "By 22 October, Leigh Day had already distributed PIN numbers to around 90% of Claimants and planned to start distribution of bank cards on 2 November." Leigh Day Press Briefing Paper, 12 November 2009.
720. See decree n° 2012-452 of 22 May 2012, available at www.gouv.ci/une_1.php?recordID=2403. See also RFI, *Adama Bictogo n'est plus Ministre de l'Intégration* 23 May 2010, www.rfi.fr/afrique/20120523-cote-ivoire-Adama-Bictogo-n'est-plus-le-ministre-integration-africaine-

721. From witness statement of N'dja Jean Sebastien Bou, In the matter of the Abidjan personal injury litigation between Yao Essaie Motto & Others v. Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370 and others). 20 March 2009.
722. Trafigura statement in response to the Guardian articles published on 14 May 2009: image.guardian.co.uk/sys-files/Guardian/documents/2009/06/12/Statementoftrafigura120609.PDF, accessed 23 March 2011 – “It is untrue that Trafigura or its representatives sought to bribe any witnesses or in any way misconducted itself in its contacts with witnesses and claimants; it is also untrue that Trafigura has in any way sought to exploit the Court procedure by securing “secret hearings.”
723. Macfarlanes statement to article in Legal Week 15 May 2009: www.legalweek.com/legal-week/news/1169461/macfarlanes-responds-news-night-witness-claims, accessed 23 March 2011 – “We are disappointed that the BBC is seeking to make such serious and unfounded allegations. Macfarlanes strenuously rejects all allegations of impropriety in relation to its handling of this matter.” When presented the allegations in this report, Macfarlanes responded that the “firm never acted improperly or offered any inducements.”
724. Macfarlanes statement to article in Legal Week 15 May 2009: www.legalweek.com/legal-week/news/1169461/macfarlanes-responds-news-night-witness-claims, accessed 23 March 2011
725. Macfarlanes and Trafigura statement to Newsnight - www.roltonfriday.com/Portals/0/ArticleFiles/mac_statement.pdf - accessed 23 March 2011
726. As per the joint statement: “In the light of assurances given to their senior leading counsel and in view of his advice, Leigh Day withdraw any allegation that there has been impropriety on the part of Trafigura or any of its legal advisors, (including Macfarlanes) in investigating the claims.”
727. A total of 9 drivers have made statements to Trafigura: 7 drivers, an assistant of a driver who died in 2008 and a driver who died in 2009. The nine Ivorian drivers had been hired to take the toxic waste from the *Probo Koala* to Akouédo.
728. The full letter, containing a detailed reaction to Trafigura's legal representative to the allegations of bribery and intimidation can be found at: www.novativ.nl/page/detail/nieuws/17569/ (accessed 23 March 2011). See also email from Van Kempen Public Relations & Public Affairs (Dutch PR company working for Trafigura) of May 17: 13:27 to Greenpeace Netherlands.
729. A letter from the public prosecutor (Rooterdam) to Greeneace Netherlands, 22 June 2012
730. Okechukwu Ibeanu, *Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights*, Addendum, Human Rights Council, Twelfth session, Agenda item 3, Doc UN A/HRC/12/26/Add.2, 3 September 2009, para 84, available at www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-26-Add2.pdf, (accessed 26 October 2011).
731. *The Telegraph*, “Trafigura on trial over illegal exporting of toxic waste”, 31 May 2010, available at www.telegraph.co.uk/finance/newsbysector/energy/7791004/Trafigura-on-trial-over-illegal-exporting-of-toxic-waste.html, (accessed May 2012), *Independent*, “Trafigura accused of flouting public health over toxic cargo”, 2 June 2010, available at www.independent.co.uk/news/world/europe/trafigura-accused-of-flouting-public-health-over-toxic-cargo-1988969.html (accessed May 2012).
732. Minton, Treharne & Davies Ltd, “Minton Report”, 14 September 2006, available at file.wikileaks.org/file/watson-toxicwaste-ivorycoast-%C3%A92009.pdf (accessed May 2012).
733. “To ask the Secretary of State for Justice what assessment he has made of the effectiveness of legislation to protect (a) whistleblowers and (b) press freedom following the injunctions obtained in the High Court by... (ii) Trafigura and Carter Ruck solicitors on 11 September 2009 on the publication of the Minton report on the alleged dumping of toxic waste in the Ivory Coast, commissioned by Trafigura”; www.publications.parliament.uk/pa/cm200809/cmordbk1/91014w01.htm; See also www.pauffarrelly.com/news/westminster-news/news.aspx?p=102173
734. Green Party, “Caroline Lucas delivers maiden speech to Parliament”, 27 May 2010, available at liberalconspiracy.org/2010/05/27/caroline-lucas-uses-maiden-speech-to-attack-trafigura/ (accessed May 2012). “To ask the Secretary of State for Justice what assessment he has made of the effectiveness of legislation to protect (a) whistleblowers and (b) press freedom following the injunctions obtained in the High Court by... (ii) Trafigura and Carter Ruck solicitors on 11 September 2009 on the publication of the Minton report on the alleged dumping of toxic waste in the Ivory Coast, commissioned by Trafigura”;
735. Early Day Motion 118, Trafigura and shipping hazardous waste to the Ivory Coast, tabled 27 May 2010, available at www.parliament.uk/edm/2010-12/118
736. UK Parliament, Early Day Motion 118, Trafigura and shipping hazardous waste to the Côte d'Ivoire, 27 May 2010, edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=41034&SESSION=905 (accessed May 2012).
737. The Legal Action Group (GAJ) of the FIDH and the French League for Human Rights (LDH), the Ivorian League of Human Rights (LIDHO) and the Ivorian Movement for Human Rights (MIDH)
738. FIDH – L'AFFAIRE DU «PROBO KOALA» OU LA CATASTROPHE DU DEVERSEMENT DES DECHETS TOXIQUES EN COTE D'IVOIRE, p43.
739. “Réponse du Parquet du Tribunal de Grande Instance de Paris aux plaintes déposées au nom des victimes ivoiriennes de la pollution environnementale causée par le navire *Probo Koala* dans le port d'Abidjan en août 2006”.
740. See Robin des Bois press release: *Probo Koala: le bateau de la mort en route pour le cimetière*. 17 May 2011. available at: www.robindesbois.org/communiqués/dechet/om/2011/le-probo-koala-en-route-pour-le-cimetiere.html
741. Article 47, Articles on Responsibility of States for Internationally Wrongful Acts.
742. Principle 37, the Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights, available at www.maastrichtuniversity.nl/humanrights.
743. Principle 37, the Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights, available at www.maastrichtuniversity.nl/humanrights.

ANNEX I
**THE
COMPOSITION
OF THE WASTE,
WHERE IT WAS
DUMPED, ITS
IMPACT AND
UNANSWERED
QUESTIONS**

ANNEX I

Victims of the dumping continue to fear that the waste may have long term impacts on their health and environment, and are anxious to understand these impacts definitively. However, establishing both the past and future impact of the waste is exceptionally difficult, not least because the precise chemical composition of the waste generated by Trafigura has never been disclosed and may never be known. This is compounded by the fact that this waste was dumped in at least 18 diverse locations within the city of Abidjan. In addition, Trafigura has never disclosed full details of its own analysis and projections. As a result of this, it is necessary to proceed with a step-by-step approach, and build up the best possible picture based on all of the available information.

Composition of the waste

While the majority of the composition of the waste that was dumped in Abidjan can be accounted for, there remain unanswered questions about what else may have been in the waste.

The most in-depth information that is available about the composition of the waste comes from the testing undertaken by the Netherlands Forensic Institute six weeks before the waste was dumped.¹ In addition, the waste processing companies AVR² and ATM Moerdijk³ analyzed (for a few variables only) samples taken by APS when the *Probo Koala* was in Amsterdam July 2006, while further samples were collected after the dumping by CIAPOL, the Ivorian Environmental Agency, and TREDI, the French company responsible for the clean-up.

On 23 July, 2010 the verdict of the Amsterdam court quoted the following when considering the NFI report:

“ It has been determined that the slops contain flammable, caustic/corrosive substances (naphtha and sodium hydroxide, respectively) and hazardous to (very) toxic substances, besides substances which can release harmful to extremely toxic substances under certain conditions (sulphides, mercaptides). In view of the fact (among others) that the slops contain flammable materials (naphtha), substances which can cause severe skin injuries (including sodium hydroxide), and substances which, when the pH level is lowered, decompose into (extremely) toxic mercaptans and hydrogen sulphide, we believe that the conclusion that this waste is extremely hazardous is justified. ”⁴

The results of the NFI testing indicate that the pH level of the waste was very high,⁵ that the COD level was extremely high (measured as 720,000mg/l by NFI and measured as 475,600mg/l by ATM Moerdijk) and that high levels of mercaptides and phenolates (which can break down into mercaptans and phenols as the waste “acidifies” – That is, as the pH reduces from 14 down towards neutral) were present. However, the NFI analyses do not provide the complete picture, and some significant questions remain unanswered, in particular:

- » Whether there was sediment in the waste being dumped, and the exact composition of that sediment.
- » Whether there was a high level of total organic chlorine (TOCl) in the waste dumped, as was indicated in communication from Trafigura to the Ivorian authorities.
- » The exact quantities, types and compositions of waste dumped at each location.

What is known about the waste

The waste present in the slop tanks arriving in Abidjan consisted of an oily liquid layer (also referred to as organic phase or hydrocarbon phase) and an aqueous phase (also referred to as the watery phase or spent caustic). The oily liquid layer was on top of the aqueous layer. The very bottom layer most probably consisted of sediments, at least part of which were not offloaded and dumped in Abidjan, as the sediments remaining on board became subject to a dispute one month later when the ship was in Estonia. The total amount of waste dumped in Abidjan has been estimated to be approximately 516mt (528m³).⁶

The Netherlands Forensic Institute analyzed samples taken from the oily liquid and aqueous layer of the waste present in the slop tanks when the *Probo Koala* was in Amsterdam from 2 to 5 July in 2006. The NFI analysis was completed by three laboratories – Caleb Brett, Saybolt and Omegam.

The NFI identified the waste in the *Probo Koala*'s slop tanks as “a combination of an oily liquid and water, with a whole range of impurities. The *oily liquid* consists of a hydrocarbon mixture which, in terms of composition, shows many similarities to a naphtha-like product from the cracking installation of a refinery. The composition of the *water* shows a high degree of similarity to spent caustic (a waste stream resulting, inter alia, from washing of the naphtha stream from refinery cracking installation):

- » pH is 14
- » Chemical Oxygen Demand (COD) of 720,000mg/l
- » 10% sodium hydroxide
- » 4.8% phenols (including thiophenols and phenylmercaptans)
- » 3.5% mercaptan-sulphur (including phenylmercaptans or thiophenols)
- » 0.5% hydrogen sulfide.”⁷

The organic compounds in the watery phase of the waste were found after acidification of the samples with a hydrochloric acid solution. Hydrogen sulphide, mercaptans, phenols and thiophenols were detected in the acid form. In the alkaline watery phase of the samples these components appear in the basic form, namely as sulphide, mercaptide, phenolate and thiophenolate.⁸

Despite over a period issuing public statements suggesting that the waste dumped in Abidjan was just ordinary ship's slops and not toxic, Trafigura have admitted in documents obtained from the UK court that the chemical composition showed the waste was not ordinary ship's slops.

On 3 December 2008, Trafigura responded to amended requests for clarification of the defence from Leigh, Day & Co by submitting a list entitled “Likely Chemical Composition of the Slops”, which it said was “based on the NFI analysis”.⁹ The list, which is reproduced on page 208, essentially adopts the NFI analysis and then applies the percentages to the 379 metric tons of aqueous waste and the 137 metric tons of hydrocarbon waste with a different composition.

In its defence in the case against the BBC in November 2009, Trafigura again agrees that the NFI analysis is the best available evidence of the composition of the waste. It also states that the sample taken by CIAPOL from the *Probo Koala* waste on 21 August 2006 should not be considered a reliable analysis.¹⁰

The likely chemical composition of the aqueous and hydrocarbon phases of the slops, as accepted by Trafigura:

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AQUEOUS PHASE¹¹

CHEMICAL	% OF SLOPS	WEIGHT IN SLOPS
Sodium Hydroxide (NaOH)	10%	37.9 tons
Total Sulphur (S)	6.8%	25.7 tons
Mercaptan Sulphur (Ethyl and Methyl Sodium mercaptides as S)	3.34%	12.7 tons
Thiophenols	0.16%	0.6 tons
Phenols, including Cresols	4.8%	18.2 tons
Inorganic Sulphur (Sulphide and Bi-Sulphide as S) ¹²	0.5%	1.9 tons
Cobalt Phthalocyanine Sulphonate	4 ppm added	1516 grams
Catalysts (as Co)	1.3 ppm measured	492 grams
Mercury	0.91 ppm	345 grams
Zinc	2.7 ppm	1023 grams
Copper	1.8 ppm	682 grams
Strontium	0.42 ppm	159 grams

HYDROCARBON PHASE¹³

CHEMICAL	% OF SLOPS	WEIGHT IN SLOPS
Hydrocarbons C5 to C11	Approx 98%	Approx 135 tons
Heavy Hydrocarbons C14 to C40, estimated from Tredi Analyses	0.45 %	0.62 tons
Normal Alkanes	29.1 %	39.9 tons
Branched Alkanes	17.2%	23.6 tons
Unsaturated Compounds	36.2 %	49.6 tons
Cyclic Alkanes	10.9 %	14.9 tons
Aromatics, of which	6.2%	8.5 tons
C2 Alkyl Benzenes	1.7%	2.3 tons
C3 Alkyl Benzenes	0.9%	1.2 tons
C4 Alkyl Benzenes	0.1%	0.14 tons
Total Sulphur mainly as Diethyl and Methyl Propyl Disulphides (measured as S)	1.3%	1.8 tons
Mercaptan Sulphur (S)	0.095%	0.13 tons
Organo Chlorine (ex Main VII)	2 ppm	274 grams

Was sediment dumped?

Sediment waste residues appeared to have been generated not only in the slop tanks but also in the cargo tanks during the caustic washings. This waste layer was not sampled in Amsterdam in July 2006¹⁴ and was possibly partly dumped in Abidjan (though evidence for this is limited). The remaining sediment became the subject of a dispute between the owner (Prime Marine Management) and the charterer (Trafigura) of the ship in September 2006 in Estonia. The dispute appeared to be related to the cost of proper cleaning of the tanks without damaging them.¹⁵ That these sediments were indeed produced is in line with what can be expected from the chemistry of the process, which must have produced a considerable volume of sediment (and the Norwegian Gexcon report shows that “precipitated waste” was produced by similar processes at Vest Tank).¹⁶

The victims represented by Leigh, Day & Co in the UK class action believe that the waste generated sediments and that these sediments were also dumped in Abidjan, in addition to the aqueous and organic phase, a waste that they refer to as ‘sediments’. Based on the limited information Greenpeace and Amnesty have available, we understand that the victims in the group litigation estimated that, in total, the waste dumped in Abidjan consisted of 253m³ aqueous phase, 174m³ organic phase and 100m³ sediments.¹⁷ According to these estimates, the sediments would then be expected to comprise the following amounts:

TOTAL SOUR SULPHUR	45 tonnes
SODIUM MERCAPTIDES	43 tonnes ± 2 tonnes
SODIUM BISULPHIDE	2 tonnes ± 2 tonnes
SODIUM CARBONATES	Small quantity not quantified

Trafigura disputed the presence of the sediments, arguing that NFI did not report finding any mercaptide sediment.¹⁸

“ **The major difference between the rival cases being the claimants’ allegation that the Slops contained a further 45 tonnes of sulphur, thereby maximizing the quantity of materials in the Slop which could potentially cause injury.** ”¹⁹

Summarizing, this means that there are at least two theories about how much waste from the different layers were dumped:

	TRAFIGURA	UK CLAIMANTS
Aqueous phase/ spent caustic	344	253
Oily phase/organic phase/hydrocarbon phase	183	174
Sediments	0	100
TOTAL	527 cbm	527 cbm

Because the class action case was settled, we do not have information on the arguments of the claimants for the dumping of sediments. However, testimony from one of the truck drivers does suggest that sediment from the waste may have been dumped in Abidjan²⁰:

“ **I managed to fill up the tank only half way, in other words between 10,000 and 15,000 litres. At that point, the liquid was very heavy – almost like liquid mud. It was a sort of thick and reddish mud.** ”

An expert working in the oil industry consulted by Greenpeace believes it is very likely that during the voyage to Africa part of the sediment was dissolved due to the movement of the ships. It is also believed possible that part of the sediment not dissolved was dumped in Abidjan, provided a “stripping pump system” was on board the vessel that would have been able to remove (part of) the bottom layer.²¹ Evidence is, unfortunately, insufficient to evaluate this possibility.

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The mystery of chlorine: chlorine in very high levels present or not in the waste dumped?

In its email to WAIBS on 18 August 2006, before the arrival of the *Probo Koala* in Abidjan, Trafigura gave the following information concerning the chemical content of the waste:

“ ▲ Please note details of the composition of the slops for your guidance: COD (Chemical Oxygen Demand) - measured approx 21,000mg/l - The amount of oxygen consumed in complete chemical oxidation of matter present in wastewater; indicates the content of slowly degradable organic matter present

Total organic Chlorine (TOCl) - measured >5 pct - The total organic chlorine in the waste water. Typically measured using AOX analyses. The reaction of chlorine chemicals with lignins

TOTAL ORGANIC CHLORINE (TOCl)

It would be surprising if there had been such high levels of organic bound chlorine in the waste, which was essentially residues from the treatment of sulphurous oil residues with caustic soda. Also, various analyses of the waste at different locations and times available to us do not support the presence of this high level of TOCl.

If such high levels existed, then it would imply that there was significant contamination of the material (at some stage, whether before or after caustic treatment, whether before or after the *Probo Koala* sailed from Amsterdam to Africa) with chlorinated materials, either organic or inorganic reactive chlorine species. TOCl is generally determined by AOX analysis, and this analysis does not distinguish between different types of organic chlorine chemicals but simply gives a total amount of organic bound chlorine. In addition, it is unusual to report a result in this way (>5pct) - it implies that the value was too high to measure and this should lead to reanalysis of a diluted sample to determine the percentage.

The text given by Trafigura in its email to WAIBS along with the measurements is very generic, making reference to sources of TOCl compounds which are clearly not related to the waste in question or its processing. The description refers to pulp bleaching. Spent caustic is sometimes used in the paper industry for bleaching, but

this has little relevance in the context of the *Probo Koala*.²⁴

In the NFI report, reference is made to 2ppm of EOX in the oily fraction (based on analysis of a mixed sample of three samples of liquid collected from the starboard slop tanks of the *Probo Koala*), the same value as that accepted by Trafigura with reference to the NFI analyses (although in that case with reference to the Main VII).²⁵ It is not clear whether the methods applied were the same as those used in determining the far higher value reported by Trafigura (>5% or >50,000ppm). What is clear, however, is that the description of the waste given by Trafigura to WAIBS differed very substantially from the description of the waste reported by NFI in this respect, and that a very different value again was reported by the Ivorian authority agency CIAPOL for waste collected from one of the dumpsites two days after the dumping (250ppm for “organic chloride”).²⁶ If high values of TOCl were indeed measured for certain samples of the waste (for example, recorded in information which has yet to be disclosed), then the next question is where the specific contamination might have come from. This is a difficult question to answer. As stated above, TOCl is a very generic type of analysis which simply converts all chlorinated organic compounds present into inorganic chloride before determining concentrations. It is not possible, therefore, to

work back from such an analysis to determine what sorts of compounds contributed to the total.

One possible explanation for the apparent discrepancy between NFI’s report of 2ppm EOX in the oily fraction and Trafigura’s reference to >5% TOCl in the slops as a whole could be the partitioning of chlorinated residues to oily sediments which were not sampled by NFI when the *Probo Koala* was in Amsterdam. There is, however, no information available on the origin of the >5% figure for any conclusions to be drawn on this matter, and in any case, any judgement on level of hazard would require more detailed chemical-specific analysis of the material to determine what types of compounds were present and contributing to TOCl overall. All it is possible to say is that chlorinated organics, as a broad grouping of chemicals, includes a wide range of chemical families which are toxic, persistent and bioaccumulative. Percentage levels of composition would therefore clearly be of very high concern.

We can conclude that either the TOCl level of over 5 per cent was incorrect, such that Trafigura effectively misinformed the Ivorians on this aspect of the character of the waste, or it is a true finding but one based on information that has not so far been made public. At this stage, it is still impossible to say which is the more likely.

in pulp bleaching produces organic chlorine compounds of varying sizes, TOCl compounds. The compounds most harmful to watercourses are toxic, small molecule chlorine compounds. Because the harmful components of these compounds are difficult to isolate, an effort is made to reduce the entire AOX. ”²²

In the course of litigation in the UK personal injury claim in December 2008, Trafigura claimed that the TOCl and COD levels it gave to WAIBS were based on a telephone call with APS on 3 July.²³

How much waste was dumped and where?

Many questions remain regarding the waste that was dumped in Abidjan in 2006. Most importantly, it is still not known exactly how much waste was dumped and where, as well as the exact composition.

The generally cited figure for the amount of waste that was dumped in Abidjan is 528 cbm. This figure is based on Trafigura's own estimates of how much waste was on board ship after leaving Amsterdam and at the time of dumping.²⁷

However, there are some discrepancies in the information from different sources regarding the amount of waste dumped at the various dumping points. There are a number of sources, including the official data of the Ivorian authorities and a number of international and foreign agencies which responded to the government's appeal for assistance in dealing with the disaster. There are differences between the data, especially in comparison to the information coming from the first source: the drivers of the trucks themselves, who came forward with fresh testimony in 2010 after having lived in hiding for years.

Discharge certificates issued by Compagnie Tommy suggest that there were at least 16 truckloads of waste. There appear to be discharge certificates missing, however, which would suggest that there were more truckloads than originally thought.²⁸

It appears from the truck drivers' evidence that, in fact, 20 truckloads of waste were taken from the *Probo Koala*.²⁹ The detailed written statements of the nine truck drivers given to Trafigura and summarized by Greenpeace in the table below, indicate that more waste may have been dumped (between 555 and 572 cbm) than the figure which has been generally adopted (528 cbm). Although this is clearly not proof, as the drivers' statements are estimations only, it is nonetheless a possibility that could be investigated and considered in more detail.

If we compare the information from the drivers with the limited information that arose from the class action case between some 30,000 victims of the dumping and Trafigura in the UK, we can conclude that there are some similarities but also discrepancies concerning how many truck discharges took place at each location.

Key points of similarity and difference:

- » The victims estimated that 16 truckloads were dumped (“each truck containing approximately 33 cbm per truck of slops with a broad similarity of content”)⁵², while the drivers' statements make clear that in fact 20 truckloads took place (with trucks containing between 10 and 37 cbm).
- » The victims estimated that only one truck discharged in Vridi, while the drivers stated that seven drivers carrying varying quantities discharged in Vridi. According to these estimates, this amounts to a total of around 181,000-193,000L being dumped in Vridi.

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- » The victims estimated that five trucks discharged in Akouédo, while the drivers stated that seven drivers (with varying quantities) discharged there. According to the victims, around 154.8 tonnes were dumped in Akouédo (location 1.1 and 1.3 UNOSAT),⁵³ while the figure is a bit higher based on the drivers' statements, namely 223-226 cbm (assuming a density of 0.75, 223-226 cbm would be 167.25-169.5 tonnes).
- » The victims estimated that four trucks discharged in Abobo, while according to the statements of the drivers summarized in the table below, only one dumping took place in Abobo, that all nine drivers also washed their trucks and dumped the washwater there.
- » The amount of waste that was dumped in Djibi (location 4.1 and 5.2 from UNOSAT) as estimated by the victims (61.92 tonnes) was similar to the information from the drivers' detailed written statements (67-69 tonnes).

The impact of the waste on the environment

Predicting or detecting any mid and long-term implications for the environment arising from the dumping would be a speculative exercise and a near impossibility against a background of poor waste management practice, a huge variety of dumping places, poor baseline data on environmental pollution and unresolved issues around the exact composition of the waste.

TABLE LOCATIONS AND QUANTITIES: TRUCK DRIVERS INFORMATION IN LITRES

	AKOUÉDO	DJIBI/ROUTE D'ALEPE	VRIDI	KOUMASSI	MACA
DRIVER 1 BA (3)	33,000 ³⁰ (1.3?) 33,000 ³¹ (1.3?)	33,000 (5.1)			Content of washed compartments in the Banco Forest ³²
DRIVER 2 DA (4)	37,000 (1.3?) 38,000 ³⁴ (1.3?)	34,000-36,000 ³⁵ (4.1 or 4.2)	10,000-15,000 ³⁶ (9.1)		
DRIVER 3 SD (2)			20,000-25,000 (9.1)	30,000 Koweit ³⁸ (10.1)	
DRIVER 4 CH (3)	22,000-25,000 (1.1 or 1.3)		22,000 ³⁹ (9.1)		Content of washed compartments ⁴⁰
DRIVER 5 ZS (1)			20,000 ⁴³ (9.1)	11,000 to a garage in Koumassi (10.1)	
DRIVER 6 SA (1)			34,000 ⁴⁴ (9.2)		
DRIVER 7 CI (2)			30,000 ⁴⁵ (9.1) 15,000-17,000 ⁴⁶ (9.1)	10,000 in tanks of a garage in Koumassi (10.1)	
DRIVER 8 OS (2)	30,000 ⁴⁷ (1.1?) 30,000 ⁴⁸ (1.1?)				
DRIVER 9 SD (2)			15,000 ⁴⁹ 15,000 ⁵⁰		
TOTAL (20 TRUCK LOADS) 555-572M³	223,000- 226,000 litres	67,000-69,000 litres	181,000-193,000 litres	51,000 litres	

Nevertheless, the knowledge that we have regarding the composition of the waste indicates the following when estimating the potential effects on the environment:

- » Given how strongly alkaline the waste was, there would be a considerable risk to both people and wildlife in the immediate vicinity if either had any direct contact with it.
- » Rainfall or contact with surface water could result in further dispersion of the waste, creating a significant risk downstream of the initial location as the highly alkaline mixture migrated. Contact with and/or consumption of water substantially contaminated with the waste could have serious consequences for humans or wildlife.
- » Knowledge about the composition of the waste gained from the NFI analysis implies that perhaps the most relevant impacts on the environment would be of an acute rather than chronic nature, arising from the highly alkaline nature of the waste and high levels of mercaptans or phenols released if there had been a significant decrease of the pH levels, even if only in a proportion of the waste.

	PLATEAU DOKUI	ABOBO
		Cleaning truck at lavage Gros Trou ³³
	Cleaning truck at Lavage Coco Service ³⁷	
	Cleaning truck at Lavage Coco Service	
		33,000 UTD garage ⁴¹ Cleaning truck Gros Trou a Abobo ⁴² (2.3?)
		Cleaning truck at lavage à Abobo Banco
		Cleaning truck at une station de lavage à Youpagon
		Cleaning truck at lavage near roundabout of d'Abobo Banco Anador
		Cleaning truck at Banco Lavage
		Cleaning truck at d'Abobo Lavage
		33,000 litres

NOTES TO THE TABLE:

- » This table is developed mainly based on the written statements of the nine truck drivers to Trafigura in 2009 (11 February 2009) and also on the written statements of five drivers and of one assistant driver to Greenpeace in 2010 (several dates).
- » Under each driver it is stated how many loadings/discharges the driver carried out (between one and four discharges)
- » After each amount of waste dumped it is stated to which locations the waste was taken. This is based on the drivers' description of the dumping places. Where this corresponds with locations marked on the UNOSAT map, this is noted. However uncertainties are also noted.
- » This table also shows whenever the information was available, where the truck drivers washed their tanks. It is possible that the locations of where the contaminated cleaning water was dumped were identified by several institutions as dumping or impact points.
- » All the truck drivers that transported the *Probo Koala* waste (except driver 5 and driver 7 who died in 2008 and 2009 respectively) are members of the organization Stop Chauffeur en Danger (SCD).
- » Note that the total figure for waste dumped according to the written statements of the nine truck drivers given to Trafigura from February 2009, and summarized in the table, indicate that possibly more waste was dumped: between 555 cbm and 572 cbm. This is higher than the figure of 528 cbm that has been generally adopted.⁵⁴ The difference might be explained by one or a combination of the following reasons: (a) The drivers gave an estimation of how full their trucks were loaded: as these are estimations, they may not necessarily precisely reflect the reality. (b) The *Probo Koala* had left the port of Amsterdam with 544 cbm on board (and 16 cbm had not been left behind as has generally been assumed).

CHEMICAL OXYGEN DEMAND

COD is Chemical Oxygen Demand. This is essentially a measure of the maximum amount of oxygen that would be consumed in aqueous solution if all the oxidizable chemical (and biochemical) materials in a sample were completely oxidized. It involves a very aggressive process of chemical oxidation (ie using strong oxidizing agents) and therefore should always be taken as a maximum rather than a direct indication of how much oxygen would be consumed from water in contact with the waste. In practice, it is likely that only a proportion of the material would be oxidized (though what proportion depends on too many different factors to be able to estimate). Nonetheless, COD is used as a sound measure of the relative potential for a waste to deplete or even remove oxygen from water, and a very high COD is a major cause for concern (given that each liter of well aerated fresh water contains only around 8-10mg of oxygen), even if the maximum potential is never realized in practice. What a COD figure of 720,000mg/l indicates is essentially that, if all the material in just 1kg of the waste were to be completely oxidized, it could consume all the oxygen from around 80-100m³ (80-100,000 litres) of well aerated water. Even a small fraction of that could clearly have substantial and long-lasting impacts on aquatic life downstream from the waste, as few aquatic species can survive under very low oxygen conditions. It is this potential for depletion of oxygen and its knock-on effects that explain the concern about very high COD.

Remarkably high COD level reason for environmental concern

The waste dumped in Abidjan had a very high COD (Chemical Oxygen Demand). NFI measured it at 720,000mg/l, while BMA reported a measure of almost 500,000 to Falcon Navigation.⁵⁴ This value, even for spent caustic, does seem extremely, even unusually high – such wastes are commonly reported to have CODs of around 30-50,000mg/l, and only very occasionally up to 400,000mg/l or 500,000mg/l. Compounds like sulphur, phenols and hydrocarbon residues are generally responsible for the high COD in this type of waste.

Impact of the waste on health

UNDAC (United Nations Disaster Assessment and Coordination), which carried out a mission to Abidjan between 11 and 19 September, reported that “evaporation of volatile substances would likely have occurred in the direct aftermath of the dumping, resulting in serious or even life-threatening concentrations”, and that “it is believed that three weeks after the dumping the concentrations of the concerned compounds in the air are low and no further adverse health effects are to be expected”. UNDAC further noted that “the chemicals, especially mercaptans, have strong smells at low concentrations. The smell is already detectable by the human nose at concentration far below danger levels and that this may give a false impression of toxicity”. Nonetheless, mercaptans, having strong smells even at low concentrations, can cause anxiety and/or feelings of nausea. UNDAC also noted that the technical experts made a contribution to “reducing the tension caused by the lack of objective and comprehensible information”.⁵⁵

There is, however, a general underlying lack of data on the variables prevailing at the time of the dumping, including the rates of release of hazardous chemicals in the many different dumping sites. It was certainly the case that there was a lack of information and that this inevitably would increase anxieties. While anxiety can exacerbate suffering, any suggestion that the physical symptoms experienced by tens of thousands of people were due to anxiety rather than the effect of chemicals is not credible.

A toxicologist consulted by Amnesty International and Greenpeace⁵⁶ confirmed that many factors might have altered exposure to chemicals and their impact on people living or working near the site. These factors include:

- » **Ambient temperature:** the higher the temperature, the greater the rate of evaporation of possible solvents from the mixture.
 - » **Rainfall:** a significant amount of rainfall would be required to bring down the pH of the waste. But if there were sufficient slightly acidic rainwater, the pH of the mixture would be driven down to the point where first mercaptans would be released (between pH11 -10) and then, if it fell even lower (to around pH7-8), hydrogen sulphide. Rainfall would also result in further dispersion of the waste. Given how strongly alkaline it was, there would be a considerable risk to both people and the environment in the immediate vicinity if either had any direct contact with the waste.
 - » **Quantity of waste dumped and its composition:** the more waste dumped, the greater the likelihood of significant exposure to chemicals.
 - » **Method of dumping:** if dumping was into water there would be significant dilution and mixing of waste. The basicity of the waste would fall, and individual substances might become more volatile as a result.
 - » **Mixing of waste with other materials such as water/soil/solvents/absorbents:** other chemicals present in liquid into which the waste was dumped might also have an effect on what evaporated. Similarly, if there was any absorbent material, it might lock the waste in, slowing subsequent release of chemicals. The pH of the soil surrounding the waste would also have an impact on the basicity of the waste if there was any significant mixing, potentially reducing pH and enabling earlier release of chemicals such as mercaptans.
 - » **Dilution of waste after dumping**
Wind speed and direction: any wind would cause chemicals in the air to disperse more quickly. People downwind of the release point would be affected by chemicals in the air.
 - » **Proximity of the local population:** clearly the closer individuals are to dumped waste, the more at risk they would be because their inhalation exposure to volatilized chemicals would be greater. The further away people are, the less their exposure because the concentration of volatilized chemicals would be diluted by uncontaminated air. As individuals can only take in so much air over a given interval, the lower the air concentration of a chemical, the less will be inhaled.
 - » **Susceptibility of individuals to chemicals in question:** some individuals would be more susceptible to organic chemicals than others. Many organic chemicals act as irritants for people with asthma and may trigger an asthma attack.
 - » **Volatility of the substances:** based on the volatility of the chemicals in question, it is likely that most of the chemicals in the hydrocarbon phase would have evaporated in a matter of days. Substances in the aqueous phase would evaporate as the pH fell, with mercaptans becoming airborne when the pH was between 10 and 11. Hydrogen sulphide would be released if and when pH fell to between 7 and 8, even if only for a small portion of the waste.
- These variables drastically affect estimations of the likely impacts of the dumping on people living in the city. This is important because it concerns the underlying accuracy of any modelling exercise, including Trafigura's.

ANNEX I

Trafigura's position

It is clear that, in the absence of definitive data on the composition of the waste and the variables prevailing in each of the many locations the waste was dumped, it is impossible to say that the toxic waste dumping did not contribute in some measure to more serious health impacts such as miscarriages and/or deaths as claimed by victims interviewed by Amnesty International and recorded by the Ivorian authorities.

In contrast, Trafigura has been very specific about what it asserts could have been the health impacts of the waste on the people of Abidjan.

- » Initially, Trafigura denied that the waste could have had any health effects, claiming that there were alternative plausible explanations for the 100,000 who were registered in state hospitals in Abidjan in the aftermath of the dumping, including mass hysteria, people free-riding on the provision of free health care by the state or the fact that a product had been sprayed to kill mosquitoes in and around Abidjan at the same time:

“ Further, any false impression and/or fear of toxicity and false reporting would have been increased by ... the offer of free, universal health care; ... local doctors reportedly notifying patients not to drink milk in case it was radioactive ”⁵⁷

“ On 19 August 2006 ... the product K-OTHRINE-EC25 ... was sprayed from a helicopter to kill mosquitoes in and around Abidjan. ... The spraying was reported to have caused an odour with children under 5 years old and old people reporting ‘breathing problems’ and problems with palpitations ”⁵⁸

- » In its out of court settlement with 30,000 victims in the personal injury claim brought in the UK, Trafigura then accepted that the waste could have had some short-term health impacts. In an agreed joint statement with the claimants' lawyers, Trafigura stated that the waste could have caused “flu like symptoms”. To date, Trafigura has refused to specify what “flu-like symptoms” they acknowledge could have been caused by the waste. This is important because flu-like symptoms potentially encompass a wide range of symptoms, from mild to severe.

While the statement specifically states that the waste could “at worst” have caused flu-like symptoms, it remains the case that Trafigura has now accepted that short-term health impacts could have been caused by the waste. To this day, Trafigura categorically rejects victims' claims that deaths, miscarriages and serious injuries were caused by the waste. The company states that this is supported by the work of independent experts who have estimated, based on modelling, what quantity of chemicals would evaporate and over what interval. These estimations were based on assumptions about the fall in pH and one real measurement 22 days after dumping. This indicated that the pH of the waste fell to about 9.5 after 22 days. Trafigura have stated that “none of the chemical constituents of the waste can have released in quantities and in a manner sufficient to cause any toxicological injury.”⁶⁰ The expert results were summarized in evidence presented by Trafigura to the High Court in London in a reply to the BBC. However, the original experts, reports commissioned by Trafigura and the expert reports commissioned by the victims that were part of the UK group action case are not available for scrutiny. The assumptions used in these estimations that Trafigura refers to can therefore not be reviewed.

What it is possible to conclude on the publicly available evidence

It is likely that individuals would have been exposed to one or more of the following chemicals, by contact, inhalation or otherwise.

SODIUM HYDROXIDE

Based on the NFI analysis, sodium hydroxide represented some 10 per cent of the waste, weighing 37.9 tons.

Sodium hydroxide can be absorbed into the body by inhalation of aerosol and by ingestion. The chemical is very corrosive to the eyes, skin and respiratory tract. Because of its corrosiveness, skin will be damaged on contact but uptake by the skin is unlikely to be a significant exposure route unless there is extensive skin injury. It is corrosive following ingestion. Inhalation of an aerosol of sodium hydroxide may cause lung oedema. Repeated or prolonged contact with skin may cause dermatitis.

Following inhalation of sodium hydroxide aerosols, individuals complain of a burning sensation, sore throat, cough, laboured breathing and shortness of breath. Symptoms may be delayed. Contact with the skin will result in the skin becoming red and painful and there may be serious skin blisters.

Exposure of the eyes will result in them becoming red and painful and there may be blurred vision and severe deep burns. Any ingestion will result in a burning sensation and abdominal pain with the individual going into shock and possibly collapsing.

MERCAPTIDES/MERCAPTANS

Mercaptide salts that is, salts into which the mercaptans in the original coker naphtha would have been converted (however inefficiently) during the caustic washing operations – have been found in the waste. The compounds that were identified by

NFI in a mixture which had been acidified included methyl mercaptan, ethyl mercaptan, butyl mercaptan, propyl mercaptan, pentyl mercaptan, phenyl mercaptan and heptyl mercaptan, indicating the presence of a diverse array of mercaptides in the waste itself. It is clear that the pH of some of the waste did fall below 11, which would have resulted in a proportion of the mercaptides being converted back to mercaptans and being released.⁶¹

Following inhalation of mercaptans, the likely effects would be headache, nausea, cough, dizziness and drowsiness. There may also be vomiting as a result of the nausea. Where concentrations are high enough, individuals can become unconscious, the breathing rate will slow and there is a risk of death.

Exposure to certain mercaptans at high enough levels could, in theory, be lethal. While it is clear that there are doses which are lethal to animals in laboratory tests, evidence for humans is very limited. There is, however, one well known example of a worker's death which is thought to have resulted from high level exposure to methyl mercaptan in the 1960s. He was involved in cleaning out tanks in which the chemical had been stored, so his exposure was probably very high and perhaps long-term, but it is taken (even by the US Environmental Protection Agency) to be "a single case of death resulting from occupational exposure to methyl mercaptan."⁶²

Mercaptans are recognized irritants of the eyes, skin, and respiratory tract. Exposure to the eyes can result in them becoming red and painful. Exposure of the skin can result in it becoming red and painful. Prolonged exposure can cause dermatitis.

A toxicologist has advised Amnesty International and Greenpeace that medical observation is warranted where exposure may have occurred.⁶³

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Mercaptides will therefore be a source of mercaptan vapours as the pH decreases after the waste was dumped, but the mercaptides themselves are also hazardous chemicals, including by skin contact, ingestion and aspiration (inhalation of droplets). They are nowhere near as strong-smelling as the mercaptans, but have an unpleasant odour nonetheless.

HYDROGEN SULPHIDE (H₂S)

More difficult to determine is whether individuals would have been exposed to hydrogen sulphide. This would only have happened if the pH of a proportion of the waste fell to between 7 and 8. Trafigura has taken the position that hydrogen sulphide could only have been released from the slops following the addition of large quantities of concentrated acid. And they state that there is no evidence whatsoever of any such significant acidification event.⁶⁴ A toxicologist consulted by Amnesty and Greenpeace confirmed that over time it is likely that this lower pH would have been reached in at least the surface layers of some of the waste, because of dilution with rainfall and contact with other soil ingredients. However, it is not possible to say how long it would have taken to reach this stage.

A very large amount of rainfall (which is normally just below neutral pH) would be required to neutralise *all* of the waste dumped to a pH of 7-8, and this would not be likely within a matter of days, weeks or even months. However, there is likely to be a gradation in any pile of waste from the upper or outer layers, which may be neutralized more rapidly (as they are most directly exposed to the neutralizing effects of rain water), and the inner or lower layers which will remain at high pH for longer. In other words, you do not need to have reduced the entire bulk of the waste to pH 7-8 in order for there to be a problem with H₂S – it would only be necessary for a small fraction of the material, perhaps a thin surface layer but over a wide area, to have been

reduced in pH sufficiently for H₂S to have been generated. Again, we do not know this actually occurred in practice, but theoretically at least it is not impossible, even with a much smaller amount of water.

This is not to say that there was definitely a problem with H₂S release from the waste (and most of the odour problem was much more likely to have been from the mercaptans), but simply to that, even if a lot of water were needed to neutralize all the waste that was dumped, it would only be necessary to neutralize a small proportion of the waste for H₂S to be released and become a potential problem. Where waste was dumped into river channels, lagoons, or in thin deposits on land, neutralization could have been much more rapid and efficient, even if the majority of the waste (dumped elsewhere) remained at a high pH because of its physical bulk and limited contact with water.

Hydrogen sulphide is irritating to the eyes and respiratory tract and it will affect the central nervous system. Exposure may result in unconsciousness and death. Following inhalation of the gas, lung oedema may develop. Signs and symptoms may be delayed and may include headache, dizziness, cough, sore throat, nausea, laboured breathing and unconsciousness. Exposure of the eyes will result in them becoming red and painful and there may be severe deep burns. Hydrogen sulphide is known to be very toxic to aquatic organisms.

The effects of exposure to hydrogen sulphide depend on the concentration of the chemical; those exposed to high concentrations would be at greatest risk.

PHENOLATES/PHENOLS

Representing 4.8 per cent of the waste, phenols and cresols combined accounted for 18.2 tons according to the findings of NFI. Although at the high pH values characteristic of the waste when dumped, the majority of the phenols would be present in their phenolate form; conversion to their phenol forms would be expected as pH subsequently fell over time. For phenol itself, which makes up an unknown proportion of the 4.8 per cent total phenols and cresols determined in the waste, the majority would be expected to be converted from phenolate to phenol at pH values below around 9.9. The term phenols covers a wide range of aromatic compounds with a common active hydroxyl group as part of the molecule and, as such, they vary in their toxicity depending on their precise molecular structure. Phenol itself (and any vapour of phenol), for example, is corrosive to the eyes, skin and respiratory tract, and any inhalation of vapour may cause water retention in the lung (or lung oedema). Exposure to phenol will affect the central nervous system, heart and kidneys. After inhalation individuals could experience a sore throat, burning sensation in the throat, cough, dizziness, headache, nausea, vomiting, shortness of breath and difficulty in breathing. If concentration is high enough, individuals will become unconscious and may die. Phenol is easily absorbed across the skin. It will cause serious skin burns and numbness in the skin. Skin exposure could result in individuals developing convulsions, collapsing, becoming comatose and dying. The effects of phenol exposure may also be delayed. Exposure of the eyes to phenol will cause pain and reddening and there may be permanent loss of vision with severe deep burns. Because phenol is corrosive, ingestion will cause significant abdominal pain, convulsions and diarrhoea, with individuals possibly developing shock or collapsing. Repeated or prolonged contact with phenol on the skin will cause dermatitis.

Cresols, or methyl phenols as they are often termed, possess many properties similar to phenols. They are corrosive to the eyes, skin and respiratory tract. They are corrosive on ingestion. Inhalation of vapour, or an aerosol of the liquid, may cause water retention in the lungs (lung oedema). The chemical may affect the central nervous system, cardiovascular system, lungs, kidneys and liver, resulting in central nervous depression, respiratory failure and damage to tissue. In high concentrations individuals may become unconscious and die.

Effects on inhalation are a burning sensation in the throat, which becomes sore. Individuals complain of a cough, headache, nausea, vomiting and laboured breathing. There may also be shortness of breath.

Cresols can be absorbed across the skin causing the skin to become red and painful; blisters and burns may occur.

Cresols are corrosive to the eyes and will cause redness and pain and there may be severe deep burns. Ingestion of cresols can result in nausea, vomiting, abdominal pain, a burning sensation, and individuals may develop shock and collapse. Prolonged exposure of the skin to cresols will cause dermatitis.

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BENZENE, XYLENE AND TOLUENE

Toluene, xylene and benzene are in the category aromatics which comprised some 6.2 per cent of the hydrocarbon phase and weighed 8.5 tons. These chemicals would have been most abundant in the hydrocarbon phase of the waste and would be expected to have evaporated relatively quickly from the surface, giving rise to potential exposure through inhalation of vapours or contact with skin.

These organic chemicals have the potential at high concentrations to bring on asthmatic symptoms in individuals who already have asthma. The general short term effect of exposure to these organic solvents is on the central nervous system, with individuals becoming drowsy and developing headaches.

Benzene, for example, can be absorbed into the body either by inhalation, through the skin, or ingestion. The chemical is irritating to the eyes, skin, and respiratory tract, and any swallowing may cause aspiration into the lungs with the risk of a chemical pneumonitis (oedema, or water retention in the lungs). There may be effects on the central nervous system, resulting in the lowering of consciousness. If the vapour concentration is high enough individuals may become unconscious and die.

Effects of inhalation include dizziness, drowsiness, headache, nausea, shortness of breath, convulsions and unconsciousness. The chemical may be absorbed across the skin and as it defats the skin, the skin will become dry, red and painful.

Exposure of the eyes will cause them to become red and painful. Any ingestion will result in abdominal pain, sore throat and vomiting. Exposure to benzene can have effects on bone marrow and the immune system, and the chemical is a recognized cancer causing agent in humans.

Toluene is another solvent which is similarly irritating to the eyes and respiratory tract and capable of causing effects on the central nervous system, even leading to cardiac dysrhythmia (heart irregularities) and unconsciousness at very high exposure levels. Exposed individuals may complain of a cough, sore throat, dizziness, drowsiness, headache and nausea, as well as redness and pain if skin is exposed directly. Exposure to high levels of xylene can cause similar symptoms.

The toxicologist also noted that, that many of the chemicals are respiratory tract irritants, it is to be expected that individuals with any breathing problems such as asthma, or bronchitis could experience an exacerbation of these symptoms following exposure. Exposure to many of the organic solvents and any of the irritants could bring on an asthmatic reaction in sensitive individuals.

What should have been done

Much more complete information would be required to assess the effects of dumping on a population, including:

1 Full details about the waste

- » its composition and variability;
- » its pH, and how that varied initially and over time;
- » where it was dumped and in what quantities;
- » what it was dumped into and whether the receiving fluid or soil would alter the waste and in what manner;
- » the method of dumping and whether this may result in aerosolization of material;
- » measurement of air concentrations of all chemicals downwind of the dumping and particularly in areas where there is any human habitation;
- » repeat measurements of air concentrations and at various locations to encompass all exposed populations and to enable modelling to be done to estimate exposures;
- » details about rainfall and measurement of the composition of the waste at different times to monitor how it might be changing to support modelling of the likely exposure of the population;
- » wind direction and speed, at least for the period when exposure is likely to be significant, to again model exposure patterns.

2 The health effects of exposure to all the chemicals in the waste with which people may come into contact and the concentrations likely to be injurious.

3 Monitoring of the health records for the local population to see if there had been any change in the frequency of admissions to hospitals/health centres/or visits to local medical practitioners in the period immediately prior to the dumping of the waste compared with the period after the dumping, and to note the symptoms of which individuals complained. If changes in reporting frequencies had

occurred, to follow up with those who had complained after the dumping to see if their complaints were consistent with exposure to components of the waste.

4 A proper epidemiological study of the population (to assess any changes in health or increased mortality) which may have been exposed to the chemicals from the waste and to have a matching control group of individuals who could not have been exposed. The study would need to be of sufficient size and power to detect changes and would have to match individuals according to age, sex, general environment and any other variable to ensure as far as possible that the only difference between the exposed group and the controls was possible exposure to chemicals in the waste.

ANNEX NOTES

1. NFI expert report, Ministry of Justice, Netherlands Forensic Institute, 29 January 2007, Odour incident, APS Amsterdam.
2. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, French version. In the annexes the AVR analyses are included dated 3 July 2006.
3. ATM Afvalstoffen Terminal Moerdijk, Analysis of sample 3 July 2006. Date of report publication, 8 September 2006.
4. Amnesty International English translation of verdict on Trafigura Beheer BV, LJN (National Case Law Number): BN2149, District Court of Amsterdam, 13/846003-06 (PROMIS), para 8.3.3.9.
5. NFI measured a pH of 14 and AVR and ATM Moerdijk measured a pH of 12.9.
6. "On the same day, Mr Marrero emailed Captain Kablan confirming the contents of the conversation by stating: Trafigura wished to disclose of 528m³ of slops from the *Probo Koala* arriving at Abidjan on 19 August 2006. Trafigura Amended Defence 5 December 2008 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370), paras 163 and 163.1.
And the Amsterdam court evidence says: "The report from Dr Geoffrey Bound of Minton, Treharne & Davies Ltd dated 6 April 2010 states the ratio of the oil and water fractions in the slops in Abidjan (p5):
"2.6 In summary, I have concluded that the slops onboard the *Probo Koala* prior to its arrival in Abidjan comprised 183m³ of hydrocarbons derived from the Brownsville cargoes (weighing 137 mt) and 344.8m³ of aqueous solution (weighing 379 mt and representing 199m³ of added caustic wash solution combined with other water delivered with the cargoes) as follows..."
Note: This evidence can only be used in the Trafigura case; it is excluded from the Chertov and Ahmed cases.
It must be pointed out that Bound arrives at a total amount of 527.3m³, whereas there were still about 544m³ in the slop tanks in Amsterdam. Captain Chertov states, in his "letter of protest" of 5 July 2006 that over 16m³ less was returned to the *Probo Koala* than was delivered to APS.
We also refer to an email message from Gampierakis (Falcon Navigation) to Ahmed et al of 26 July 2006 stating that the captain found that 528,308m³ of slops were on board at that point (360,260m³ in the port tank and 168,048m³ in the starboard tank).
Source: p28 from Evidence Overview for Trafigura Beheer BV, N Ahmed, S Chertov, Facts: section 174 of the Dutch Penal Code and section 225 of the Dutch Penal Code. This evidence is part of the files of the Dutch public prosecutor.
7. NFI expert report, English, 10.1 p35/63. The analysis by CIAPOL (part of the Ministry of Environment of CDI) in Abidjan of traces found on the quay alongside the *Probo Koala* after the dumping of the waste show a figure of 0.6% of hydrogen sulphide which is in the same range as NFI results.
8. NFI expert report, English 2.1.2 Analysis of the watery phase, p 43/63 and 44/63.
9. Trafigura Responses to Amended requests for Clarification of the Defence Pursuant to Part 18 of the CPR 03 Dec 2008.pdf (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370)
10. Carter-Ruck Reply, in the High Court of Justice Queen's Bench Division, Claim No. HQ09X02050 between Trafigura Limited v British Broadcast Corporation served 20 November 2009. Para 51 and 69. Reasons why Trafigura does not consider the CIAPOL/SIR results a reliable analysis include: "The sample was taken from material said to have been dumped on the wharfside in Abidjan and not from the Slop tanks themselves, with an obvious potential for cross contamination." And: "There is no indication in the results as to the method of testing, particularly whether the presence of hydrogen sulphide was recorded as a result of an acidification process or a process which required all sulphides to be measured as hydrogen sulphide."
11. Analysis of chemical composition is based on the Amsterdam NFI Chemical Analyses. Weight is based on 379 tonnes (344.8m³) aqueous slops at a density of 1.1 for 10 per cent caustic.
12. The NFI report labels the 0.5% as Hydrogen Sulphide. Trafigura gives it a different description in their list (Inorganic Sulphur (Sulphide and Bi-Sulphide as S) as NFI identified the H2S in a mixture which had been acidified.
13. Analysis of chemical composition is based on the Amsterdam NFI Chemical Analyses. Weight is based on 137 tonnes (183m³) at a density of 0.75 measured in Abidjan by CIAPOL on 22 August 2006 (from a sample drawn on 21 August 2006).
14. The sampling of the waste present in the slop tanks of the *Probo Koala* in Amsterdam was carried out using a jar that was lowered to the bottom. This wouldn't necessarily have detected any sludgy sediments. To test for sediments, they would have had to use specialist sampling equipment (absolute bottom sampler), designed to pick up sediments from the bottom of tanks. The choice of NFI to take a running sample was deliberate as it would give a better reflection of the composition of the waste than the combination of a top, middle and bottom sample (p 9 NFI report Expert Report
15. This was reported during the criminal court hearing in Amsterdam, on 10 June, 2010 and the judge read out an email saying: "It is very likely that we find solid residues in the cargo tanks and slop tanks due to the caustic washings, these may include caustic soda, sodium sulphide, sodium hydrosulphide and sodium mercaptides."
16. Report Accident investigation following the Vest Tank explosion at Slovag, Revision 03 – English version, Bergen, 26-09-2008, p18: "T3 (4000m³, ID 18 m, TT 16 m) contained about 270m³ liquid at the time of the accident: 50m³ precipitated waste from the treatment of coker gasoline, 205m³ waste water from tank T61, and 14-15m³ hydrochloric acid (filling of acid from a tank truck was going on when the accident occurred)", p27, p62: "From October 2006 to March 2007, the company Vest Tank had periodically treated shiploads of a petroleum product called coker gasoline in order to reduce the content of malodorous sulphur containing components, especially mercaptans (thiols). The essential chemical principle behind this process was the high solubility of mercaptans in alkaline solutions of sodium hydroxide and water (caustic soda), compared to the solubility in coker gasoline. The cleaning process took place in two atmospheric storage tanks, T3 and T4, and resulted in the precipitation of solid waste that over time accumulated in the bottom of the tanks. The amount of dissolved or precipitated waste eventually reached a level where it was no longer possible to treat further tank loads of coker gasoline. The purpose of the process that went on when the accident took place was to dissolve the precipitated waste in tank T3, and at the same time reduce the pH value in the alkaline solution, by adding hydrochloric acid."
17. Carter-Ruck Reply, in the High Court of Justice Queen's Bench Division, Claim

- No. HQ09X02050 between Trafigura Limited v British Broadcast Corporation served 20 November 2009. p15 (para 56), p27 (para 103) and Appendix 2 to the Reply: The group Litigation Claimants, Case on the Composition of the Slops.
18. Carter-Ruck Reply, in the High Court of Justice Queen's Bench Division, Claim No. HQ09X02050 between Trafigura Limited v British Broadcast Corporation served 20 November 2009, p27.
 19. Carter-Ruck Reply, in the High Court of Justice Queen's Bench Division, Claim No. HQ09X02050 between Trafigura Limited v British Broadcast Corporation served 20 November 2009, p15.
 20. From written testimony from one of the truck drivers to Trafigura. Deposition de XXX to Trafigura, 11 February, 2009, English translation from para 58: "Je n'ai pu remplir qu'une demi-citerne, soit entre 10 et 15.000 litres. Le liquide était alors très lourd – presque comme de la boue liquide. C'était une sorte de boue épaisse et rougeatre".
 21. In a meeting between A v Campen and Greenpeace, on 18 November 2010.
 22. Email from Paul Short to WAIBS Shipping, copied to Puma Abidjan Ops, Jorge Marrero, Athens Ops, Disbursements, 18 August 2006. Source: Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, French version, p28 and 29 as well as the annexes to that document.
 23. "80 That morning, APS asserted that the slops had a Chemical Oxygen Demand ("COD" level of 500,000mg/l and, therefore, disposal costs had escalated considerably to Euro 1,000/m³ – approximately a 3000% increase.
81 In a telephone call on the morning of 3 July, Mr Wolf of APS also informed Mr Ahmed of Trafigura that the slops had a total organic chlorine (TOCl) level above 5% and a COD levels of approximately 20,000mg/l.
82 It is averred that:
82.1 the COD levels is a measure of the amount of oxygen required to process liquid slops and was irrelevant to the classification of the slops as MARPOL slops or otherwise.
82.8 the COD levels was markedly different from that previously stated; and
82.3 the figure for TOCl in the slops was incorrect."
Trafigura Amended Defence 5 December 2008 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen's Bench Division, Claim No. HQ06X03370), paras 163 and 163.1.
 24. For more details see a specific website: www.spentcaustic.com/index.htm and more specifically www.spentcaustic.com/disposalalter.html. Spent caustic can be used in making paper.
- Source: www.amritcorp.com/abcpaper.html; section chemical recovery plant.
25. The MAIN VII is the APS barge that transported part of the waste from the *Probo Koala* to APS.
 26. The NFI report calculated "the EOX content (Extractable Organic Halogen Compounds: Halogens: bromine, chlorine and fluorine) of a mixed sample of samples [1-SB-BM], [1-SM-CM] and [1-SB-TM] (1.001 to 1.003) from the starboard tank was determined microcoulometrically, in conjunction with testing of APS's acceptance criteria." NFI report p11. A CIAPOL (Ivorian environmental agency) sample taken from the dumpsite Akouédo on 21 August 2006 two days after the dumping took place does make a reference to a finding of 250mg/l organo chloride components. This is what it says with regard to organic pollutants: Organic chloride 250mg/l
Methodology: Mineralisation and alalysism Chlorimetric method LD 2000
* Refuse regulation (SIIC): <50 (PCB)
* Authorized concentrations. The amounts cited with regard to the regulation correspond to the lowest daily debits.
As far as we can see, this figure (250mg/l) does not match the figure of 50,000mg/l). The figure over the >5% (ie >50g/l, or >50,000mg/l) would be suggestive of a high proportion of a chlorinated waste, not of minor or trace residues of chlorinated materials compounds being present as incidental contaminants. The value reported by CIAPOL is also high and would ordinarily indicate a heavily contaminated waste with respect to chlorinated organics, even though it is a fraction only of the value suggested by the >5%.
AVR, who analyzed samples taken by APS when the *Probo Koala* was in Amsterdam in July 2006, analyzed far too few variables to be informative from a toxicological perspective. There is however a mention of total chlorine content of 0.09% which could include inorganic chlorine (ie chlorides from salt) which is also a far lower level than the value suggested by the >5%. Republic of Côte d'Ivoire, National Commission of Enquiry on the toxic waste in the district of Abidjan, 15 November 2006, French version, in the annexes the AVR analyses are included dated 03-07-2006.
 27. The report from Dr Geoffrey Bound of Minton, Treharne & Davies Ltd dated 6 April 2010 states the ratio of the oil and water fractions in the slops in Abidjan (p5):
"2.6 In summary, I have concluded that the slops onboard the *Probo Koala* prior to its arrival in Abidjan comprised 183m³ of hydrocarbons derived from the Brownsville cargoes (weighing 137 mt) and 344.8m³ of aqueous solution (weighing 379 mt and representing 199m³ of added caustic wash solution combined with other water delivered with the cargoes) as follows..."
It must be pointed out that Bound arrives at a total amount of 527.3m³, whereas there were still about 544m³ in the slop tanks in Amsterdam. Captain Chertov states, in his "letter of protest" of 5 July 2006 that more than 16m³ less was returned to the *Probo Koala* than was delivered to APS. We also refer to an email message from Gampierakis (Falcon Navigation) to Ahmed et al of 26 July 2006 stating that the captain found that 528.308m³ of slops were on board at that point (360.260m³ in the port tank and 168.048m³ in the starboard tank). This evidence is part of the files of the Dutch public prosecutor.
 28. Amnesty International and Greenpeace are aware of certificates, with numbers of the certificates ranging from 000101 to 000119, but several numbers are missing (numbers 000109, 000110 and 000111).
 29. This calculation is based on the combined evidence of written statements given to Trafigura by the drivers. A total of nine drivers made statements to Trafigura and signed them on 11 February, 2009. These were seven drivers, an assistant of a driver who died in 2008 and a driver who died later in 2009.
 30. "The three trucks set off together but we didn't arrive in Akouédo at the same time. ... When I arrived at the weighbridge, it was at the dead of night. People waved me on to the weighbridge; I went on to it but I don't think that my truck was weighed. ... As I waited, people filled out forms and I had nothing to do. XX then came up to me with a man from the office and they pointed to a place opposite and said "Go down there!" I went in the direction indicated and, where there is a big tyre splitting the road, I turned left. I went down the road a little further, turned round and parked near to a small bridge crossing some water. ... The eleven compartments in my tanks empty through two hatches at the bottom and, when these hatches were fully opened, the liquid squirted out with a certain pressure behind it." (Deposition de XXX to Trafigura, 11 February, 2009, English translation).
 31. "I filled all the sections of my tank, left the quay and went to Akouédo on the motorways. Just before I left, there was a rumor that there were problems with some truck drivers and, with hindsight, it is probable that it was XXX, who had been arrested at the checkpoint in Riviera Deux. ... They didn't tell me where I had to go so I went to exactly the same place: to the left of the big tyre and near the small bridge. The same smell was there as at the Shell car park. I unloaded by just opening the two hatches and the liquid poured out over the bridge with a certain pressure behind it." (Deposition de XXX to Trafigura, 11 February 2009, English translation).

ANNEX NOTES

32. "We then went to the Banco station laundry on the motorway on the way to Youpougou. ... Near a mango close to the motorway at the Youpougou banco station, we pumped water into each compartment of the tank and we poured a mixture of gresyl, Omo and oil into each of the compartments. Then we shut the compartments and went to Maca with this mixture sloshing around. We dumped the contents on the edge of the road after the police checkpoint in the Banco Forest before going back to Abobo. (Deposition de XXX to Trafigura, 11 February, 2009, English translation).
33. "We went to a car wash in Abobo but they wouldn't let me clean my truck. We then went to a second car wash on the same road known as "Gros Trou. ... In order to tackle the smell, we use red palm oil by soaking a rag in oil to wipe the walls of the tanker compartment." (Deposition de XXX to Trafigura, 11 February, 2009, English translation).
34. "Officially, the capacity of my tank is 37,000 litres but, when I was loading for the second time, I exceeded that capacity and filled it with more than 38,000 litres. My tanker was so full that there was a risk of spillage in the bends and that is probably why (the smell of the liquid) the police has pulled us over." (Deposition de XXX to Trafigura, 11 February, 2009, English translation).
35. "Loading took 35 to 40 minutes and, just as I came off the quay, I talked to XXX and asked him if I should return to Akouédo. XXX said: wait, there are some problems in Akouédo at the moment. ... Later, XXX arrived at the Shell car park to tell the truck drivers who were still waiting that, now that the problems in Akouédo had been dealt with, they are looking for other sites and he suggested that Djibi was a good place for unloading the merchandise." ... "I didn't see anybody when I was unloading in Djibi. I reversed onto an area near to the abattoir. I did not use a hose to empty the tank; I simply opened the hatched. The liquid poured out onto the ground on the right because I had reversed onto the grass so that the cab faced the road at the top of the hill. Some cars did pass but nobody stopped." (Deposition de XXX to Trafigura, 11 February, 2009, English translation).
36. "I managed to fill up the tank only half way, in other words between 10,000 and 15,000 litres. At that point, the liquid was very heavy, almost like liquid mud. It was a sort of thick and reddish mud." ... "XXX told me to go to an old factory near the Guichet Unique, a location near to the Gestoci Terminal. XXX and XXX went ahead and we entered the grounds of the abandoned factory, where there was a large drain right at the back. At the Guichet Unique, I emptied my tank into the manhole simply by opening the hatches." (Deposition de XXX to Trafigura, 11 February, 2009, English translation).
37. "I then went back to Abobo and I parked my truck near Coco Service near to the gully. I went home that night and I returned to my truck to clean it about 9 a.m. the following day. Near the gully at Abobo Coco Service, there is a place where people can clean their trucks called Lavage Coco Service." (Deposition de XXX to Trafigura, 11 February, 2009, English translation).
38. "Quand je suis retourné à Koweit ce matin-là, il y a plus de gens qui étaient venus que la nuit passée, don't les kuchamen et des employés de garages, mais pas XXX. Je leur ai dit que je devais décharger car j'avais besoin de mon camion pour un autre travail. Quelques temps après, nous avons alors ouvert une vanne au fond de la citerne et certains d'entre eux ont prélevé des échantillons. Certains ont dit qu'ils pourraient utiliser le produit, d'autres pas. J'ai alors déversé environ 30.000 litres dans deux conteneurs cylindriques avec l'aide d'un homme dans un camion rouge qui avait une motopompe. ... Il a fallu plus d'une heure pour transférer le contenu de ma citerne dans les deux conteneurs cylindriques." (Deposition de XXX to Trafigura, 11 February, 2009).
39. "J'ai chargé mes cuves mais seulement aux deux tiers environ car je savais que je devais simplement me débarrasser de ce chargement de déchets pour XXX. ... Après le chargement, je suis revenue sur le Parking Shell et j'ai continué à attendre. ... XXX ne m'a appelé que plus tard dans l'après-midi pour me dire que je devais apporter mon chargement au parking de l'ancienne usine près du Guichet Unique, ou il m'attendrait." (Deposition de XXX to Trafigura, 11 February, 2009).
40. "J'ai ensuite conduit la camion jusqu'à la station Banco de Youpougou où les femmes lavent leurs vêtements. Nous avons versé du crésyl dans chaque cuve, et avec la pompe que j'avais pris la nuit précédente au Garage UTD, nous avons pompé de l'eau dans chacune des cuves. Nous nous sommes ensuite dirigés vers la Maca pour les vider du fait qu'il ya peu d'habitations le long de la route et que, juste en bordure, d'épaisse broussailles s'étendent sur plusieurs kilomètres. En cours de route, j'ai cependant été arrêté à un poste de contrôle du CECOS." (Deposition de XXX to Trafigura, 11 February, 2009).
- "Paragraph 44 About one hour later, XXX called me to tell me that everything had been arranged. So I went back to where the truck was parked near the Maca checkpoint. I stayed near the truck but I hid because I wanted to know what was going on. It was while I was waiting that I noticed that my tank had leaked and that there was a pool of about 200 to 400 litres of product under the truck.
- The last sentence should be as follows: "It was while I was waiting that I noticed that my tank had leaked and that
- there was a pool of about one thousand (1000) litres of product under the truck".
- Para 48 Reluctantly, the CECOS squad let us go after long discussions with the ministry representative. XXX and I got back into the truck and drove for about 1 or 2 km before I stopped on the edge of the road in the Banco Forest. There are no houses in the vicinity and we were a long way from the prison.
- What is incorrect in this paragraph is the statement that we dumped a long way from the prison, because we dumped close to the prison. The second and third sentences should read as follows: "XXX and I got into the truck and we went about 800m before I stopped on the edge of the road in the Banco Forest. There are no houses in the vicinity and it is not far from the prison." There must be a reason why Trafigura wanted to have it stated that we were a long way from the prison, but I don't know what that reason is. Trafigura may be trying to undermine the arguments of the opposing party. " (Written statement by driver 4 to Greenpeace from 27 April, 2010 (English translation) referring to the alleged false elements in his written statement to Trafigura).
41. "Le Garage UTD est un vaste local et XXX est sorti pour voir les réservoirs de stockage vides qu'il pourrait utiliser. ... Nous avons commencé à transférer le chargement de ma citerne dans celle de XXX avec la pompe mais elle est vite tombée en panne d'essence pendant le chargement de la troisième cuve. ... Nous avons transféré tout le contenu de ma citerne en environ deux heures. A la fin, il faisait nuit et c'était juste avant les premières prières." (Deposition de XXX to Trafigura, 11 February, 2009, English translation).
42. "We took my truck again to go to the Gros-trou car wash in Abobo. We dumped the last 1000 litres or so of product in a manhole at the car wash. The tanker was then washed with bleach, water and Omo to try to get rid of the smell. XXX and the people doing the cleaning got into the tanks to clean them but, unfortunately, without the desired effect; the smell persisted and we were forced to go and negotiate with a painter to get him to paint the entire truck; that costs is CFA two hundred thousand (200,000). Despite all these efforts, the smell persisted and we parked at the car park late at night. We left the truck where it was for the disinfection team to tow away and disinfect." (Written statement by driver 4 to Greenpeace, 27 April, 2010, English translation).
43. "Nous avons déversé environ 20.000 litres des cuves mais nous en avons gardé environ 11.000 litres et, au départ de l'enceinte, nous avons appelé le kucharman qui nous a dit de nous rendre au Garage ... à Koumassi. A la longue, il est arrivé au Garage ... avec une motopompe

- qui nous a servi à transférer les derniers 11.00 litres dans un réservoir pose au sol.” (Deposition de XXX to Trafigura, 11 February, 2009).
44. “J’ai fait marche arrière jusqu’à un regard dans le mur de l’usine –à proximité d’un plumier. Il y avait un trou carré au sol et la trappe du regard avait déjà été enlevée.” (Deposition de XXX to Trafigura, 11 February, 2009).
45. “Nous sommes allés directement à une ancienne usine, en face de Guichet Unique, à Vridi, à une courte distance du point de chargement sur le quai. ... A mon arrivée dans l’enceinte, on m’a dit de faire marche arrière jusqu’à un endroit situé entre le mur et l’ancienne usine. Il y avait une trappe de regard que nous avons soulevée et nous avons fixé deux flexibles aux vannes de la citerne. Un gardien est venu avec un petit bidon pour prélever du produit pendant que nous introduisions les flexibles dans le regard pour décharger. J’ai déversé le contenu dans le trou. J’avais utilisé deux flexibles pour décharger – car j’étais pressé, et le déchargement n’a pris que 10 à 15 minutes.” (Deposition de XXX to Trafigura, 11 February, 2009).
46. “Il faisait alors nuit au Guichet Unique et j’ai vidé mes cuves dans le même regard mais, cette fois, je n’ai déversé qu’environ 15.000 à 17.000 litres, parce que je pensais qu’XXX pourrait en vouloir. ... Je me suis rendu au Garage ... à Koumassi – près de ‘UNOCI – où j’ai transféré les quelques derniers 10.000 litres dans un réservoir posé au sol, devant le garage. Le réservoir comptait deux cuves – l’une de 4.000 litres et l’autre de 6.000 litres – et il se remplissait par le haut.” (Deposition de XXX to Trafigura, 11 February, 2009).
47. “A mon arrivée à Akouédo, il y avait un gardien au pont-basculé. Il m’a dit de passer sur le pont-basculé mais j’ai refusé. XXX n’était pas là mais le gardien m’a dit qu’il était passé mais qu’il venait de repartir. Le gardien m’a également dit de continuer sur la route et de prendre à gauche quand je trouverais sur la droite un petit ruisseau/canal; c’était là que je devais vider mes cuves. J’ai suivi ses indications, je me suis garé sur un petit pont et j’ai déversé tout mon chargement d’environ 30.000 litres.” (Deposition de XXX to Trafigura, 11 February, 2009).
48. “Je me suis alors rendu au même endroit où j’ai de nouveau déversé le contenu de ma citerne.” (Deposition de XXX to Trafigura, 11 February, 2009).
49. “J’ai pris la direction de Guichet Unique et nous sommes arrivés à la grande porte d’entrée de l’enceinte d’une désaffectée et où des camions stationnaient régulièrement. Des gardiens étaient à l’entrée mais. Apparemment, ils avaient été informés de notre arrivée et ils nous ont ouvert la porte. Nous sommes rentrés dans l’enceinte et je suis allé à l’arrière de l’usine où j’ai reculé jusqu’à un petit canal qui passait dans l’usine. Il faisait nuit, je ne voulais pas rester seul; dans cet endroit et j’ai donc demandé à XXX de m’attendre pendant que je déchargeais. J’ai déversé le demi chargement de la citerne dans le petit canal à l’aide d’un flexible.” (Deposition de XXX to Trafigura, 11 February, 2009).
50. “J’ai déversé le second demi chargement dans le même petit canal à l’arrière de l’usine à l’aide d’un flexible comme auparavant.” (Deposition de XXX to Trafigura, 11 February, 2009).
51. On the same day, Mr Marrero emailed Captain Kablan confirming the contents of the conversation by stating: Trafigura wished to disclose of 528m³ of slops from the *Probo Koala* arriving at Abidjan on 19 August 2006; Trafigura Amended Defence 5 December 2008 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370), paras 163 and 163.1. And Amsterdam court evidence says: “The report from Dr. Geoffrey Bound of Minton, Treharne & Davies Ltd dated 6 April 2010 states the ratio of the oil and water fractions in the slops in Abidjan (p5):
- “2.6 In summary, I have concluded that the slops onboard the *Probo Koala* prior to its arrival in Abidjan comprised 183m³ of hydrocarbons derived from the Brownsville cargoes (weighing 137 mt) and 344.8m³ of aqueous solution (weighing 379 mt and representing 199m³ of added caustic wash solution combined with other water delivered with the cargoes) as follows ...”
- NB This evidence can only be used in the Trafigura case; it is excluded from the Chertov and Ahmed cases.
- It must be pointed out that Bound arrives at a total amount of 527.3m³, whereas there were still about 544m³ in the slop tanks in Amsterdam. Captain Chertov states, in his “letter of protest” of 5 July 2006 that more than 16m³ less was returned to the *Probo Koala* than was delivered to APS.
- We also refer to an e-mail message from Gampierakis (Falcon Navigation) to Ahmed et al of 26 July 2006 stating that the captain found that 528,308m³ of slops were on board at that point (360,260m³ in the port tank and 168,048m³ in the starboard tank).
- Source: p28 from Evidence Overview for Trafigura Beheer BV, N Ahmed, S Chertov.
- Facts: Section 174 of the Dutch Penal Code and Section 225 of the Dutch Penal Code.
52. Carter-Ruck Reply, in the High Court of Justice Queen’s Bench Division, Claim No. HQ09X02050 between Trafigura Limited v British Broadcast Corporation served 20 November 2009, p27 (para 100).
53. Trafigura Libel Reply (Trafigura Limited v British Broadcasting Corporation in the High Court of Justice, Queen’s Bench Division, Claim No. HQ09X02050), Carter-Ruck served 20 November 2009, appendix 4 and 5.
54. This was based on what was measured by ATM Moerdijk as 475,600mg/l on a sample sent by APS on 3 July, 2006.
55. UNDAC Côte d’Ivoire urban hazardous waste dumping, 11-19 September 2006, p5.
56. This is based on the Expert Opinion provided to Amnesty International and Greenpeace Netherlands by Alastair Hay PhD, OBE, Professor in Environmental Toxicology, University of Leeds, 29 October 2010.
57. Trafigura Amended Defence 5 December 2008 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370), paras 292,292.1 and 292.2.
58. Trafigura Amended Defence 5 December 2008 (Yao Essaie Motto & Others v Trafigura Limited and Trafigura Beheer BV in the High Court of Justice, Queen’s Bench Division, Claim No. HQ06X03370), para 282.
59. www.who.int/mediacentre/factsheets/fs211/en/index.html.
60. Carter-Ruck Reply, in the High Court of Justice Queen’s Bench Division, Claim No. HQ09X02050 between Trafigura Limited v British Broadcasting Corporation, served 20 November 2009 and the document “Trafigura and the *Probo Koala*” available at www.trafigura.com/our_news/probo_koala_updates/articles/trafigura_and_the_probo_koala.aspx (last accessed on 12 June 2010).
61. Carter-Ruck Reply, in the High Court of Justice Queen’s Bench Division, Claim No. HQ09X02050 between Trafigura Limited v British Broadcasting Corporation, served 20 November 2009. In its defence in the case against the BBC, Trafigura provided evidence (p 31) to indicate that one measurement of dumped waste at Akouédo on 21 August 2006 reported the pH value at that time to have reached 10.5. They also mention a report prepared by the French Civil Protection Team dated 13 September 2006 which showed the soil at Akouédo to be between pH9-pH10 (this sample was taken after the heavy rains on the night of 3-4 September 2006).” Trafigura made “an estimate (p34) of the most rapid likely reduction in pH over time” and that “after around 22 days the pH would drop to 9.5.” Well before this the majority of mercaptans would have evaporated with their rate of evaporation reaching maximal values when the pH was between 10.6 and 11. The time taken to reach these higher pH values can only be surmised.

ANNEX NOTES

62. USPHS (1992). Toxicological Profile for methyl mercaptan. United States Public Health Service, Agency for Toxic Substances and Disease Registry: p66 and appendices, www.atsdr.cdc.gov/toxprofiles/tp.asp?id=224&tid=40.
63. This is based on the expert opinion provided to Amnesty International and Greenpeace Netherlands by Alastair Hay PhD, OBE, Professor in Environmental Toxicology, University of Leeds, 29 October 2010.
64. Carter-Ruck Reply, in the High Court of Justice Queen's Bench Division, Claim No. HQ09X02050 between Trafigura Limited v British Broadcasting Corporation served 20 November 2009, summary.
65. Little to empty. don't you think?

ANNEX II
TRAFIGURA
REACTION

ANNEX II



TRAFIGURA BEHEER B.V., AMSTERDAM, BRANCH OFFICE GENEVA

Amnesty International
International Secretariat
Peter Benenson House,
1 Easton Street,
London,
WC1X 0DW
United Kingdom

27th August 2012

Dear Ms Gaughran

We refer to your letter received on 15th August 2012 enclosing a draft report prepared by Greenpeace and Amnesty International concerning the Probo Koala and the discharge of slops in Abidjan, Cote d'Ivoire in 2006.

Whilst we can see the intended purpose for the report, and the convenience of fitting certain facts and law to that objective, we believe the report contains significant inaccuracies and misrepresentations. The report oversimplifies difficult legal issues, analyses them based on ill-founded assumptions and draws selective conclusions which do not adequately reflect the complexity of the situation or the legal processes. Courts in five jurisdictions have reviewed different aspects of the incident, and decisions and settlements have been made. It is simply wrong to suggest that the issues have not had the right judicial scrutiny.

In our view, the report does not set out a fair or balanced account of the Probo Koala incident, but is rather a report that has been designed to support the stated position of Greenpeace.

The Probo Koala incident was a distressing and difficult event for those in Abidjan. Many different authorities and companies were involved and there is little doubt that mistakes were made and we believe that everyone involved would have wanted to see things handled differently. This incident provided additional impetus for Trafigura to review and improve the ways in which we conduct our business, and has led to the introduction of more robust processes across our operations.

Trafigura deeply regrets the impact the Probo Koala incident had - both real and perceived - and we have sought to assist the people affected through the variety of the settlements that have been made. It is regrettable - but entirely outside our

TRAFIGURA BEHEER B.V., AMSTERDAM, BRANCH OFFICE GENEVA

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TRAFIGURA BEHEER B.V., AMSTERDAH, BRANCH OFFICE GENEVA

control – that the funding made available appears not to have benefited those people, nor reached the projects intended.

At Trafigura, we have sought to learn from our experiences and have maintained our commitment to the countries in which we operate. The company has a long-established commitment to Africa and, since 2006, we have invested almost US\$2 billion in sub-Saharan Africa, creating jobs, paying taxes, building infrastructure, providing fuel and helping Africa to grow.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Eric de Turckheim". The signature is fluid and cursive, with a long horizontal stroke extending to the left.

ERIC de Turckheim

Member of the Supervisory Board of Trafigura Beheer BV

COLOPHON

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Cover photo: 15 September 2006, between 200 and 300 residents of Akouédo protest over the toxic waste dumping. They blocked traffic on one of the main roads. © ANP/AFP/KAMBOU SIA
Photo back cover: © GREENPEACE

Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace. It comprises 28 independent national and regional offices in over 40 countries across Europe, the Americas, Africa, Asia and the Pacific, as well as a co-ordinating body, Greenpeace International. Greenpeace relies entirely on voluntary donations from individual supporters, and on grant support from foundations. It does not accept money from governments, political parties or corporations.

Amnesty International is a global movement of more than 3 million supporters, members and activists in more than 150 countries and territories who campaign to end grave abuses of human rights. Our vision is for every person to enjoy all the rights enshrined in the Universal Declaration of Human Rights and other international human rights standards. We are independent of any government, political ideology, economic interest or religion and are funded mainly by our membership and public donations.

Greenpeace would like to thank the following people who contributed to the creation of this report, and apologises to those whose names have been inadvertently omitted: Annemiek van Bentem, Sandra van den Brink, Rita Borghardt, Marietta Harjono, Benedetta Lacey, Hendrik de Lint, Peter Nauta, Frank Petersen, Jim Puckett, Sara del Rio, David Santillo, Kevin Stairs, Jasper Teulings.

Amnesty International would like to thank everyone who contributed to the research and production of this report.

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THE TOXIC TRUTH

On the morning of 20 August, 2006 the people of Abidjan, Côte d'Ivoire, woke up to find that foul-smelling, toxic waste had been dumped in numerous places around their city. Tens of thousands of people suffered from nausea, headaches, breathing difficulties, stinging eyes and burning skin. They did not know what was happening; there was wide-spread panic. Health centres and hospitals were soon overwhelmed. International agencies were drafted in to help overstretched local medical staff. More than 100,000 people were treated, according to official records, but it is likely that the number affected was higher as records are incomplete.

The waste that was dumped in Abidjan in August 2006 belonged to an oil trading company called Trafigura. It arrived in the country on board a cargo ship, the *Probo Koala*, chartered by Trafigura. The waste originated in Europe and, under international law, should not have been permitted to arrive in Côte d'Ivoire.

This report is the culmination of a three-year investigation by Amnesty International and Greenpeace Netherlands into the dumping, the events that led to it, and the action taken in response to the dumping. It is a story of corporate crime, human rights abuses and the failures of multiple governments to act to protect people and the environment from companies bent on making profit with scant regard for the human or environmental costs. This case shows how national systems for enforcement of international law have failed to keep up with companies that operate trans-nationally.

It exposes how failures by the Netherlands and decisions made by a private company in the United Kingdom contributed to the disaster that unfolded in Côte d'Ivoire. It calls for far more robust action by governments to investigate, punish and redress corporate crimes that lead to human rights abuses and environmental damage. The report lays out a clear case for the legal responsibilities of governments beyond their own borders and demonstrates how the exercise of extra-territorial jurisdiction in specific cases and contexts is vital to ensure that human rights are protected and those responsible for criminal acts are held to account.

The report argues for stronger action to hold Trafigura to account for the dumping of the waste in Abidjan, and for the full realization of the human right to an effective remedy for the victims of the toxic waste dumping.

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