Environmental Baseline Study for the Proposed Relocationing of the UNSOA Logistics Base

Mombasa, Kenya, 2010

FOI

UNEP

ENVIRONMENTAL BASELINE STUDY FOR THE PROPOSED RELOCATIONING OF THE UNSOA LOGISTICS BASE, MOMBASA, KENYA 2010

Location: Site Coordinates 4°02’17”S, 39°36’00”E

Area name: “Airport site”

Issued by: United Nations Environment Programme (UNEP)

Surveyor: Swedish Defence Research Agency (FOI)

Date: May/June and August 2010

Table of Contents

EXECUTIVE SUMMARY

The proposed airport site for the Mombasa log base (Site Coordinates 4°02'17"S, 39°36'00"E) is located directly adjacent to Moi International airport in the southwestern part of the Changamwe district in Mombasa. The site is secured. Security is provided by fencing and on-site guards. It is understood that the site, now disused, was part of the airport operations. The site is now unoccupied by any formal activity and overgrown. One family resides in the centre of the compound. There is some domestic production of crops within and next to the compound. Current adjacent land use and activities include an airport to the west, Port Reitz Hospital to the east, airport fuel storage tanks and a refuelling facility to the north, and undeveloped land to the south. The site is generally flat with natural drainage to the south. The site is accessed along a worn but paved road that directly links to the main airport road into Mombasa.

Although no quantitative assessment of air quality was made, the main source of any reduced air quality is likely to be the airport and its operations. There are no water abstraction wells at the site but there is a well within the hospital compound. No waste water facilities were identified on the site. There were no obvious signs of uncontrolled waste disposal. However, there was some evidence of minor disposal of organic material and very minor quantities of domestic waste. No hazardous waste or hazardous substances were observed. There is the possibility of an electrical hazard from the power provision arrangements to the existing building and communications tower which may be underground and live. There were no obvious cultural, historical, or sensitive natural resources present at the site.

As the site was previously part of an airport complex there are fuel storage tanks adjacent to the site, and therefore soil sampling and analysis was conducted. No contamination levels above the standards used for comparison were detected within the soil.

The conclusion of the environmental baseline study (EBS) is that the proposed UN compound is not exhibiting constraints that indicate that a potential liability may exist. It is however recommended that following installation of water abstraction wells, confirmation is sought that the groundwater is not contaminated with oils arising from the adjacent fuel storage facility.

1. INTRODUCTION

It is intended that the site is used by UNSOA (United Nations Support Office for AMISOM) for the reception, checking, storage, and subsequent delivery of goods to be used by the AMISOM (African Union Mission in Somalia) forces in Somalia. This entails the construction of facilities to house the equipment prior to removal as well as offices and support infrastructure for the workers at the compound.

1.1 Objective/purpose

As required by the DPKO (UN Department of Peacekeeping Operations) /DFS (UN Department of Field Support) Environmental Policy for UN Field Missions, an environmental baseline study (EBS) is to be undertaken of all mission locations at the beginning of the mission and when the mission establishes a new location (DPKO and DFS 2009).

The purpose of this EBS is to identify, assess, and document the initial environmental conditions on the site. The results from the EBS can serve as a future reference point (baseline), as the EBS is to be periodically updated for the location. In addition to internal use within the mission, the baseline study is also to be held on file for possible use, when required, in discussions with the host country, regarding damage, or pollution claimed to have been caused by the mission.

This particular EBS has been used to provide baseline environmental data for use in the Environmental Impact Assessment (EIA) performed for the UNSOA logistics base.

Figure 1. Satellite image showing the NW part of Mombasa and the locations of the two sites that are mentioned in this EBS.

1.2 Methodology

The methodology for performing the EBS followed the internationally accepted ASTM standard process for Environmental Baseline Surveys consisting of the following five steps:

1. Gathering of baseline data and information
2. Analysis of data and information
3. Determination of the environmental conditions of the site
    - Reconnaissance May/June
    - Interviews (as appropriate)
    - Site visit and environmental sampling
4. Preparation of the EBS report (this report)
5. Updating of the EBS (not included in this survey)

Source: (ASTM International 2005)

The site was first visited in August 2010 for a reconnaissance, walk through visit, in the company of UNSOA personnel. Key areas of potential concern were noted and observations made to inform the next visit by the site sampling team. Such observations included the presence of potential contamination in relation to the proposed layout of the base.

The subsequent sampling methodology was developed on the basis of recovering information from the areas of concern as identified in the first visit.

Limitations

Access to the internal spaces of the facilities that were present at the site was not possible at the time of the site visit.

At the time of the visit there were some heavy rain showers in the morning up until noon. The weather was partly cloudy and the temperature was between 26 and 28 °C with light to moderate winds (south). The use of analytical equipment was prevented by the rainfall.

2. SITE/PROPERTY LOCATION

The proposed airport site for the Mombasa log base (site coordinates 4°02’17”S, 39°36’00”E) is located directly adjacent to Moi International airport in the southwestern part of the Changamwe district in Mombasa. The site is secured.

Figure 2. Satellite image showing the proposed new site and the exact locations where environmental sampling was performed

3. GENERAL SITE SETTING

3.1 Current use(s) of the property

The site is secured with a fence around its periphery. Furthermore, as it currently forms part of the airport complex, guards oversee the compound. This protection is enhanced with the provision of an on-site security guard who prevents unauthorised access.

The area is mainly covered with grass and mature bushes and trees. Although the site is generally overgrown, some domestic production of vegetables is being undertaken presumably by the guard and his family.

In the very southeast corner of the proposed new site, 30m from the main gate there is a residential building in which resides a family (believed to be squatters) – this family undertakes subsistence agriculture (Figure 3).

The perimeter of the proposed site is secured by a high fence. There is at least one family living in the south part of the premises close to the gate and tomatoes and watermelons are grown along the entrance road. In the centre of the site, close to the current buildings, corn is grown. Hens and goats roam freely in the area.

Figure 3. Satellite image showing present buildings, roads, and land use at the new site.

3.2 Past use(s) of the property

The site is on government land belonging to Mombasa Airport and run by Kenya Airport Authority. At some stage the site was clearly occupied by an airport related operation with single story offices and a communications mast present in the centre of the site.

These operations have ceased and the area and vegetation has been allowed to grow. Local people indicate that the offices have not been used for several years.

3.3 Current uses of adjoining properties

The area immediately south of the compound is undeveloped with both native vegetation, some low intensity farming, and a residential building. Neighbouring to the southeast is the Port Reitz Mental Hospital, and to the northeast the Mombasa General Hospital. North of the hospital area, where the UNSOA parking lot is planned, domestic production of cassava is being undertaken.

Directly north of the site, facilities occupied by the Kenyan Air Force as well as the Kenyan Pipeline Company include several fuel tanks, a number of which store large quantities of kerosene. These facilities appear to be well maintained and operated. There are 5No storage tanks north of the site, 4No approximately 70m from the fence and 1No at a distance of approximately 10m from the fence.

The area to the west borders the airport's operational boundary. See Appendix 5 for photos from the walk through.

3.4 Past uses of adjoining properties

Information about the use of the properties preceding current identified activities was not found.

3.5 Current or past use of the surrounding area

The proposed base is located in an area of land dominated by the airport to the north. Dense urban sprawl can be seen, which is likely to be a consequence of the airport proximity. However, this sprawl has not extended to the south of the proposed site where the area is characterised by low density housing and subsistence farming. This land use continues down to the Sea.

3.6 Geological, hydro-geological, hydrological, or topographic conditions

The area is flat with the exception of a pit (assumed to be a borrow pit) at sampling spot 138 and a small ridge nearby. The ground is covered with well developed vegetation, and the soil contains a thin organic layer (brown/dark brown) and beneath is laterite soil (Figure 4).

Figure 4. In sampling spot 110 the layer of organic soil and laterite beneath is clearly visible.

The site is located on a plateau-type feature falling to the sea to the south. Surface water drainage will be directed in this direction. Depth to groundwater is not known however it is likely to be linked to the seawater level and thus expected to be at about 20m below ground level.

3.7 Facility information

There are two single story buildings adjacent to each other located in the centre of the proposed site. The largest is approximately 200m²and the smaller 100m² in size. Adjacent to the buildings there is a communication tower. In the very southeast corner of the proposed new site there is a residential building, 30m from the main gate.

3.8 Roads

In the centre of the compound there is an aged paved road that is oriented in a north-south direction between sampling spot 112 and 113 (Figure 2). The asphalt cover to the road has started to crack and the vegetation has almost taken over the strip. A smaller pathway joins the buildings in the centre with the paved road.

The site is accessed along a paved (but worn) road that extends along the southern boundary.This, 2.5km paved road joins the site with the carriageway linking the airport to the town (Figure 5).

Figure 5. Satellite image showing major roads adjacent to the proposed new site (yellow pin). Paved road (2.5 km) intersecting residential/hospital area is marked as a white line. Major roads are in light yellow.

3.9 Water supply

There were no wells identified at the property.

3.10 Sewage disposal system

No waste water/sewage treatment or disposal facilities are present at the site.

3.11 Fire protection system

At the time of the visit, there was no fire protection system present at the site.

4. INTERNAL AND EXTERNAL OBSERVATIONS

4.1 Hazardous materials (HM) and petroleum products

There are no obvious indications that hazardous materials, including pesticides or herbicide has been used or stored at the site.

There is a possibility that the existing building may contain asbestos in the form of asbestos containing materials such as roofing tiles and insulation boards. Furthermore, it should be mentioned that lead paint has been used in the structure.

4.2 Storage tanks

There were no indications of above-ground or underground storage tanks at the site.

4.3 Odours

No noticeable odours were detected on the site.

4.4 Pools of liquid

No surface water bodies, pools, or sumps containing water or other liquids that could contain HM were detected on the site.

4.5 Drums

No drums were observed at the site.

4.6 Hazardous waste (HW) and waste petroleum products

No fuel stations or fuel delivery infrastructure is present on the site. However, such infrastructure is located adjacent to fuel tanks (Jet A1) operated by the airport and it should not be precluded that some infrastructure is present.

There were no obvious indications of hazardous waste or petroleum products stored or disposed off at the site.

4.7 Unidentified substance containers

There are no indications of underground storage tanks.

4.8 Electrical hazards

There is the possibility that electrical feeds in the form of buried cables exist in the site location. Precautionary measures should be taken during excavation and other ground woks.

4.9 Radiological hazards

There is no information regarding radiological hazards at the site. The nearby hospital may keep radioactive sources.

4.10 PCBs

No electrical or hydraulic equipment likely to contain PCBs (Polychlorinated Biphenyls) were observed at the site.

4.11 Medical/biohazard waste

Although a hospital is located next to the property no evidence was found of any disposal of medical or biohazardous wastes on the site.

4.12 Internal observations of facilities

Access to the facilities on the compound was not possible at the time of the site visit.

4.12.1 Heating and cooling (HVAC) systems

There are no structures on-site relevant to HVAC systems.

4.12.2 Stains and corrosion

Not assessed

4.12.3 Drains and sumps

Not assessed

4.12.4 Other

None observed

4.13 External observations

4.13.1 Pits, ponds, and lagoons

A 7m deep pit of approximately 30m by 15m size is present at the northern part of the site. It was covered with vegetation (approximately 1m high). No evidence of any waste disposal was identified at this location (see picture 15 in Appendix 5)

No open bodies of water were present at the site.

4.13.2 Stained soil or pavement

No signs of stained soil or pavement were observed.

4.13.3 Stressed vegetation

No signs of stressed vegetation were observed.

4.13.4 Non-hazardous solid waste

At sampling spot 128, a disposal spot for non-hazardous organic debris, such as branches and grass, was identified. At spot 111 glass and porcelain shards were found at a depth of approximately 10-15cm (see Figure 2 for location of sampling spots)

4.13.5 Wastewater

Although the airport will be serviced by an active wastewater disposal system, it is not known whether the final treatment component is a working sewage plant or if the remnants will be sent to the sea.

4.13.6 Wells

The hospital has a well but it was not possible to sample water from this location.

4.13.7 Septic systems

No septic systems were identified at the property located on the proposed base.

4.13.8 Ambient air quality

A quantitative assessment of ambient air quality has not been a part of this EBS. Potential impact arising from the airport is unlikely due to the low frequency of flights of 60No plane movements per day.

4.13.9 Noise

An assessment of flight schedules indicates that the airport is operating with a low frequency of flights.

4.13.10 Electrical sources

There are likely to be remnants of electrical sources that had been used to power the building and communications tower on the site. It is not known whether these sources are still live. These sources are likely to be in the form of underground cables originating from the airport site.

4.13.11 Unexploded ordnance

No unexploded ordnance was discovered at the site.

4.13.12 Natural resources

No valuable natural resources or endangered species were identified in the area.

4.13.13 Cultural resources

There are no known cultural or historical objects in the area.

5. ENVIRONMENTAL SAMPLING

5.1 Soil Investigation

In response to the observations arising from a preliminary assessment it was concluded that potential liabilities may be present as a result of activities arising from the operation of the airport. These would include refuelling, maintenance, and waste disposal.

A sampling campaign was performed from August 26-29, 2010 and the methods, sampling plans, and analyses are presented in the preliminary result report (Appendix 1).

The sampling spots were selected on the basis of a grid pattern and at locations where future usage may result in pollution such as chemicals storage and fuelling areas.

A total of 28No soil samples were recovered (refer to Figure 2) from surface and near surface soil horizons (depth of 70cm).

All samples were screened with field analysis instruments for heavy metals and volatile organic compounds (VOCs) to allow prioritizing of samples to be sent to laboratory for further laboratory analysis at Eurofins Scientific AG, Scönenwerd, Switzerland. For sampling strategies and handling of samples see section 5 within the report in Appendix 1. Three soil samples were sent to the laboratory for further analysis, namely 110b, 122, and 138.

The following chemical compounds were analyzed by Eurofins in soil and sediment samples: Volatile hydrocarbons (VOCs), Benzene, Toluene, Ethylbenzene, o-/-m-/-p-Xylene (BTEX), Barium (Ba), Arsenic (As), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Lead (Pb), Nickel (Ni), Vanadium (V), Titanium (Ti), Strontium (Sr), and Zinc (Zn). VOCs were not analyzed in the liquid samples.

A summary of all sampling points together with the sampling protocols are presented in Appendix 2. All laboratory results are presented in Appendices 3 and 4.

In this study multivariate data analysis (MVA) was performed on the chemical analysis results to elucidate any groups or trends among the samples based on the chemical profiles.

5.2 Environmental standards

To provide some indication of the relevance of the reported concentrations, comparisons of the results have been made against recognised national and international standards. Currently, there are no Kenyan standards for soil based concentrations for the range of chemicals tested. Soil sample results were instead compared against Swedish Environmental Protection Agency Standards (SEPA).

The SEPA standards have been developed for commonly occurring toxic metals. Reference has been made to Dutch Standards for those metals that are a risk to plants, as well as total oils/hydrocarbons.

Three samples were sent to laboratory for analysis, namely 110b, 122, and 138. There were no levels of the organic compounds over detection limit noticed.

Furthermore, no elevated levels of the analysed metals were found in the samples during the laboratory testing.[1] The results from the field analysis support this and all readings were below the limit value used for comparison in the study.

In the statistical analysis made of the analysis results (field and laboratory results) there were no indications of any polluted samples.

[1] Sample 134 initially showed an increased level of Cobalt, but when the sample was analysed further, there were no levels of Co, indicating a fraction, grain contributing to the reading.

6. DELETIONS AND DEVIATIONS

Due to the weather conditions it was not possible to bring the field instruments to the site. The analysis of the samples was made the same day but in a separate location.

7. FINDINGS AND CONCLUSIONS STATEMENT

The results of the study indicate that the site is not contaminated in relation to risks to the environment or the proposed occupants of the UN complex.

8. QUALIFICATION STATEMENT

Not relevant in this context – performed by FOI and UNEP personnel.

9. REFERENCES

ASTM International. 2005. ASTM D 6008 – 96 Standard practice for conducting environmental baseline surveys. West Conshohocken, PA: ASTM.

FOI (Swedish Defence Research Agency), UNEP and UNSOA, 2010. Environmental impact assessment: Proposed expansion of logistics base, Mombasa, Kenya. Geneva, United Nations.

SEPA (Swedish Environment Protection Agency), n.d. 1999a. Limit values for contaminated soil. Stockholm: Swedish Environmental Protection Agency.

———. 1999b. Method of surveying contaminated sites: Report no 4918. Stockholm: Swedish Environmental Protection Agency.

———. 2002. Methods for inventories of contaminated sites: Environmental quality criteria: Report no 5053. Stockholm: Swedish Environmental Protection Agency.

DPKO and DFS, 2009. Environmental Policy for UN Field Missions: Ref. 2009.6. New York: United Nations.

Appendices

Appendix 1 – Environmental sampling for EBS-study

Appendix 2 – A summary of sampling spots at the suggested new site at Mombasa International Airport.

Appendix 3 – Laboratory results-XRF

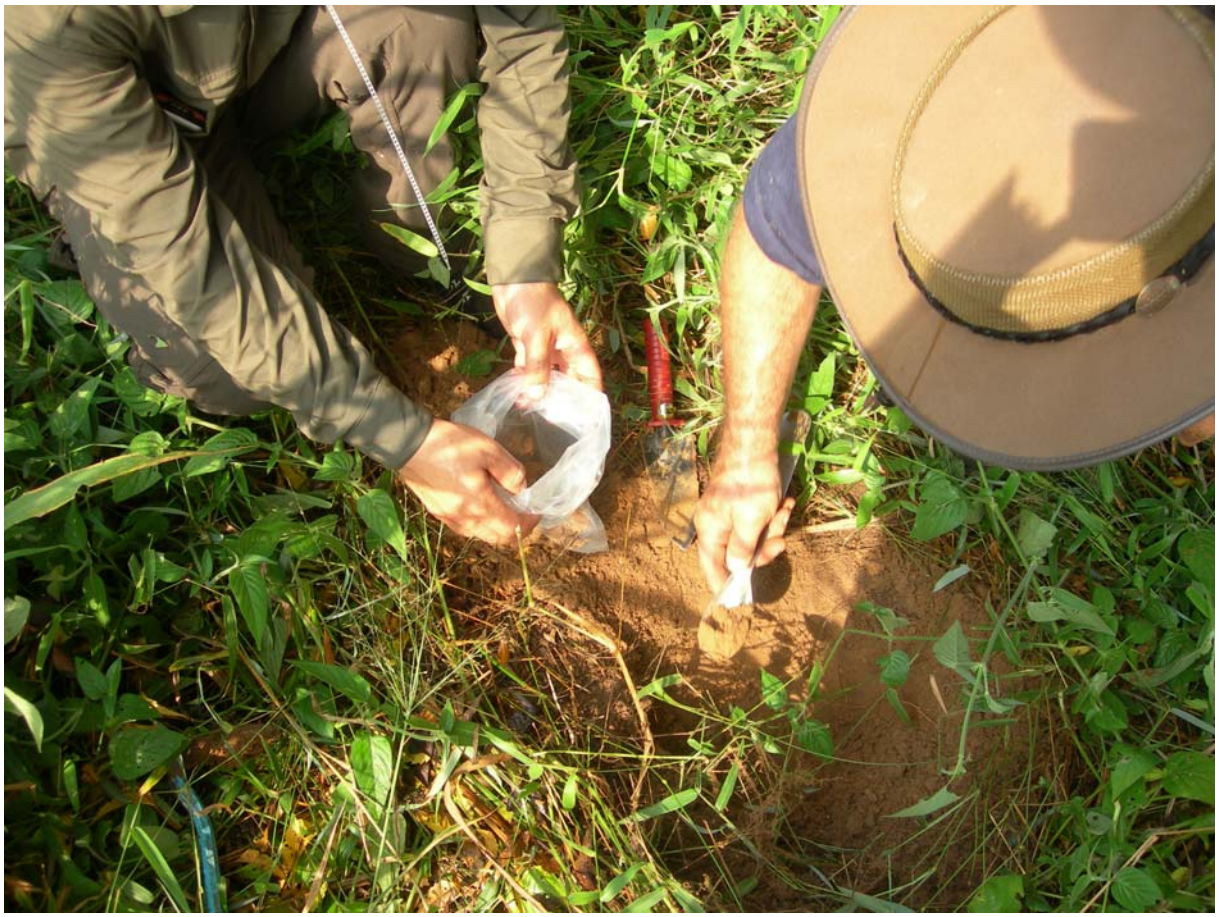
Appendix 4 – Laboratory results-soil

Appendix 5 – Photos

Appendix 6 – Basel Convention notification and movement document

ENVIRONMENTAL SAMPLING FOR ENVIRONMENTAL BASELINE STUDY (EBS)

Preliminary results from sampling campaign Present UNSOA Log base and airport site, Mombasa August 26 to 29, 2010



Christina Edlund
Rune Berglind
Per Wikström

FOI,
Swedish Defence Research Agency

Content

1. Introduction

As a part of the environmental assessment to be done during planning for an eventual new location for the UNSOA Log base in Mombasa, a field investigation has been performed. As a part of a EBS (Environmental Base line Survey) included in the full Environmental Impact Assessment for Mombasa and Mogadishu of bases sampling has been performed at the two sites in Mombasa; the existing log base at Allied Wharfage Ltd and the new proposed site close to the Mombasa International airport. The aim of this EBS was to gather data about any environmental concern prior to a site being occupied, or being considered for occupation.

This report gives preliminary results from the analyses performed on samples taken at the two sites during August 26-29, 2010.

The investigation and sampling was performed by MSc. Christina Edlund, Dr. Rune Berglind and Dr. Per Wikström at the FOI, the Swedish Defence Research Agency.

Below the preliminary results from the field analyses are presented. In order to set the contamination into context; the Swedish EPA guidelines and threshold values have been used in this initial report.

2. Sampling

2.1 Present log base

As a total; 27 soil, 8 sediment and 3 water samples were taken (Figure 1). The soil samples have been analysed for heavy metals and presence of volatile organic hydrocarbons (VOCs) with portable field analysers. A toxicity test was also performed on all soil and sediment samples. A sampling plan was presented in June of 2010, after a first recce on site the sampling plan was revised according to Figure 1.
The samples have been taken at different depths depending on the characteristics of the spot, but most were taken in the top most 20 cm of the surface. At some location deeper samples were taken; e.g. from the original soil underneath the filling material (maram) at the present site (Figure 2).

No samples have been taken underneath the floorings inside the warehouses for several reasons; costs, lack of heavy machinery and mostly to avoid destroying the floors in areas and houses used in the every day work.

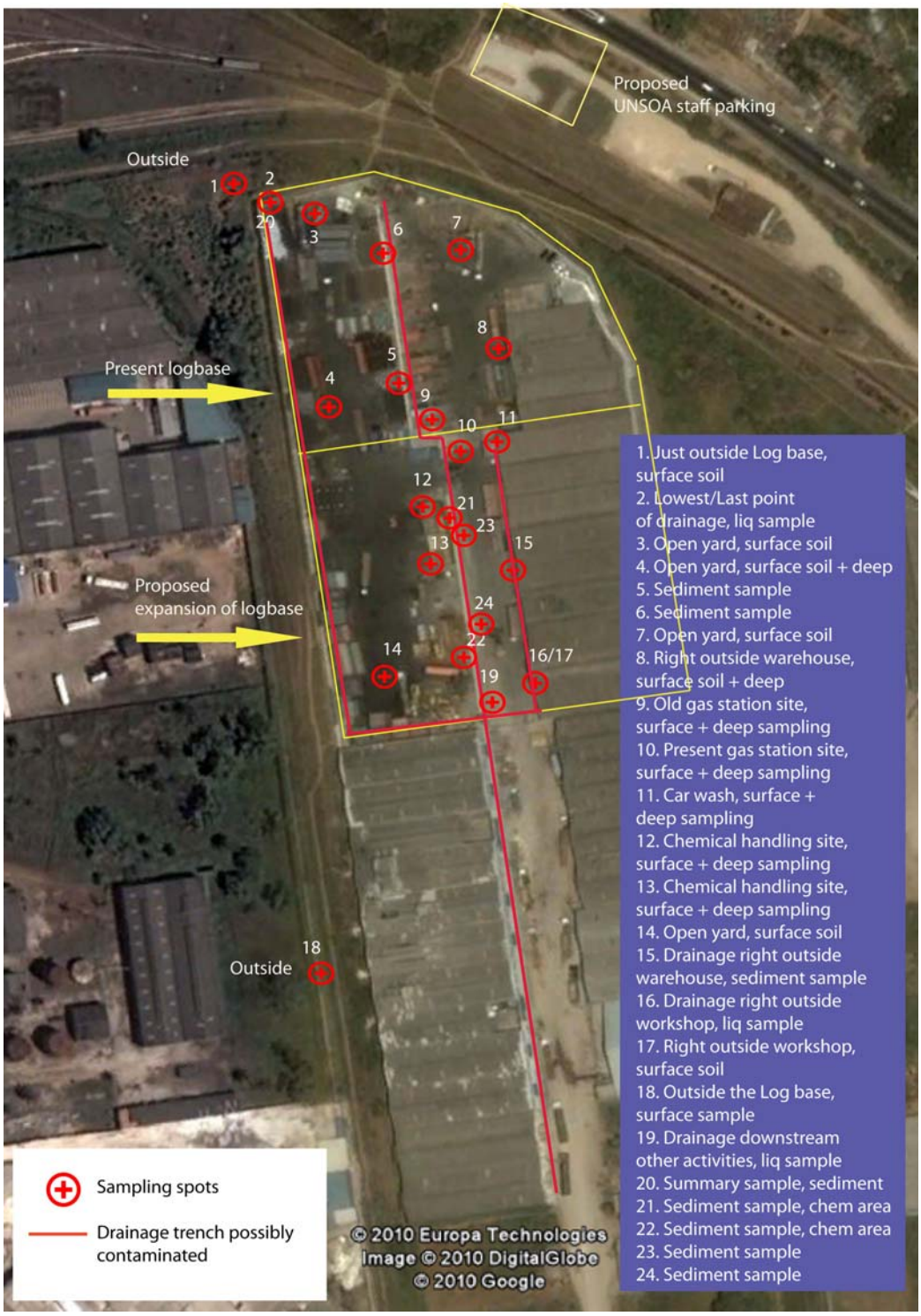


Figure 1. Sampling spots at present Log Base, 2010-08-25—26.

Figure 2. Sampling spots where samples were taken at two or three different depths.

2.1 New area, airport site

Only soil samples were taken at the new site, there were no water sources to sample. The nearby hospital have their own water supply, this was however not investigated further at this time.

A total of 28 samples were taken at 25 sites. Samples 119, 116 and 110 were taken at two depts. These locations are according to information received earlier possible sites for future fuel station, garbage collect and soak pit, see Figure 3.

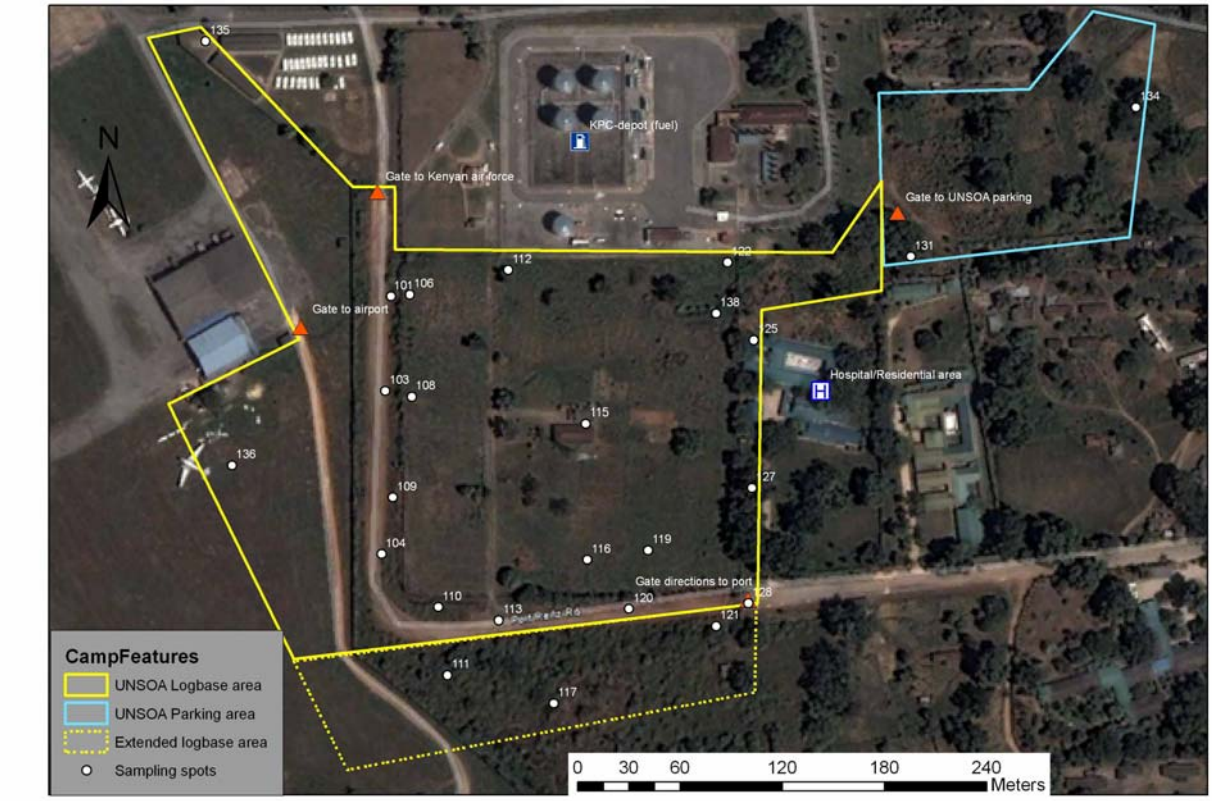


Figure 3. Sampling spots at the new proposed area at the air field.

3. Methods On-site analyses

3.1 Heavy metals

Presence of heavy metals was analysed with a XRF, X-ray fluorescence detector, being able to measure the content of heavy metals in bulk samples in the field. The method is somewhat water sensitive, meaning that water interferes with some of the metals, giving an error in the case of moist samples. A laboratory test will show more detailed results, however, the XRF indicates high levels and was used as a tool for selecting samples to be sent to the laboratory for further testing.

3.2 Volatile organic hydrocarbons (VOC)

VOC are analysed with a portable photo ionisation detector (PID). All soil samples at the present site were analysed inside the sample bag (either on site or after a couple of hours). At some locations at the present site analyses were also made directly in the sample pit.

3.3 Rapid on-site toxicity system (ROTAS) (Cybersense)

All samples are analysed regarding toxicity in *Vibrio fischeri* with the ROTAS™ technology (Rapid On-site Toxicity Audit System). The test shows whether a soil sample extract is toxic to the bacteria or not. All soil and sediment samples were tested.

4. Laboratory analyses

Initially 19 samples were sent to a laboratory for further analyses. Sixteen samples were sent from the old site and three from the new site (Table 1). Duplicates of all samples, except for water samples have also been taken and brought to FOI (Sweden). If there is a need for further analyses to be performed such requirements can easily be met.

Table 1. Samples sent for analyses.

Present site	**New site**
1	110B
4B	122
5	138
9A	
9B	
10A	
11A	
11C	
12A	
12C	
13A	
13C	
14	
15	
20	
21	

5. Findings:

5.1 Present Log Base

Overall the surface of the area is made out of bricks, which are interlocked, resulting in a permeable surface, where spills can easily spread to underlying layers. Underneath the brick layer a layer of filling material is found; with a varying thickness of at least 50-70 cm. The filling material, “maram”, consisted of crushed corals, contributing to high levels of Calcium and Potassium in the samples tested. At some specific locations, such as parts of the fuel station, close to septic and fuel tank, and inside the warehouses there are concrete surfaces. These are however often cracked. At the old site for handling of chemicals an impermeable layer of bitumen or tar was found at a depth of approximately 60 cm.

On the southern side of the premises (toward the gate) lies a manufacturing facility for soap. The outlet from this facility enters the drainage system of the Log base at point 19 and runs along the western side of the premises (Figure 4).

Figure 4. Sampling points for water sampling. The outlet from the soap factory enters the area at point 19.

The area in the north eastern corner is a storage area for dormitory units, ablution units, generators etc. There are no batteries or chemicals fitted in the generators while stored at the Log Base.

5.1.1 Heavy metals

Generally there are relatively low levels of heavy metals in the soil samples, considering it

being located in an industrial area. In three of the sediment samples (6, 15 and 21) there are levels of zinc and lead that exceeds Swedish threshold values indicating polluted area.

At one location (sampling spot 8B) the soil sample showed levels close to threshold values; however not exceeding them. This sampling spot was just outside the entrance to Warehouse 1 where e.g. electronics, furniture, and detergents are and have been stored. There was a strong odour and visible leakage of detergents inside this building.

5.1.2 Volatile organic hydrocarbons (VOCs)

All soil samples have been analysed for VOC with a PID-detector, and there were generally low levels of VOC. However, the portable PID only gives an indication of VOCs present and cannot detect heavier hydrocarbons such as PAHs (polyaromatic hydrocarbons) and oils. These type of chemicals will be analyzed in laboratory tests.

5.1.3 ROTAS – On-site toxicology test

In nine sampling spots the activity of the bacteria, in the toxicity test, were affected. Many of these samples were taken at areas where chemicals have been or are handled. Further laboratory and statistical analyses will show if there are correlations between analyzed parameters and suggest the cause of the toxicity.

5.2 New area, airport site

The sampling at the new site was performed on August 27. There were heavy showers in the morning and therefore no analytical instruments were brought to and used at the field.

The site has, according to local residents living next to the site, been used for farming and was entirely cleared from bushes seven years ago. The site is now covered with bushes, up to 2 m of height at some locations. Still, some farming is done at the premises and at the time of the visit corn was grown just near the building in the middle of the site. Chickens and goats were also kept at the site.

At two locations signs were found indicating that these have been dump sites: at spot 128, near the eastern gate organic debris like branches, grass etc has been dumped. At spot number 111 shards of porcelain and glass were found approximately 10-15 cm below the surface (Figure 5).

Figure 5. Sampling spot 111 at airport site. Shards of glass and porcelain were found at approximately 10-15 cm.

5.2.1 Heavy metals

Generally only low levels of heavy metals were found at the new site. At one location, spot 134 a high reading of Cobalt (121 ppm) was shown in one of four measurements. In the other three the levels were below the instrument's level of detection.

Low levels of Arsenic were found in samples number 104, 110 and 111.

5.2.2 Volatile organic hydrocarbons (VOCs)

Five samples were analyzed for VOC; 122, 125, 135, 136 and 138. One of the sample (122) levels of VOCs, around 2 ppm, were detected. This sample is taken at the north fence adjacent to the oil deposit.

5.2.3 ROTAS – On-site toxicology test

Four samples indicated an impact of the activity of the microorganisms. Sample 104, 110, 119 and 121 were all taken in the southern part of the area.

6. Summary

During a field visit to present UNSOA Log Base and proposed new site in Mombasa between August 26 and 29, environmental sampling have been performed in order to examine the levels of possible contamination at the two sites. This field investigation is part of an EBS to be performed for the new Log Base and/or a possible expansion of the present one.

A total of 49 locations have sampled (water, sediment and soil) and initial analyses of toxicity, heavy metal and volatile hydrocarbons have been made.

7. Conclusions

No alarming levels of contaminants such as heavy metals and VOCs have been found in any of the samples from the two sites in the initial, preliminary analyses; however, some initial toxicity test indicates negative effect on microorganisms in the test model used.

Generally there were higher levels of pollution in the present site compared to the new site, which was expected when the present site is located in an industrial area. At the present site the results for heavy metal were in general higher in the sediment than in the soil samples.

All water samples have been sent to a laboratory for further analyses, and the results will be ready later.

A final report of the investigation and the EBS will be prepared by September 30, 2010.

A summary of sampling spots at the suggested new site at Mombasa International Airport.

Sample No	**Photo**	**Comments, 2010-08-07, New site Mombasa. 26-27 degree C, showers during the morning**
101	 	Sample at 15-20 cm, somewhat disturbed soil,
103		Sample at 10-15 cm, Laterite soil

		
104		Sample at 10-15 cm laterite
106		Sample at 15-20 cm, Opposite 101 Laterite soil
108		Sample at 15 cm Laterite soil

	 	
109		Sample at 0-5 cm, surface sample, filling material On the side of the road,
110		Outside fence, planned fuel station Two sample depths **110A:** At 10-15 cm Organic soil **110B:**

	 	At 25 cm, compact soil Laterite soil Sent to laboratory
111		Sample at 10-15 cm Old dump site Shards of glass and porcelain at appr. 15 cm
112		Near fence, on the west side of old asphalt road Sample at 25-30 cm

		
113		Sample at 10-15 cm Filling material
115	 	Asphalt area in front of bulding Sample at 30 cm Filling material (not maram)
116		Sample at two depths

		**116A:** Sample at 10-15 cm Organic soil (black) **116B:** Sample at 48 cm Laterite soil
117	 	Burned grass Sample at 10-15 cm

		
119	 	Samples from two depths 119A Organic soil (black) Sample at 0-10 cm 119B Laterite soil Sample at 25 cm
120		Sample at 20 cm Organic soil

121		Sample at 20 cm Close to farming area south of the premises
122	 	Close to fence Sample at 25-30 cm Filling material PID reading: 2,0 (in bag at hotel) Sample sent to laboratory
125		Sample at 25 cm Laterite soil PID reading: 0,0 (in bag at hotel)

		
127	 	Sample at 25-30 cm Organic/laterite soil
128		Sample at 20 cm (?) Dump site organic material, branches, grass etc

	 	
131	 	Cassava field Sample at 0-15 cm Sample taken at field
134		Near Cassava fields Sample at 0,15 cm

	 	
135	 	Outside new site, inside airport area Sample at 0-10 cm Organic soil PID reading: 0,0 (in bag at hotel)

136	 	Outside new site fences In airport area, close to old plane wrecks Sampling at 0-10 cm Grass cut at the area PID reading: 0,0 (in bag at hotel)
138		Sample at 15-20 cm At the bottom of the pit Appr. 25 x 15 m and 8-10 m deep. PID reading: 0,0 (in bag at hotel) Sample sent to laboratory

New site samples

Appendix 3

Results from measurements with XRF-instrument on site

All values in ppm (parts per million).
Below are mean values from two measurements.
Missing values are below limit of detection.

Sample no.	Sr	Pb	Zn	Cu	Fe	Mn	V	Ti	Cr	Co	As
101Soil_XRF	28.5	16.5			6289	179.5	31.5	1686.5			
103Soil_XRF	34			33	5470.5	243.5	30	1713.5			
104Soil_XRF	31.5				5045.5	134	28	1685			13
106Soil_XRF	25				10279.5	157	33.5	2094			
108Soil_XRF	31.5	18			6584.5	362.5	47	1996			
109Soil_XRF	80	26	37.5		8411	275	49.5	2008			
110ASoil_XRF	33.5		22		1914	238	26	1435.5			
110BSoil_XRF	35.5		23		3407.5	367		1509			10
111Soil_XRF	36.5	19	53		5130	496.5		1672			12
112Soil_XRF	31.5	23	32.5		8214.5	614.5	42.5	2309	66		
113Soil_XRF	41		33		6821	261.5	27	1679			
115Soil_XRF	114.5	23.5	49		16650	453.5	83	3066.5	96		
116ASoil_XRF	36.5				2439.5	279	33	1637			
116BSoil_XRF	30.5				4859.5	319		1535.5			
117Soil_XRF	42				2556	218	22	1256.5			
119ASoil_XRF	41.5	16	23		3601	446.5	42	1427.5			
119BSoil_XRF	37	17			3870.5	387	33	1263			
120Soil_XRF	50.5	23.5	37		2999	188		1057			
121Soil_XRF	50	21	26		6141	456	41	1675.5			
122Soil_XRF	31		27		3484	423	35.5	1323.5			
125Soil_XRF	39				3158	424.5	30	1619			
127Soil_XRF	37				2720.5	771	36	1236			
128Soil_XRF	45	26	38		5885.5	385.5	31	1660			
131Soil_XRF	34.5	15	29		5134.5	277.5	30	1400			
134Soil_XRF	51.5		36		3564.5	446.5	27	1240		121	
135Soil_XRF	31		45		3143	118		1229.5			
136Soil_XRF	27.5	14			2070	105		1583			
138Soil_XRF	22.5		29	31	7127.5	35	44	2078			

Eurofins Scientific AG
Parkstrasse 10
Postfach
CH-5012 Schönenwerd

Telefon: +41 (0)62 858 71 00
Fax: +41 (0)62 858 71 09
www.eurofins.ch
e-mail: info@eurofins.ch

Analytical Report No:
AR-10-TT-017805-01

United Nations Environment Progamme
Herr Thummarukudy
Post-Conflict & Disaster Management Branch
International Environment House-I, Room D705
1219 Châtelaine, Geneva

Fax: 022 917 80 64
Email: muralee.thummarukudy@unep.org;satu.ojaluoma@unep.

Eurofins Sample No: 10-00122739
Sample Description: Sample No 110B Soil
Sample Amount:
Remark:
Sample Entry: 31.08.2010
Start of Analysis:

Test	Result	
*Dry weight (dw)	**95.5**g/100 g	
*pH H2O	**7.8**	ISO 10390
*Measuring temperature (pH)	**22**°C	ISO 10390
Volatile Hydrocarbons MeC5-C10:		
*MeC5 - C8 included	**< 1.0**mg/kg dw	Internal Method
*> C8 - C10 included	**< 1.0**mg/kg dw	Internal Method
*Sum MeC5 - C10	**< 2.0**mg/kg dw	Internal Method
BTEX:		
*Benzene	**< 0.05**mg/kg dw	ISO 22155
*Toluene	**< 0.05**mg/kg dw	ISO 22155
*Ethylbenzene	**< 0.05**mg/kg dw	ISO 22155
*o-Xylene	**< 0.05**mg/kg dw	ISO 22155
*m-/-p-Xylene	**< 0.05**mg/kg dw	ISO 22155
*Barium (Ba)	**9.14**mg/kg dw	NF EN ISO 11885
*Arsenic (As)	**1.31**mg/kg dw	NF EN ISO 11885
*Chromium (Cr)	**< 5.00**mg/kg dw	NF EN ISO 11885
*Cadmium (Cd)	**< 0.40**mg/kg dw	NF EN ISO 11885
*Cobalt (Co)	**9.72**mg/kg dw	NF EN ISO 11885

Eurofins Scientific AG
Parkstrasse 10
Postfach
CH-5012 Schönenwerd

Telefon: +41 (0)62 858 71 00
Fax: +41 (0)62 858 71 09
www.eurofins.ch
e-mail: info@eurofins.ch

Analytical Report No:
AR-10-TT-017805-01

United Nations Environment Progamme
Herr Thummarukudy
Post-Conflict & Disaster Management Branch
International Environment House-I, Room D705
1219 Châtelaine, Geneva

Fax: 022 917 80 64
Email: muralee.thummarukudy@unep.org;satu.ojaluoma@unep.

*Copper (Cu)	**< 5.00**mg/kg dw	NF EN ISO 11885
*Lead (Pb)	**6.80**mg/kg dw	NF EN ISO 11885
*Nickel (Ni)	**1.26**mg/kg dw	NF EN ISO 11885
*Vanadium (V)	**7.29**mg/kg dw	NF EN ISO 11885
*Titanium (Ti)	**44.9**mg/kg dw	NF EN ISO 11885
*Strontium (Sr)	**< 5.00**mg/kg dw	NF EN ISO 11885
*Zinc (Zn)	**10.4**mg/kg dw	NF EN ISO 11885

All used methods (if not indicated otherwise) are inside the accreditated area of Eurofins Scientific AG Switzerland. The measurement inaccuracy may be asked for on demand.

* This analysis has been performed by an accreditated Eurofins-laboratory.

TAMC = total aerobic microbial count / Gesamtanzahl aerober Mikroorganismen
TYMC = total combined yeasts/moulds count / Gesamtanzahl an Hefen und Schimmelpilzen

Kind regards
Eurofins Scientific AG
Schönenwerd, the 23.09.2010

For the Lab

Validated by Dr.Steffen Dietrich
Chemistry Manager

Eurofins Scientific AG
Parkstrasse 10
Postfach
CH-5012 Schönenwerd

Telefon: +41 (0)62 858 71 00
Fax: +41 (0)62 858 71 09
www.eurofins.ch
e-mail: info@eurofins.ch

Analytical Report No:
AR-10-TT-017805-01

United Nations Environment Progamme
Herr Thummarukudy
Post-Conflict & Disaster Management Branch
International Environment House-I, Room D705
1219 Châtelaine, Geneva

Fax: 022 917 80 64
Email: muralee.thummarukudy@unep.org;satu.ojaluoma@unep.

Eurofins Sample No: 10-00122740
Sample Description: Sample No 122 Soil
Sample Amount:
Remark:
Sample Entry: 31.08.2010
Start of Analysis:

Test	Result	
*Dry weight (dw)	**92.3**g/100 g	
*pH H2O	**8.1**	ISO 10390
*Measuring temperature (pH)	**22**°C	ISO 10390
Volatile Hydrocarbons MeC5-C10:		
*MeC5 - C8 included	**< 1.0**mg/kg dw	Internal Method
*> C8 - C10 included	**< 1.0**mg/kg dw	Internal Method
*Sum MeC5 - C10	**< 2.0**mg/kg dw	Internal Method
BTEX:		
*Benzene	**< 0.05**mg/kg dw	ISO 22155
*Toluene	**< 0.05**mg/kg dw	ISO 22155
*Ethylbenzene	**< 0.05**mg/kg dw	ISO 22155
*o-Xylene	**< 0.05**mg/kg dw	ISO 22155
*m-/-p-Xylene	**< 0.05**mg/kg dw	ISO 22155
*Barium (Ba)	**17.4**mg/kg dw	NF EN ISO 11885
*Arsenic (As)	**5.01**mg/kg dw	NF EN ISO 11885
*Cobalt (Co)	**1.77**mg/kg dw	NF EN ISO 11885
*Copper (Cu)	**< 5.00**mg/kg dw	NF EN ISO 11885
*Cadmium (Cd)	**< 0.40**mg/kg dw	NF EN ISO 11885

Eurofins Scientific AG
Parkstrasse 10
Postfach
CH-5012 Schönenwerd

Telefon: +41 (0)62 858 71 00
Fax: +41 (0)62 858 71 09
www.eurofins.ch
e-mail: info@eurofins.ch

Analytical Report No:
AR-10-TT-017805-01

United Nations Environment Progamme
Herr Thummarukudy
Post-Conflict & Disaster Management Branch
International Environment House-I, Room D705
1219 Châtelaine, Geneva

Fax: 022 917 80 64
Email: muralee.thummarukudy@unep.org;satu.ojaluoma@unep.

*Chromium (Cr)	**6.81**mg/kg dw	NF EN ISO 11885
*Lead (Pb)	**8.11**mg/kg dw	NF EN ISO 11885
*Nickel (Ni)	**2.27**mg/kg dw	NF EN ISO 11885
*Vanadium (V)	**10.3**mg/kg dw	NF EN ISO 11885
*Titanium (Ti)	**48.6**mg/kg dw	NF EN ISO 11885
*Strontium (Sr)	**< 5.00**mg/kg dw	NF EN ISO 11885
*Zinc (Zn)	**21.4**mg/kg dw	NF EN ISO 11885

All used methods (if not indicated otherwise) are inside the accreditated area of Eurofins Scientific AG Switzerland. The measurement inaccuracy may be asked for on demand.

* This analysis has been performed by an accreditated Eurofins-laboratory.

TAMC = total aerobic microbial count / Gesamtanzahl aerober Mikroorganismen
TYMC = total combined yeasts/moulds count / Gesamtanzahl an Hefen und Schimmelpilzen

Kind regards
Eurofins Scientific AG
Schönenwerd, the 23.09.2010

For the Lab

Validated by Dr.Steffen Dietrich
Chemistry Manager

Eurofins Scientific AG
Parkstrasse 10
Postfach
CH-5012 Schönenwerd

Telefon: +41 (0)62 858 71 00
Fax: +41 (0)62 858 71 09
www.eurofins.ch
e-mail: info@eurofins.ch

Analytical Report No:
AR-10-TT-017805-01

United Nations Environment Progamme
Herr Thummarukudy
Post-Conflict & Disaster Management Branch
International Environment House-I, Room D705
1219 Châtelaine, Geneva

Fax: 022 917 80 64
Email: muralee.thummarukudy@unep.org;satu.ojaluoma@unep.

Eurofins Sample No: 10-00122741
Sample Description: Sample No 138 Soil
Sample Amount:
Remark:
Sample Entry: 31.08.2010
Start of Analysis:

Test	Result	
*Dry weight (dw)	**82.4**g/100 g	
*pH H2O	**6.0**	ISO 10390
*Measuring temperature (pH)	**21**°C	ISO 10390
Volatile Hydrocarbons MeC5-C10:		
*MeC5 - C8 included	**< 1.0**mg/kg dw	Internal Method
*> C8 - C10 included	**< 1.0**mg/kg dw	Internal Method
*Sum MeC5 - C10	**< 2.0**mg/kg dw	Internal Method
BTEX:		
*Benzene	**< 0.05**mg/kg dw	ISO 22155
*Toluene	**< 0.05**mg/kg dw	ISO 22155
*Ethylbenzene	**< 0.05**mg/kg dw	ISO 22155
*o-Xylene	**< 0.05**mg/kg dw	ISO 22155
*m-/-p-Xylene	**< 0.05**mg/kg dw	ISO 22155
*Barium (Ba)	**27.0**mg/kg dw	NF EN ISO 11885
*Arsenic (As)	**5.06**mg/kg dw	NF EN ISO 11885
*Chromium (Cr)	**10.8**mg/kg dw	NF EN ISO 11885
*Cadmium (Cd)	**< 0.40**mg/kg dw	NF EN ISO 11885
*Copper (Cu)	**7.07**mg/kg dw	NF EN ISO 11885

Eurofins Scientific AG
Parkstrasse 10
Postfach
CH-5012 Schönenwerd

Telefon: +41 (0)62 858 71 00
Fax: +41 (0)62 858 71 09
www.eurofins.ch
e-mail: info@eurofins.ch

Analytical Report No:
AR-10-TT-017805-01

United Nations Environment Progamme
Herr Thummarukudy
Post-Conflict & Disaster Management Branch
International Environment House-I, Room D705
1219 Châtelaine, Geneva

Fax: 022 917 80 64
Email: muralee.thummarukudy@unep.org;satu.ojaluoma@unep.

*Cobalt (Co)	**< 1.01** mg/kg dw	NF EN ISO 11885
*Lead (Pb)	**11.9** mg/kg dw	NF EN ISO 11885
*Nickel (Ni)	**2.99** mg/kg dw	NF EN ISO 11885
*Vanadium (V)	**19.0** mg/kg dw	NF EN ISO 11885
*Titanium (Ti)	**59.2** mg/kg dw	NF EN ISO 11885
*Strontium (Sr)	**< 5.05** mg/kg dw	NF EN ISO 11885
*Zinc (Zn)	**28.7** mg/kg dw	NF EN ISO 11885

All used methods (if not indicated otherwise) are inside the accreditated area of Eurofins Scientific AG Switzerland. The measurement inaccuracy may be asked for on demand.

* This analysis has been performed by an accreditated Eurofins-laboratory.

TAMC = total aerobic microbial count / Gesamtanzahl aerober Mikroorganismen
TYMC = total combined yeasts/moulds count / Gesamtanzahl an Hefen und Schimmelpilzen

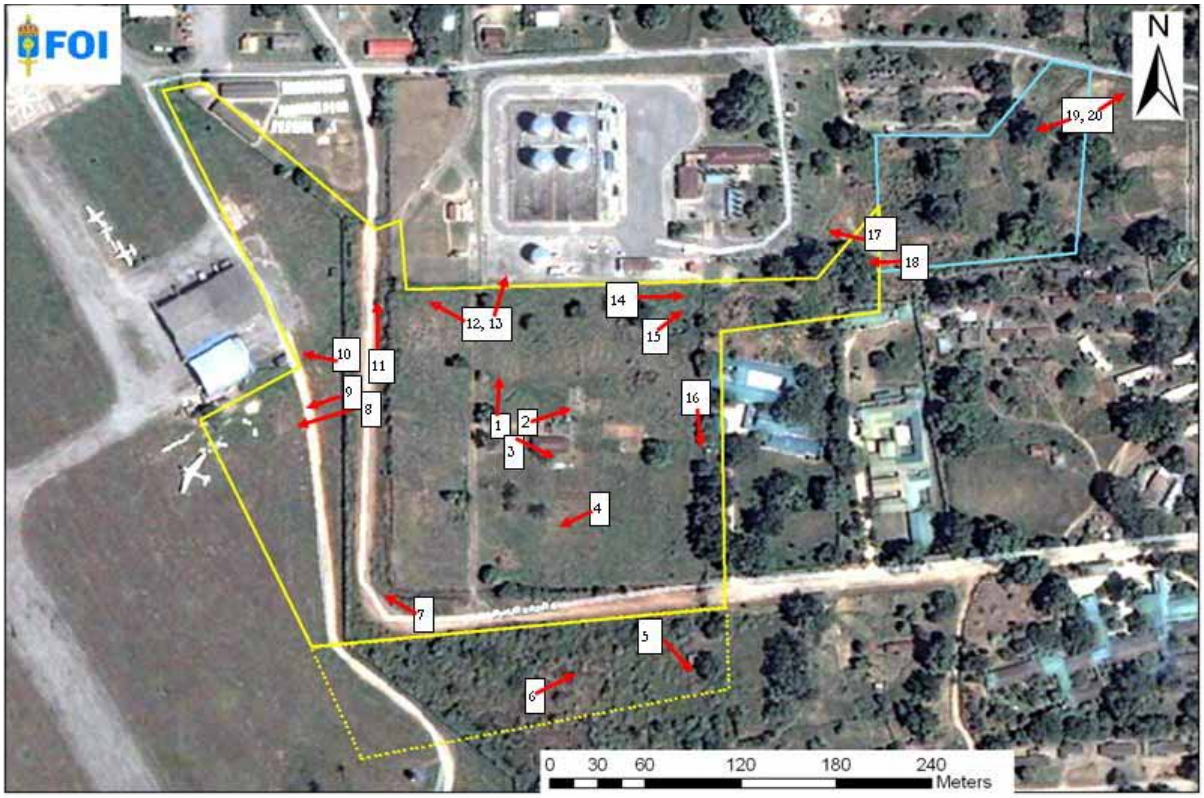
Kind regards
Eurofins Scientific AG
Schönenwerd, the 23.09.2010

For the Lab

Validated by Dr.Steffen Dietrich
Chemistry Manager

Photos from airport site.

The photos were taken during the sampling campaign performed on Aug 27th 2010.



Overview of photos taken at the area. The number indicates where the picture was taken and the arrow shows in which direction the photo was taken.

Picture 1. View of storage tanks from the centre of the area.

Picture 2. Towards the hospital area. Buildings showing in the picture are some of the hospital buildings adjacent to the site.

Picture 3. The empty building at the centre of the site.

Picture 4. South of the house on the area, close to planned soak pit/garbage collect.

Picture 5. South part of the area, close to the gate. Behind the tree to the left is a building where a family lives.

Picture 6. Area south of the entrance road.

Picture 7. Curve at the south-west corner of the site. Location for planned fuel station.

Picture 8. Airplane wrecks outside the fence on the western side of the site.

Picture 9. Airplane wrecks outside the fence on the western side of the site.

Picture 10. Buildings at airport premises. The buildings are next to the plane wrecks in picture 8 and 9.

Picture 11. The road along the fence in the western part of the site. At the end of the road is the entrance to the airport area and also the Kenyan Forces base.

Figure 12. The northern fence.

Picture 13. Tank farm outside the fence to the north. The nearest tank is appr. 12 m from the fence.

Picture 14. Northern fence. Concrete surface below the tanks at the tank farm is clearly visible to the left in the picture.

Picture 15. Excavated pit in the north-eastern part of the area.

Picture 16. Eastern fence, immediately outside the fence are the hospital buildings.

Picture 17. Cassava plantations at the area planned for parking. The blue structures behind the trees are the tanks at the tank farm.

Picture 18. Cassava plantation at planned parking site.

Picture 19. The eastern part of the planned parking area.

Picture 20. The eastern part of the planned parking area.

Revised notification and movement documents for the control of transboundary movement of hazardous wastes and instructions for completing these documents

K0760125 130607

Notification document for transboundary movements/shipments of waste

1. Exporter - notifier Registration No:
Name:
Address:

Contact person:
Tel: Fax:
E-mail:

2. Importer - consignee Registration No:
Name:
Address:

Contact person:
Tel: Fax:
E-mail:

8. Intended carrier(s) Registration No:
Name*(7)*:
Address:

Contact person:
Tel: Fax:
E-mail:
Means of transport *(5)*:

9. Waste generator(s) - producer(s) *(1;7;8)* Registration No:
Name:
Address:

Contact person:
Tel: Fax:
E-mail:
Site and process of generation *(6)*

10. Disposal facility *(2)*: ☐ or recovery facility *(2)*: ☐
Registration No:
Name:
Address:

Contact person:
Tel: Fax:
E-mail:
Actual site of disposal/recovery:

3. Notification No:
Notification concerning
A.(i) Individual shipment: ☐ (ii) Multiple shipments: ☐
B.(i) Disposal *(1)*: ☐ (ii) Recovery : ☐
C. Pre-consented recovery facility *(2;3)* Yes ☐ No ☐

4. Total intended number of shipments:

5. Total intended quantity *(4)*:
Tonnes (Mg):
m^3:

6. Intended period of time for shipment(s) *(4)*:
First departure: Last departure:

7. Packaging type(s) *(5)*:
Special handling requirements *(6)*: Yes: ☐ No: ☐

11. Disposal / recovery operation(s) *(2)*
D-code / R-code *(5)*:
Technology employed *(6)*:

Reason for export *(1;6)*:

12. Designation and composition of the waste *(6)*:

13. Physical characteristics *(5)*:

14. Waste identification *(fill in relevant codes)*
(i) Basel Annex VIII (or IX if applicable):
(ii) OECD code (if different from (i)):
(iii) EC list of wastes:
(iv) National code in country of export:
(v) National code in country of import:
(vi) Other (specify):
(vii) Y-code:
(viii) H-code *(5):*
(ix) UN class *(5):*
(x) UN Number:
(xi) UN Shipping name:
(xii) Customs code(s) (HS):

15. (a) Countries/States concerned, (b) Code no. of competent authorities where applicable, (c) Specific points of exit or entry (border crossing or port)

State of export - dispatch	State(s) of transit (entry and exit)						State of import - destination
(a)							
(b)							
(c)							

16.Customs offices of entry and/or exit and/or export (European Community):
Entry: Exit: Export:

17. Exporter's - notifier's / generator's - producer's *(1)* declaration:
I certify that the information is complete and correct to my best knowledge. I also certify that legally enforceable written contractual obligations have been entered into and that any applicable insurance or other financial guarantee is or shall be in force covering the transboundary movement.
Exporter's - notifier's name: Date: Signature:
Generator's - producer's name: Date: Signature:

18. Number of annexes attached

FOR USE BY COMPETENT AUTHORITIES

19. Acknowledgement from the relevant competent authority of countries of import - destination / transit *(1)* / export - dispatch *(9)*:
Country:
Notification received on:
Acknowledgement sent on:
Name of competent authority:
Stamp and/or signature:

20. Written consent *(1;8)* to the movement provided by the competent authority of (country):
Consent given on:
Consent valid from: until:
Specific conditions: No: ☐ If Yes, see block 21 *(6):* ☐
Name of competent authority:
Stamp and/or signature:

21. Specific conditions on consenting to the movement document or reasons for objecting

(1) Required by the Basel Convention
(2) In the case of an R12/R13 or D13-D15 operation, also attach corresponding information on any subsequent R12/R13 or D13-D15 facilities and on the subsequent R1-R11 or D1-D12 facilit(y)ies when required
(3) To be completed for movements within the OECD area and only if B(ii) applies
(4) Attach detailed list if multiple shipments
(5) See list of abbreviations and codes on the next page
(6) Attach details if necessary
(7) Attach list if more than one
(8) If required by national legislation
(9) If applicable under the OECD Decision

List of abbreviations and codes used in the notification document

DISPOSAL OPERATIONS (block 11)

D1	Deposit into or onto land, (e.g., landfill, etc.)
D2	Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.)
D3	Deep injection, (e.g., injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.)
D4	Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)
D5	Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)
D6	Release into a water body except seas/oceans
D7	Release into seas/oceans including sea-bed insertion
D8	Biological treatment not specified elsewhere in this list which results in final compounds or mixtures which are discarded by means of any of the operations in this list
D9	Physico-chemical treatment not specified elsewhere in this list which results in final compounds or mixtures which are discarded by means of any of the operations in this list (e.g., evaporation, drying, calcination, etc.)
D10	Incineration on land
D11	Incineration at sea
D12	Permanent storage, (e.g., emplacement of containers in a mine, etc.)
D13	Blending or mixing prior to submission to any of the operations in this list
D14	Repackaging prior to submission to any of the operations in this list
D15	Storage pending any of the operations in this list

RECOVERY OPERATIONS (block 11)

R1	Use as a fuel (other than in direct incineration) or other means to generate energy (Basel/OECD) - Use principally as a fuel or other means to generate energy (EU)
R2	Solvent reclamation/regeneration
R3	Recycling/reclamation of organic substances which are not used as solvents
R4	Recycling/reclamation of metals and metal compounds
R5	Recycling/reclamation of other inorganic materials
R6	Regeneration of acids or bases
R7	Recovery of components used for pollution abatement
R8	Recovery of components from catalysts
R9	Used oil re-refining or other reuses of previously used oil
R10	Land treatment resulting in benefit to agriculture or ecological improvement
R11	Uses of residual materials obtained from any of the operations numbered R1-R10
R12	Exchange of wastes for submission to any of the operations numbered R1-R11
R13	Accumulation of material intended for any operation in this list.

PACKAGING TYPES (block 7)

1. Drum
2. Wooden barrel
3. Jerrican
4. Box
5. Bag
6. Composite packaging
7. Pressure receptacle
8. Bulk
9. Other (specify)

MEANS OF TRANSPORT (block 8)

R = Road
T = Train/rail
S = Sea
A = Air
W = Inland waterways

PHYSICAL CHARACTERISTICS (block 13)

1. Powdery/powder
2. Solid
3. Viscous/paste
4. Sludgy
5. Liquid
6. Gaseous
7. Other (specify)

H-CODE AND UN CLASS (block 14)

UN Class	H-code	Characteristics
1	H1	Explosive
3	H3	Flammable liquids
4.1	H4.1	Flammable solids
4.2	H4.2	Substances or wastes liable to spontaneous combustion
4.3	H4.3	Substances or wastes which, in contact with water, emit flammable gases
5.1	H5.1	Oxidizing
5.2	H5.2	Organic peroxides
6.1	H6.1	Poisonous (acute)
6.2	H6.2	Infectious substances
8	H8	Corrosives
9	H10	Liberation of toxic gases in contact with air or water
9	H11	Toxic (delayed or chronic)
9	H12	Ecotoxic
9	H13	Capable, by any means, after disposal of yielding another material, e. g., leachate, which possesses any of the characteristics listed above

Further information, in particular related to waste identification (block 14), i.e. on Basel Annexes VIII and IX codes, OECD codes and Y-codes, can be found in a Guidance/Instruction Manual available from the OECD and the Secretariat of the Basel Convention.

Movement document for transboundary movements/shipments of waste

1. Corresponding to notification No:	2. Serial/total number of shipments: /
3. Exporter - notifier Registration No: Name: Address: Contact person: Tel: Fax: E-mail:	4. Importer - consignee Registration No: Name: Address: Contact person: Tel: Fax: E-mail:
5. Actual quantity: Tonnes (Mg): m^3:	6. Actual date of shipment:
7. Packaging Type(s) *(1)*: Number of packages: Special handling requirements: *(2)* Yes: ☐ No: ☐	

8.(a) 1st Carrier *(3):*	8.(b) 2nd Carrier:	8.(c) Last Carrier:
Registration No: Name: Address: Tel: Fax: E-mail:	Registration No: Name: Address: Tel: Fax: E-mail:	Registration No: Name: Address: Tel: Fax: E-mail:
- - - - - - - To be completed by carrier's representative - - - - - - -		*More than 3 carriers (2)* ☐
Means of transport *(1)*: Date of transfer: Signature:	Means of transport *(1)*: Date of transfer: Signature:	Means of transport *(1)*: Date of transfer: Signature:

9. Waste generator(s) - producer(s) *(4;5;6)*: Registration No: Name: Address: Contact person: Tel: Fax: E-mail: Site of generation *(2)*:	12. Designation and composition of the waste *(2):* 13.Physical characteristics *(1):* 14.Waste identification *(fill in relevant codes)* (i) Basel Annex VIII (or IX if applicable): (ii) OECD code (if different from (i)): (iii) EC list of wastes: (iv) National code in country of export: (v) National code in country of import: (vi) Other (specify): (vii) Y-code: (viii) H-code *(1)*: (ix) UN class *(1)*: (x) UN Number: (xi) UN Shipping name: (xii) Customs code(s) (HS):
10. Disposal facility ☐ or recovery facility ☐ Registration No: Name: Address: Contact person: Tel: Fax: E-mail: Actual site of disposal/recovery *(2)*	
11. Disposal/recovery operation(s) D-code / R-code *(1)*:	

15. Exporter's - notifier's / generator's - producer's *(4)* declaration:

I certify that the above information is complete and correct to my best knowledge. I also certify that legally enforceable written contractual obligations have been entered into, that any applicable insurance or other financial guarantee is in force covering the transboundary movement and that all necessary consents have been received from the competent authorities of the countries concerned.

Name: Date: Signature:

16. For use by any person involved in the transboundary movement in case additional information is required

17. Shipment received by importer - consignee (if not facility): Date: Name: Signature:

TO BE COMPLETED BY DISPOSAL / RECOVERY FACILITY

18. Shipment received at disposal facility ☐ or recovery facility ☐ Date of reception: Accepted: ☐ Rejected*: ☐ Quantity received: Tonnes (Mg): m^3: **immediately contact competent authorities* Approximate date of disposal/recovery: Disposal/recovery operation (1): Name: Date: Signature:	19. I certify that the disposal/recovery of the waste described above has been completed. Name: Date: Signature and stamp:

(1) See list of abbreviations and codes on the next page
(2) Attach details if necessary
(3) If more than 3 carriers, attach information as required in blocks 8 (a,b,c).
(4) Required by the Basel Convention
(5) Attach list if more than one
(6) If required by national legislation

FOR USE BY CUSTOMS OFFICES (if required by national legislation)	
20. Country of export - dispatch or customs office of exit The waste described in this movement document left the country on: Signature: Stamp:	21. Country of import - destination or customs office of entry The waste described in this movement document entered the country on: Signature: Stamp:

22. Stamps of customs offices of transit countries			
Name of country: Entry:	Exit:	Name of country: Entry:	Exit:
Name of country: Entry:	Exit:	Name of country: Entry:	Exit:

List of Abbreviations and Codes Used in the Movement Document

DISPOSAL OPERATIONS (block 11)

- D1 Deposit into or onto land, (e.g., landfill, etc.)
- D2 Land treatment, (e.g. biodegradation of liquid or sludgy discards in soils, etc.)
- D3 Deep injection, (e.g., injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.)
- D4 Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)
- D5 Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment), etc.
- D6 Release into a water body except seas/oceans
- D7 Release into seas/oceans including sea-bed insertion
- D8 Biological treatment not specified elsewhere in this list which results in final compounds or mixtures which are discarded by means of any of the operations in this list
- D9 Physico-chemical treatment not specified elsewhere in this list which results in final compounds or mixtures which are discarded by means of any of the operations in this list (e.g., evaporation, drying, calcination, etc.)
- D10 Incineration on land
- D11 Incineration at sea
- D12 Permanent storage, (e.g., emplacement of containers in a mine, etc.)
- D13 Blending or mixing prior to submission to any of the operations in this list
- D14 Repackaging prior to submission to any of the operations in this list
- D15 Storage pending any of the operations in this list

RECOVERY OPERATIONS (block 11)

- R1 Use as a fuel (other than in direct incineration) or other means to generate energy (Basel/OECD) - Use principally as a fuel or other means to generate energy (EU)
- R2 Solvent reclamation/regeneration
- R3 Recycling/reclamation of organic substances which are not used as solvents
- R4 Recycling/reclamation of metals and metal compounds
- R5 Recycling/reclamation of other inorganic materials
- R6 Regeneration of acids or bases
- R7 Recovery of components used for pollution abatement
- R8 Recovery of components from catalysts
- R9 Used oil re-refining or other reuses of previously used oil
- R10 Land treatment resulting in benefit to agriculture or ecological improvement
- R11 Uses of residual materials obtained from any of the operations numbered R1-R10
- R12 Exchange of wastes for submission to any of the operations numbered R1-R11
- R13 Accumulation of material intended for any operation in this list

PACKAGING TYPES (block 7)

1. Drum
2. Wooden barrel
3. Jerrican
4. Box
5. Bag
6. Composite packaging
7. Pressure receptacle
8. Bulk
9. Other (specify)

MEANS OF TRANSPORT (block 8)

R = Road
T = Train/rail
S = Sea
A = Air
W = Inland waterways

PHYSICAL CHARACTERISTICS (block 13)

1. Powdery / powder
2. Solid
3. Viscous / paste
4. Sludgy
5. Liquid
6. Gaseous
7. Other (specify)

H-CODE AND UN CLASS (block 14)

UN class	H-code	Characteristics
1	H1	Explosive
3	H3	Flammable liquids
4.1	H4.1	Flammable solids
4.2	H4.2	Substances or wastes liable to spontaneous combustion
4.3	H4.3	Substances or wastes which, in contact with water, emit flammable gases
5.1	H5.1	Oxidizing
5.2	H5.2	Organic peroxides
6.1	H6.1	Poisonous (acute)
6.2	H6.2	Infectious substances
8	H8	Corrosives
9	H10	Liberation of toxic gases in contact with air or water
9	H11	Toxic (delayed or chronic)
9	H12	Ecotoxic
9	H13	Capable, by any means, after disposal of yielding another material, e. g., leachate, which possesses any of the characteristics listed above

Further information, in particular related to waste identification (block 14), i.e. on Basel Annexes VIII and IX codes, OECD codes and Y-codes, can be found in a Guidance/Instruction Manual available from the OECD and the Secretariat of the Basel Convention.

Instructions for completing the notification and movement documents

I. Introduction

1. International instruments have been established to control export and import of wastes which may pose a risk or a hazard to human health and the environment. The two such instruments with the greatest influence are the Basel Convention,[1] whose secretariat is administered by the United Nations Environment Programme (UNEP), and the Organisation for Economic Co-operation and Development (OECD) Council Decision C(2001)107/FINAL (hereinafter "the OECD Decision").[2] Member States of the European Union are also obliged to comply with a European Community Regulation.[3] The Basel Convention and the European Community Regulation concern international movements of waste, whether destined for disposal or recovery, whereas the OECD Decision only concerns movements of wastes destined for recovery operations within the OECD area. All of the instruments operate subject to a range of administrative controls by the Parties implementing them.

2. The present instructions provide the necessary explanations for completing the notification and movement documents. Both documents are compatible with the three instruments mentioned above, since they take into account the specific requirements set out in the Basel Convention, the OECD Decision and the European Community Regulation. Because the documents have been made broad enough to cover all three instruments, however, not all blocks in the document will be applicable to all of the instruments and it therefore may not be necessary to complete all of the blocks in a given case. Any specific requirements relating to only one control system have been indicated with the use of footnotes. It is also possible that national implementing legislation may use terminology that differs from that adopted in the Basel Convention and the OECD Decision. For example, the term "shipment" is used in the European Community Regulation instead of "movement" and the titles of the notification and movement documents therefore reflect this variation by employing the term "movement/shipment".

3. The documents include both the term "disposal" and "recovery", because the terms are defined differently in the three instruments. The European Community Regulation and the OECD Decision use the term "disposal" to refer to disposal operations listed in Annex IV.A of the Basel Convention and Appendix 5.A of the OECD Decision and "recovery" for recovery operations listed in Annex IV.B of the Basel Convention and Appendix 5.B of the OECD Decision. In the Basel Convention itself, however, the term "disposal" is used to refer to both disposal and recovery operations.

4. The competent national authorities in each state of export will be responsible for providing and issuing the notification and movement documents (in both paper and electronic versions). When doing so, they will use a numbering system, which allows a particular consignment of waste to be traced. The numbering system should be prefixed with the country code that can be found in the ISO standard 3166 abbreviation list.

5. Countries may wish to issue the documents in a paper size format that conforms to their national standards (normally ISO A4, as recommended by the United Nations). In order to facilitate their use internationally, however, and to take into account the difference between ISO A4 and the paper size used in North America, the frame size of the forms should not be greater than 183 x 262 mm with margins aligned at the top and the left side of the paper.

---

[1] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, 22 March 1989. See www.basel.int.

[2] Decision C(2001)107/FINAL of the OECD Council, concerning the revision of Decision C(92)39/FINAL on the control of transboundary movements of waste destined for recovery operations; the former decision is a consolidation of texts adopted by the Council on 14 June 2001 and on 28 February 2002 (with amendments). See http://www.oecd.org/department/0,2688,en_2649_34397_1_1_1_1_1,00.html

[3] Currently in force is 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 (Official Journal of the European Communities No. L30, 6.2.1993 (with amendments)). It will be repealed with effect from 12 July 2007, when Regulation (EC) No 1013/2006 on shipments of waste (Official Journal No. L190, 12.7.2006), will apply. See http://europa.eu.int/comm/environment/waste/shipments/index.htm.

II. Purpose of the notification and movement documents

6. The notification document is intended to provide the competent authorities of countries concerned with the information they need to assess the acceptability of proposed waste movements. The document includes space for the competent authorities to acknowledge receipt of the notification and, where required, to consent in writing to a proposed movement.

7. The movement document is intended to travel with a consignment of waste at all times from the moment it leaves the waste generator to its arrival at a disposal or recovery facility in another country. Each person who takes charge of a transboundary movement is to sign the movement document either upon delivery or receipt of the wastes in question. Space is provided in the document for detailed information on all carriers of the consignment. There are also spaces in the movement document for recording passage of the consignment through the customs offices of all countries concerned (while not strictly required by applicable international instruments, national legislation in some countries requires such procedures, as well as information to ensure proper control over movement). Finally, the document is to be used by the relevant disposal or recovery facility to certify that the waste has been received and that the recovery or disposal operation has been completed.

III. General requirements

8. Those filling out printed copies of the documents should use typescript or block capitals in permanent ink throughout. Signatures should always be written in permanent ink and the name of the authorized representative should accompany the signature in capital letters. In the event of a minor mistake, for example the use of the wrong code for a waste, a correction can be made with the approval of the competent authorities. The new text must be marked and signed or stamped, and the date of the modification must be noted. For major changes or corrections, a new form must be completed.

9. The forms have also been designed to be easily completed electronically. Where this is done, appropriate security measures should be taken against any misuse of the forms. Any changes made to a completed form with the approval of the competent authorities should be visible. When using electronic forms transmitted by e-mail, a digital signature is necessary.

10. To simplify translation, the documents require a code, rather than text, for the completion of several blocks. Where text is required, however, it must be in a language acceptable to the competent authorities in the country of import and, where required, to the other concerned authorities.

11. A six digit format should be used to indicate the date. For example, 29 January 2006 should be shown as 29.01.06 (Day.Month.Year).

12. Where it is necessary to add annexes or attachments to the documents providing additional information, each attachment should include the reference number of the relevant document and cite the block to which it relates.

IV. Specific instructions for completing the notification document

13. The exporter or the competent authority of the State of export, as appropriate, is to complete blocks 1–18 (except the notification number in block 3). The waste generator, where practicable, should also sign in block 17.

14. **Blocks 1 and 2**: Provide the registration number (where applicable), full name, address (including the name of the country), telephone and fax numbers (including the country code) and e-mail address of the exporter or the competent authority of the State of export, as appropriate, and importer,[4] and also the name of a contact person responsible for the shipment. The phone and fax numbers and the e-mail address should facilitate contact of all relevant persons at any time regarding an incident during shipment.

15. Normally, the importer would be the disposal or recovery facility given in block 10. In some cases, however, the importer may be another person, for example a recognized trader, a dealer, a broker, or a corporate body, such as the headquarters or mailing address of the receiving disposal or recovery facility in block 10. In order to act as an importer, a recognized trader, dealer, broker or corporate body must be under the jurisdiction of the country of import and possess or have some other form of legal control over the waste at the moment the shipment arrives in the country of import. In such cases,

[4] In the European Community, the terms notifier and consignee are used instead of exporter and importer.

information relating to the recognized trader, dealer, broker or corporate body should be completed in block 2.

16. **Block 3**: When issuing a notification document, a competent authority will, according to its own system, provide an identification number which will be printed in this block (see paragraph 4 above). The appropriate boxes should be ticked to indicate:

(a) Whether the notification covers one shipment (single notification) or multiple shipments (general notification);

(b) Whether the waste being shipped is destined for disposal (which, as noted in paragraphs 1 and 3 above, is possible in the case of a shipment falling within the ambit of the Basel Convention or the European Community Regulation but not one within the ambit of the OECD Decision) or for recovery; and

(c) Whether the waste being shipped is destined for a facility which has been granted a pre-consent for receiving certain wastes subject to the Amber control procedure in accordance with case 2 of the "Functioning of the Amber Control Procedure" (see chapter II, section D of the OECD Decision).

17. **Blocks 4, 5 and 6:** For single or multiple shipments, give the number of shipments in block 4 and the intended date of a single shipment or, for multiple shipments, the dates of the first and last shipments, in block 6. In block 5, give the weight in tonnes (1 megagram (Mg) or 1,000 kg) or volume in cubic metres (1,000 litres) of the waste. Other units of the metric system, such as kilograms or litres, are also acceptable; when used, the unit of measure should be indicated and the unit in the document should be crossed out. Some countries may always require the weight to be quoted. For multiple shipments, the total quantity shipped must not exceed the quantity declared in block 5. The intended period of time for movements in block 6 may not exceed one year, with the exception of multiple shipments to pre-consented recovery facilities that fall under the OECD Decision (see paragraph 16 (c)), for which the intended period of time may not exceed three years. In the case of multiple shipments, the Basel Convention requires the expected dates or the expected frequency and the estimated quantity of each shipment to be quoted in blocks 5 and 6 or attached in an annex. Where a competent authority issues a written consent to the movement and the validity period of that consent in block 20 differs from the period indicated in block 6, the decision of the competent authority overrides the information in block 6.

18. **Block 7**: Types of packaging should be indicated using the codes provided in the list of abbreviations and codes attached to the notification document. If special handling precautions are required, such as those required by producers' handling instructions for employees, health and safety information, including information on dealing with spillage, and transport emergency cards, tick the appropriate box and attach the information in an annex.

19. **Block 8**: Provide the following necessary information on the carrier or carriers involved in the shipment: registration number (where applicable), full name, address (including the name of the country), telephone and fax numbers (including the country code), e-mail address and the name of a contact person responsible for the shipment. If more than one carrier is involved, append to the notification document a complete list giving the required information for each carrier. Where the transport is organized by a forwarding agent, the agent's details should be given in block 8 and the respective information on actual carriers should be provided in an annex. Means of transport should be indicated using the abbreviations provided in the list of abbreviations and codes attached to the notification document.

20. **Block 9**: Provide the required information on the generator of the waste. This information is required under the Basel Convention and many countries may require it under their national legislation.[5] Such information is not required, however, for movements of wastes destined for recovery under the OECD Decision. The registration number of the generator should be given where applicable. If the exporter is the generator of the waste then write "Same as block 1". If the waste has been produced by more than one generator, write "See attached list" and append a list providing the requested information for each generator. Where the generator is not known, give the name of the person in possession or control of such wastes. The definition of "generator" used in the Basel Convention provides that in instances where the true generator of the waste is not known, the generator is deemed to be the person who is in possession or control of the waste. Also provide information on the process by which the waste was generated and the site of generation. Some countries may accept that information on the generator be given in a separate annex which would only be available to the competent authorities.

[5] In the European Community, the term "producer" is used instead of "generator".

21. **Block 10**: Give the required information on the destination of the shipment by first ticking the appropriate type of facility: either disposal or recovery. The registration number should be given where applicable. If the disposer or recoverer is also the importer, state here "Same as block 2". If the disposal or recovery operation is a D13–D15 or R12 or R13 operation (according to the definitions of operations set out in the list of abbreviations and codes attached to the notification document), the facility performing the operation should be mentioned in block 10, as well as the location where the operation will be performed. In such a case, corresponding information on the subsequent facility or facilities, where any subsequent R12/R13 or D13–D15 operation and the D1–D12 or R1–R11 operation or operations takes or take place or may take place should be provided in an annex. Provide the information on the actual site of disposal or recovery if it is different from the address of the facility.

22. **Block 11**: Indicate the type of recovery or disposal operation by the using R-codes or D-codes provided in the list of abbreviations and codes attached to the notification document.[6] The OECD Decision only covers transboundary movements of wastes destined for recovery operations (R-codes) within the OECD area. If the disposal or recovery operation is a D13–D15 or R12 or R13 operation, corresponding information on the subsequent operations (any R12/R13 or D13–D15 as well as D1–D12 or R1–R11) should be provided in an annex. Also indicate the technology to be employed. Specify also the reason for export (this is not required, however, by the OECD Decision).

23. **Block 12**: Give the name or names by which the material is commonly known or the commercial name and the names of its major constituents (in terms of quantity and/or hazard) and their relative concentrations (expressed as a percentage), if known. In the case of a mixture of wastes, provide the same information for the different fractions and indicate which fractions are destined for recovery. A chemical analysis of the composition of the waste may be required in accordance with national legislation. Attach further information in an annex if necessary.

24. **Block 13:** Indicate physical characteristics of the waste at normal temperatures and pressures by using the codes provided in the list of abbreviations and codes attached to the notification document.

25. **Block 14:** State the code that identifies the waste according to the system adopted under the Basel Convention (under subheading (i) in block 14) and, where applicable, the systems adopted in the OECD Decision (under subheading (ii)) and other accepted classification systems (under subheadings (iii) to (xii)). According to the OECD Decision, only one waste code (from either the Basel or OECD systems) should be given, except in the case of mixtures of wastes for which no individual entry exists. In such a case, the code of each fraction of the waste should be provided in order of importance (in an annex if necessary).

(a) **Subheading (i):** Basel Convention Annex VIII codes should be used for wastes that are subject to control under the Basel Convention and the OECD Decision (see Part I of Appendix 4 in the OECD Decision); Basel Annex IX codes should be used for wastes that are not usually subject to control under the Basel Convention and the OECD Decision but which, for a specific reason such as contamination by hazardous substances or different classification according to national regulations, are subject to such control (see Part I of Appendix 3 in the OECD Decision). Basel Annexes VIII and IX can be found in the text of the Basel Convention as well as in the Instruction Manual available from the Secretariat of the Basel Convention. If a waste is not listed in Annexes VIII or IX of the Basel Convention, insert "not listed".

(b) **Subheading (ii):** OECD member countries should use OECD codes for wastes listed in Part II of Appendices 3 and 4 of the OECD Decision, i.e., wastes that have no equivalent listing in the Basel Convention or that have a different level of control under the OECD Decision from the one required by the Basel Convention. If a waste is not listed in Part II of Appendices 3 and 4 of the OECD Decision, insert "not listed".

(c) **Subheading (iii):** European Union Member States should use the codes included in the European Community list of wastes (see Commission Decision 2000/532/EC as amended).[7]

(d) **Subheadings (iv) and (v):** Where applicable, national identification codes used in the country of export and, if known, in the country of import should be used.

---

[6] In the European Community Regulation, the definition of operation R1 in the list of abbreviations is different from that used in the Basel Convention and the OECD Decision; both wordings are therefore provided. There are other editorial differences between the terminology used in the European Community and that used in the Basel Convention and the OECD Decision, which are not contained in the list of abbreviations.

[7] See http://europa.eu.int/eur-lex/en/consleg/main/2000/en_2000D0532_index.html.

(e) **Subheading (vi):** If useful or required by the relevant competent authorities, add here any other code or additional information that would facilitate the identification of the waste.

(f) **Subheading (vii):** State the appropriate Y-code or Y-codes according to the "Categories of wastes to be controlled" (see Annex I of the Basel Convention and Appendix 1 of the OECD Decision), or according to the "Categories of wastes requiring special consideration" given in Annex II of the Basel Convention (see Appendix 2 of the Basel Instruction Manual), if it or they exist(s). Y-codes are not required by the OECD Decision except where the waste shipment falls under one of the two "Categories requiring special consideration" under the Basel Convention (Y46 and Y47 or Annex II wastes), in which case the Basel Y-code should be indicated.

(g) **Subheading (viii):** If applicable, state here the appropriate H-code or H-codes, i.e., the codes indicating the hazardous characteristics exhibited by the waste (see the list of abbreviations and codes attached to the notification document).

(h) **Subheading (ix):** If applicable, state here the United Nations class or classes which indicate the hazardous characteristics of the waste according to the United Nations classification (see the list of abbreviations and codes attached to the notification document) and are required to comply with international rules for the transport of hazardous materials (see the United Nations Recommendations on the Transport of Dangerous Goods. Model Regulations (Orange Book), latest edition).[8]

(i) **Subheadings (x and xi):** If applicable, state here the appropriate United Nations number or numbers and United Nations shipping name or names. These are used to identify the waste according to the United Nations classification system and are required to comply with international rules for transport of hazardous materials (see the United Nations Recommendations on the Transport of Dangerous Goods. Model Regulations (Orange Book), latest edition).[8]

(j) **Subheading (xii):** If applicable, state here customs code or codes, which allow identification of the waste by customs offices (see the list of codes and commodities in the "Harmonized commodity description and coding system" produced by the World Customs Organization).

26. **Block 15:** The Basel Convention uses the term "States", whereas the OECD Decision uses "Member countries" and the European Community Regulation uses "Member States". On line (a) of block 15, provide the name of the countries or States of export, transit and import or the codes for each country or State by using the ISO standard 3166 abbreviations.[9] On line (b), provide the code number of the respective competent authority for each country if required by the national legislation of that country and on line (c) insert the name of the border crossing or port and, where applicable, the customs office code number as the point of entry to or exit from a particular country. For transit countries give the information in line (c) for points of entry and exit. If more than three transit countries are involved in a particular movement, attach the appropriate information in an annex.

27. **Block 16**: This block should be completed for movements involving entering, passing through or leaving Member States of the European Union.

28. **Block 17**: Each copy of the notification document is to be signed and dated by the exporter (or by the recognized trader, dealer or broker if acting as an exporter) or the competent authority of the State of export, as appropriate, before being forwarded to the competent authorities of the countries concerned. Under the Basel Convention, the waste generator is also required to sign the declaration; it is noted that this may not be practicable in cases where there are several generators (definitions regarding practicability may be contained in national legislation). Further, where the generator is not known, the person in possession or control of the waste should sign. Some countries may require that the declaration also certify the existence of insurance against liability for damage to third parties. Some countries may require proof of insurance or other financial guarantees and a contract to accompany the notification document.

29. **Block 18**: Indicate the number of annexes containing any additional information supplied with the notification document (see blocks 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 20 or 21). Each annex must include a reference to the notification number to which it relates, which is indicated in the corner of block 3.

---

[8] See http://www.unece.org/trans/danger/danger.htm.

[9] In the European Community, the terms "dispatch" and "destination" are used instead of "export" and "import".

30. **Block 19**: This block is for use by the competent authority to acknowledge receipt of the notification. Under the Basel Convention, the competent authority or authorities of the country or countries of import (where applicable) and transit issue such an acknowledgement. Under the OECD Decision, the competent authority of the country of import issues the acknowledgement. Some countries may, according to their national legislation, require that the competent authority of the country of export also issues an acknowledgement.

31. **Blocks 20 and 21**: Block 20 is for use by competent authorities of any country concerned when providing a written consent to a transboundary movement of waste. The Basel Convention (except if a country has decided not to require written consent with regard to transit and has informed the other Parties thereof in accordance with Article 6(4)) of the Basel Convention) and certain countries always require a written consent whereas the OECD Decision does not require a written consent. Indicate the name of the country (or its code by using the ISO standard 3166 abbreviations), the date on which the consent is provided and the date on which it expires. If the movement is subject to specific conditions, the competent authority in question should tick the appropriate box and specify the conditions in block 21 or in an annex to the notification document. If a competent authority wishes to object to the movement it should do so by writing "OBJECTION" in block 20. Block 21, or a separate letter, may then be used to explain the reasons for the objection.

V. Specific instructions for completing the movement document

32. The exporter or the competent authority of the State of export, as appropriate, is to complete blocks 2–16, except the means of transport, the date of transfer and the signature, which appear in blocks 8 (a) to 8 (c) and which are to be completed by the carrier or its representative. The importer is to complete block 17 in the event that it is not the disposer or recoverer and it takes charge of a shipment of waste after it arrives in the country of import.

33. **Block 1**: Enter the notification number of the consignment. This is copied from block 3 in the notification document.

34. **Block 2**: For a general notification for multiple shipments, enter the serial number of the shipment and the total intended number of shipments indicated in block 4 in the notification document. (for example, write "4" and "11" for the fourth shipment out of eleven intended shipments under the general notification in question). In the case of a single notification, enter 1/1.

35. **Blocks 3 and 4**: Reproduce the same information on the exporter or the competent authority of the State of export, as appropriate, and importer as given in blocks 1 and 2 in the notification document.

36. **Block 5**: Give the actual weight in tonnes (1 megagram (Mg) or 1,000 kg) or volume in cubic metres (1,000 litres) of the waste. Other units of the metric system, such as kilograms or litres, are also acceptable; when used, the unit of measure should be indicated and the unit in the form should be crossed out. Some countries may always require the weight to be quoted. Attach, wherever possible, copies of weighbridge tickets.

37. **Block 6**: Enter the date when the shipment actually starts. The starting dates of all shipments should be within the validity period issued by the competent authorities. Where the different competent authorities involved have granted different validity periods, the shipment or shipments may only take place in the time period during which the consents of all competent authorities are simultaneously valid.

38. **Block 7**: Types of packaging should be indicated using the codes provided in the list of abbreviations and codes attached to the movement document. If special handling precautions are required, such as those prescribed by producers' handling instructions for employees, health and safety information, including information on dealing with spillage, and transport emergency cards, tick the appropriate box and attach the information in an annex. Also enter the number of packages making up the consignment.

39. **Blocks 8 (a), (b) and (c)**: Enter the registration number (where applicable), name, address (including the name of the country), telephone and fax numbers (including the country code) and e-mail address of each actual carrier. When more than three carriers are involved, appropriate information on each carrier should be attached to the movement document. When transport is organized by a forwarding agent, the agent's details should be given in block 8 and the information on each carrier should be provided in an annex. The means of transport, the date of transfer and a signature should be provided by the carrier or carrier's representative taking possession of the consignment. A copy of the signed movement document is to be retained by the exporter. Upon each successive transfer of the consignment, the new carrier or carrier's representative taking possession of the consignment will have

to comply with the same request and also sign the document. A copy of the signed document is to be retained by the previous carrier.

40. **Block 9**: Reproduce the information given in block 9 of the notification document.

41. **Blocks 10 and 11**: Reproduce the information given in blocks 10 and 11 in the notification document. If the disposer or recoverer is also the importer, write in block 10: “Same as block 4”. If the disposal or recovery operation is a D13–D15 or R12 or R13 operation (according to the definitions of operations set out in the list of abbreviations and codes attached to the movement document), the information on the facility performing the operation provided in block 10 is sufficient. No further information on any subsequent facilities performing R12/R13 or D13–D15 operations and the subsequent facility(ies) performing the D1–D12 or R1–R11 operation(s) needs to be included in the movement document.

42. **Blocks 12, 13 and 14**: Reproduce the information given in blocks 12, 13 and 14 in the notification document.

43. **Block 15**: At the time of shipment, the exporter (or the recognized trader or dealer or broker if acting as an exporter) or the competent authority of the State of export, as appropriate, or the generator of the waste according to the Basel Convention, shall sign and date the movement document. Some countries may require copies or originals of the notification document containing the written consent, including any conditions, of the competent authorities concerned to be enclosed with the movement document.

44. **Block 16:** This block can be used by any person involved in a transboundary movement (exporter or the competent authority of the State of export, as appropriate, importer, any competent authority, carrier) in specific cases where more detailed information is required by national legislation concerning a particular item (for instance information on the port where a transfer to another transport mode occurs, the number of containers and their identification number, or additional proof or stamps indicating that the movement has been approved by the competent authorities).

45. **Block 17**: This block is to be completed by the importer in the event that it is not the disposer or recoverer and in case the importer takes charge of the waste after the shipment arrives in the country of import.

46. **Block 18**: This block is to be completed by the authorized representative of the disposal or recovery facility upon receipt of the waste consignment. Tick the box of the appropriate type of facility. With regard to the quantity received, please refer to the specific instructions on block 5 (paragraph 36). A signed copy of the movement document is given to the last carrier. If the shipment is rejected for any reason, the representative of the disposal or recovery facility must immediately contact his or her competent authority. Under the OECD Decision, signed copies of the movement document must be sent within three working days to the exporter and the competent authority in the countries concerned (with the exception of those OECD transit countries which have informed the OECD Secretariat that they do not wish to receive such copies of the movement document). The original movement document shall be retained by the disposal or recovery facility.

47. Receipt of the waste consignment must be certified by any facility performing any disposal or recovery operation, including any D13–D15 or R12 or R13 operation. A facility performing any D13–D15 or R12/R13 operation or a D1–D12 or R1–11 operation subsequent to a D13–D15 or R12 or R13 operation in the same country, is not, however, required to certify receipt of the consignment from the D13–D15 or R12 or R13 facility. Thus, block 18 does not need to be used for the final receipt of the consignment in such a case. Indicate also the type of disposal or recovery operation by using the list of abbreviations and codes attached to the movement document and the approximate date by which the disposal or recovery of waste will be completed (this is not required by the OECD Decision).

48. **Block 19**: This block is to be completed by the disposer or recoverer to certify the completion of the disposal or recovery of the waste. Under the Basel Convention, signed copies of the document with block 19 completed should be sent to the exporter and competent authorities of the country of export. Under the OECD Decision, signed copies of the movement document with block 19 completed should be sent to the exporter and competent authorities of the countries of export and import as soon as possible, but no later than 30 days after the completion of the recovery and no later than one calendar year following the receipt of the waste. For disposal or recovery operations D13–D15 or R12 or R13, the information on the facility performing such an operation provided in block 10 is sufficient, and no further information on any subsequent facilities performing R12/R13 or D13–D15 operations and the subsequent facility(ies) performing the D1–D12 or R1–R11 operation(s) need be included in the movement document.

49. The disposal or recovery of waste must be certified by any facility performing any disposal or recovery operation, including a D13–D15 or R12 or R13 operation. Therefore, a facility performing any D13–D15 or R12/R13 operation or a D1–D12 or R1–R11 operation, subsequent to a D13–D15 or R12 or R13 operation in the same country, should not use block 19 to certify the recovery or disposal of the waste, since this block will already have been completed by the D13–D15 or R12 or R13 facility. The means of certifying disposal or recovery in this particular case must be ascertained by each country.

50. **Blocks 20, 21 and 22**: Not required by the Basel Convention or by the OECD Decision. The blocks may be used for control by customs offices at the borders of country of export, transit and import if so required by national legislation.

More technical information available at:
http://www.unep.org/disastersandconflicts/
or: postconflict@unep.org


FOI


UNEP