Environmental Assessment of the Areas Disengaged by Israel in the Gaza Strip

United Nations Environment Programme

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Foreword

The disengagement from Israeli settlements in the Gaza Strip during the second part of the year 2005 was a historical event, and this environmental assessment by the United Nations Environment Programme (UNEP) that followed was likewise a unique intervention.

The basis for UNEP's environmental cooperation in the region, however, was already laid in 2002, when UNEP started its work with the Palestinian Authority and Israel, culminating in the publication of the "Desk Study on the Environment in the Occupied Palestinian Territories". The report was unanimously welcomed at the UNEP Governing Council in February 2003. Since then UNEP has organized several training events for Palestinian environmental experts and also hosted trilateral environmental meetings attended by Israeli and Palestinian delegations.

It was therefore no surprise when, as part of the Palestinian efforts to manage the anticipated impacts of the disengagement, the Palestinian Environment Quality Authority (EQA) requested UNEP to undertake an environmental assessment of the areas disengaged. UNEP agreed to lead the environmental assessment, working closely with both the EQA and the Palestinian Water Authority (PWA). In the spirit of cooperation established, UNEP requested Israel's support of the environmental assessment. The Israeli Ministry of Environment undertook to collaborate with UNEP on this matter and give the assistance required.

We agreed with our environmental partners that the approach to the assessment would be forward looking. Accordingly, UNEP's intention in conducting the assessment was not to assign blame, but to present an accurate picture of the state of environmental affairs. UNEP will further actively share the findings and recommendations of this report with donors having an interest in future environmental projects in the region.

There is no real precedent for an assessment of this nature. UNEP developed its own methods, focusing on four objectives: Firstly, to gather a baseline data set of the environment in the disengaged settlements. Secondly, to identify areas posing immediate risk to people. Thirdly, to create an information base, including satellite images and maps, for future planning. Fourthly, to provide training on environmental assessments to Palestinian experts.

Using satellite imagery, reports and comments from Israeli, Palestinian, and international sources, UNEP scientists prior to commencement of the field work identified approximately 100 areas of interest, including industrial buildings, waste disposal sites, agricultural plants and storage tanks.

The fieldwork was carried out in Gaza from 9-18 December 2005 by a UNEP-team of 8 experts with expertise in the fields of hazardous waste including asbestos, marine and coastal issues, soil contamination and water quality. The UNEP team could consequently cover all 21 disengaged settlements and the Erez industrial site.

Following the field work, samples were produced in triplicate, handed to the Palestinian and Israeli laboratories and sent to an independent, UNEP contracted laboratory in the UK.

This report presents the finding of the survey. Other than some localised pollution, the former Israeli settlements did not cause contamination of water, land or buildings posing a significant risk to the environment or public health. Pollution at the former Erez Industrial Estate are also localised and could be mitigated by targeted clean up action. The study thus finds that overall the environmental impact of the former Israeli settlements in the Gaza strip are limited, a welcome news for everyone concerned with the environment, long term stability and economic progress of the region. It is hoped that the findings we present in this report would bolster Palestinian resettlement plans and foster hopes for economic investment and peace in the region.

A major concern has been the amount of remaining asbestos in the rubble of the demolished houses. We can state that, though issues associated with asbestos need to be handled carefully so as not to expose workers or the community to unnecessary harm, the amount of asbestos remaining is minor and can be dealt with in a fast and efficient manner with proper guidance and support from asbestos experts.

On the basis of the findings of this assessment, UNEP is assisting the United Nations Development Programme - Programme of Assistance to the Palestinian People (UNDP/PAPP) to carry out the task of clearing and recycling the rubble produced by the destruction of the settlements in the Gaza Strip. Once the rubble is removed, asbestos disposed of in a safe manner and the identified specific areas of contamination are cleaned up, there are no environmental constraints to human settlement in these areas. Some land use restrictions will have to be placed in the interim while a decision is taken on the various landfills in the settlements.

Erez Industrial Estate can also be brought back to operation after due inspection of the partly demolished buildings, safe disposal of asbestos, and clean-up of identified areas of contamination.

UNEP is working with the Palestinian research institute, ARIJ, to present all the data collected during the exercise, including the satellite images procured, in an easily navigable electronic format. UNEP will provide the Palestinian Authority with hardware, software and training on how best to handle this information.

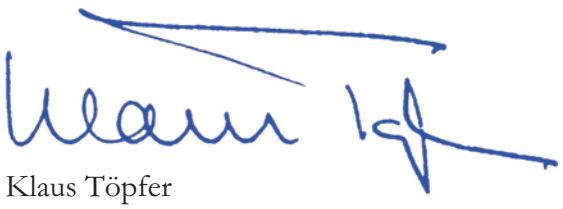
UNEP is able, with further funding, to assist the Palestinian people with other activities that would benefit the development of the Gaza Strip, be it by preparing an environmental management plan for the Erez Industrial Estate, organising training on safe handling of construction debris containing asbestos, or designing a waste management system for the entire Gaza Strip.

I would like to thank the governments of Sweden and Switzerland for their generous financial contribution, which enabled us to implement the assessment, provide relevant training to Palestinians, and publish this report in a short period of time.

Let me also express my gratitude for all support and assistance provided by the Office of the Special Envoy for the Quartet, Mr. James Wolfensohn, and my UN-colleagues at UNSCO, UNRWA, UNDP, UN DSS, and OCHA.

Given the new political situation in the region, I believe that environmental issues constitute a potential bridge-building element, reinforcing the fragile confidence between the two parties as they seek new grounds for cooperation.

UNEP would be ready to carry out similar environmental work in the West Bank, if so requested by both parties in future.



Klaus Töpfer
United Nations Under-Secretary General
Executive Director of the
United Nations Environment Programme

Introduction

Palestinian boy playing in the rubble inside one of the disengaged settlements: Due to asbestos pollution, handling of the demolition debris will be a major exercise. It has to be ensured that asbestos is safely removed prior to the removal of the rubble and refurbishment of the buildings.

Introduction

From 1970, Israel established a number of settlements in the Gaza Strip. These settlements, from which Israel disengaged in September 2005, are located throughout the Gaza Strip, from its southern border with Egypt to the northern border with Israel (Map 1). They vary in size and age, from small, relatively isolated hamlets to large residential and agricultural areas. In addition, one industrial site, Erez Industrial Estate, was assessed.

On 6 June 2004, Israel's cabinet approved the plan for disengagement from the Gaza Strip and parts of the West Bank. The Knesset, the Israeli parliament, endorsed the plan on 25 October 2004.

As part of its response to the Israeli disengagement plan and the proposed transfer of the settlements, the Palestinian Environment Quality Authority requested UNEP to assist with a systematic environmental assessment of the settlements after the disengagement. UNEP developed a comprehensive assessment plan, conducted background research and initiated remote sensing analyses in June 2005.

The disengagement process was completed in September 2005 and the sites handed over to the Palestinian Authority on 12 September 2005. UNEP undertook the fieldwork in December 2005. This report presents the outcomes of the assessment.

UNEP's activities in the Occupied Palestinian Territories

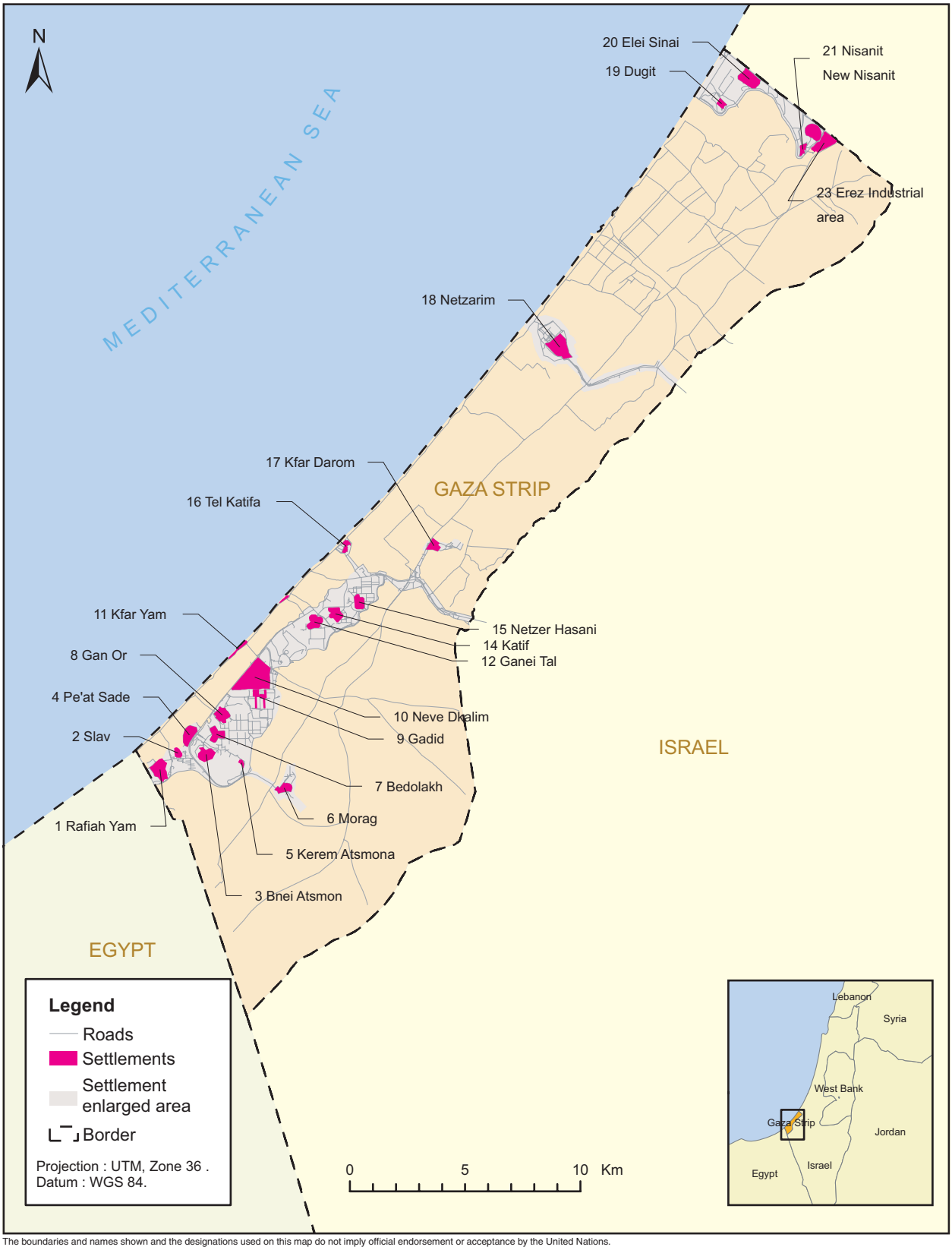
The activities described in this report were carried out within the framework of implementing the UNEP Governing Council decision of February 2003 on the Occupied Palestinian Territories.

In 2002, UNEP prepared a *Desk Study on the Environment in the Occupied Palestinian Territories*[1a], which was unanimously welcomed at the 22nd UNEP Governing Council in Nairobi, in February 2003. The Desk Study included 136 recommendations for specific follow-up activities in the environmental sector.

Since then, UNEP has organized a series of capacity-building training seminars for the Environment Quality Authority, and also hosted trilateral technical meetings attended by Israeli and Palestinian environmental delegations. The latest meeting took place in Helsinki, Finland, in February 2005.

Gaza city at dusk

Map 1. Gaza strip and the disengaged areas



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Environmental Assessment

UNEP conducted an environmental assessment of the disengaged settlements: A number of locations with localised contamination were identified. These areas need to be cleaned up prior to resettlement.

Environmental assessment

Objectives and scope

The objectives of the post-disengagement environmental assessment process are:

- to create an environmental baseline for the settlements which have been disengaged;
- to identify any areas of concern or interest that need to be considered during resettlement, from an environmental perspective.

Scope of work

The geographical scope of the assignment is limited to the areas disengaged by Israel in the Gaza Strip, including the beaches associated with the settlements. Within each of the settlements, the work involved the following steps:

- Mapping out potential areas of environmental concern by using background research and remote sensing analyses;
- Visiting the locations and undertaking fieldwork, including sampling, to assess the environmental situation and in particular to identify areas of environmental concern;
- Identifying potential areas of immediate concern from a public health perspective (contaminated soil / water, use of asbestos etc);
- Providing recommendations for follow-up activities, especially in the case of areas of immediate concern;
- Providing environmental information that may be used for planning purposes by the Palestinian Authority.

Study approach

Background research

In order to prepare for the fieldwork, background research was undertaken into the various environmental issues of interest (groundwater, asbestos, industrial activities). In particular, two documents prepared close to the time of disengagement were taken into consideration in the preparation for this assessment. These were:

Environmental Survey in the Gaza Strip – Status Report (from Ministry of Defence, State of Israel), 11 September 2005[1].

Results and Recommendations in Initial Environmental Audits on Former Israeli Settlements in the Gaza Strip and West Bank, Thorsten Kallnischkies, October 2005[2].

The first document was prepared by the Government of Israel as part of its disengagement plan and was submitted to the Palestinian Authority on 11 September 2005.

As part of the disengagement, a team of Palestinian officials and consultants visited selected settlements on 12 September. Mr Thorsten Kallnischkies was among this team which subsequently visited a number of settlements. His report is a description of many environmental features in the days immediately following the disengagement.

Remote sensing analyses

Not having made any previous visits to the settlements, UNEP was required to obtain as much information as possible about facilities in the area, in order effectively to develop the environmental assessment. Information about the following aspects was critical in fieldwork planning:

- Current status of the buildings (to determine the health and safety precautions to be taken during the field visit);
- Demolition status (to understand the possible extent of issues associated with asbestos);
- Number and location of waste sites, landfills, etc. (to plan sampling for waste management);
- Number and location of industrial sites and their current status (to identify in advance areas of potential environmental interest);
- Location of surface water features (to plan water sampling).

The field teams also required accurate maps for operational purposes. It was essential, for example, to identify sensitive areas, as the time available to visit each settlement was limited. By doing so UNEP experts could focus on potentially the most sensitive locations. It was also important to ensure that all the experts had a common set of geographical information for the fieldwork. Knowledge of the road network was also needed, to allow the experts to move easily from one settlement to another and to locate the specific areas of interest.

In the absence of detailed topographic maps for all the settlements, UNEP opted to employ high-resolution satellite imagery to produce maps and to interpret these in order to understand and define the areas of potential environmental interest in each of the settlements.

A three-phase methodology was adopted:

1. Pre-disengagement mapping;
2. Post-disengagement mapping/change detection analysis;
3. Final mapping.

Stage 1: Pre-disengagement mapping

No specific satellite programming request was required, as a good archived image was made available by UNOSAT.

The characteristics of this image were:

Sensor: Ikonos 2.
Acquisition date: 6 June 2005, 10:30 UTM.
Resolution: 2 m. Due to Israeli military restrictions, higher resolution was not available.
Format: geoproduct (geo-referenced).
Bands: blue (B) – green (B) – red (R) – near-infrared (NIR).
Cloud cover: 0%.

Photo-interpretation

To avoid misinterpretation and to ensure that all areas of interest were detected, the satellite imagery was photo-interpreted manually for each settlement.

The various information layers of interest were mapped:

***S*ettlements:** Twenty-two settlements were digitized. Twenty-one were initially identified as residential and one identified as industrial (Erez industrial zone).

Road network: Roads inside settlements and roads connecting settlements were digitized.

Buildings: Houses, administrative buildings, schools, universities.

Sports and leisure facilities: Basketball courts, tennis courts, football fields, swimming pools.

Agricultural areas: Mainly greenhouses were detected.

Water network:

– Watersheds: few rivers (wadis) were detected.

– Water bodies: treatment plants, desalination plants, swimming pools.

Surveillance network: Control towers, crossings, checkpoints.

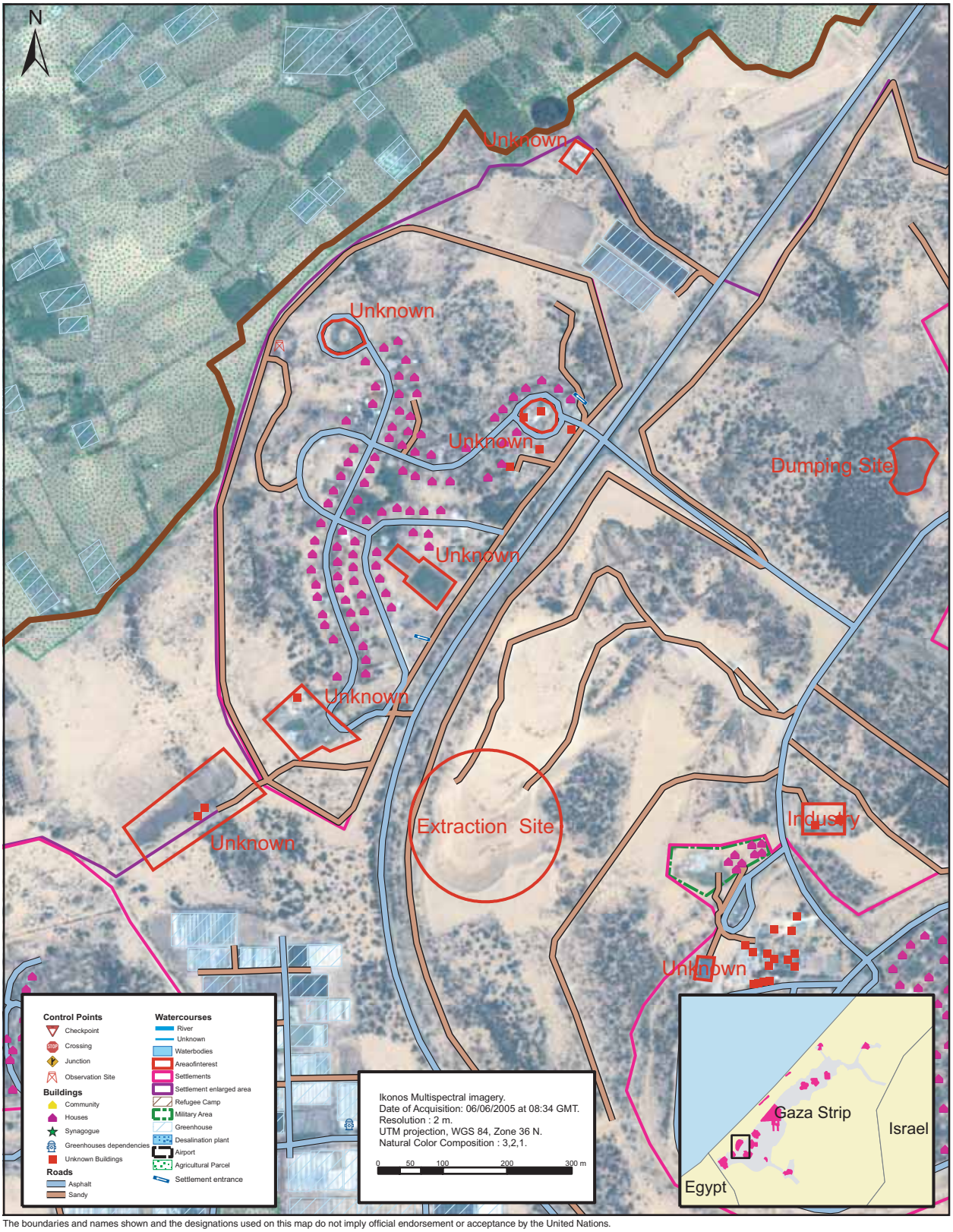
Areas of interest: Approximately 100 areas of interest were initially identified, including industrial buildings, factories, waste disposal sites, agricultural plants, storage tanks, petrol stations.

Unknown: Some areas or buildings were impossible to classify using satellite imagery and were then classified as "Unknown".

A geo-referenced vector layer was created for each of these layers.

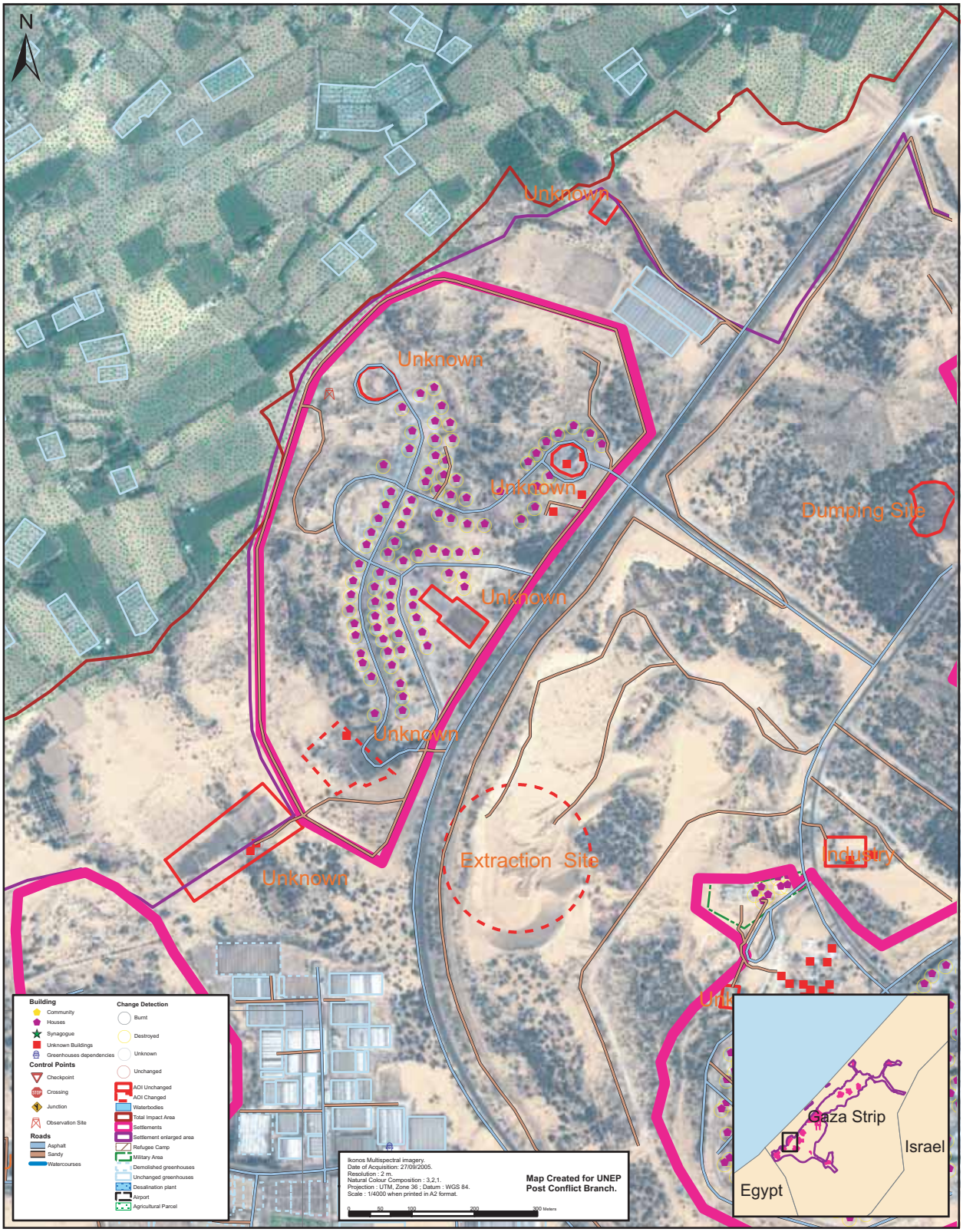
In this first stage, photo interpretation made it possible to produce "Before Disengagement" maps at a scale of 1/5,000. Twenty-two such maps were produced.

Map 2. Pe'at Sade pre-disengagement mapping



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 3. Pe'at Sade post-disengagement mapping



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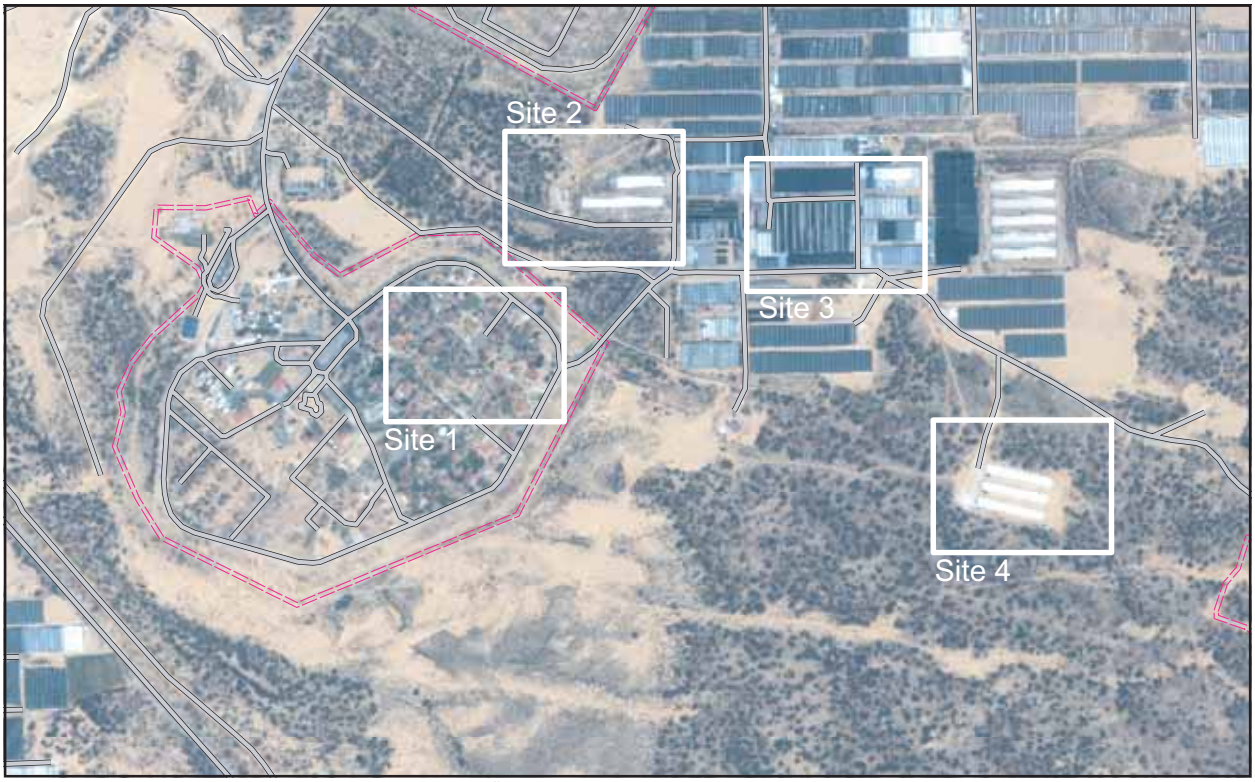
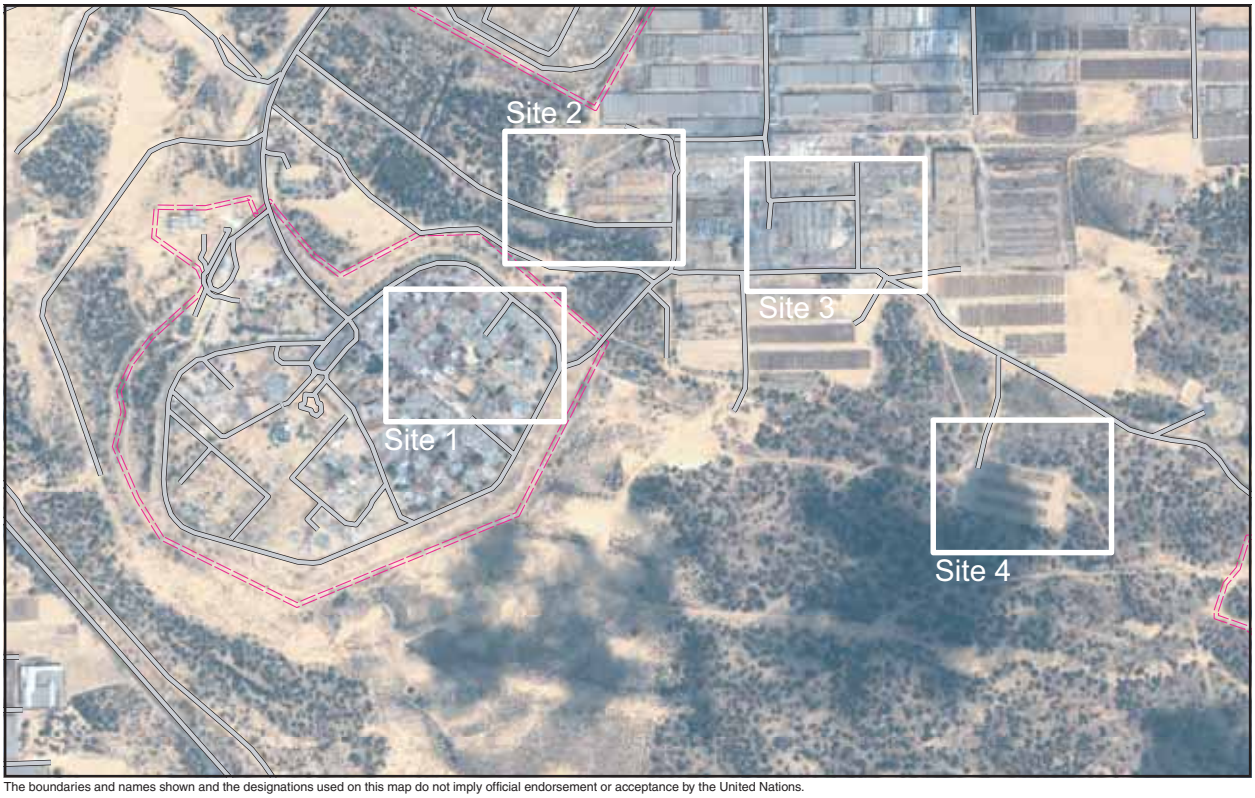
Map 4. Change detection mapping – Bedolakh before disengagement



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map 5. Change detection mapping – Bedolakh after disengagement



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Site 1 – Residential area
before disengagement

Site 1 – Residential area
after disengagement

Site 2 – Vegetable processing factory
before disengagement

Site 2 – Vegetable processing factory
after disengagement

Site 3 – Green houses
before disengagement

Site 3 – Green houses
after disengagement

Site 4 – Poultry farm
before disengagement

Site 4 – Poultry farm
after disengagement

Stage 2:
Post-disengagement mapping / change detection analysis

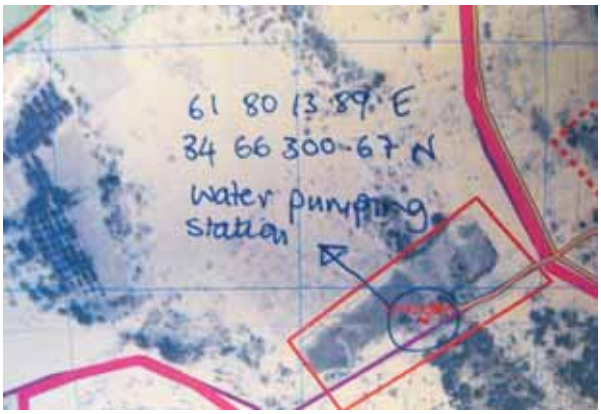
A second satellite image was procured following the disengagement. Since there was no image available in the archives in the week following disengagement, UNEP requested programming of the Ikonos 2 satellite to acquire an image of the Gaza Strip. This image was acquired on 26 September 2005. It is recognized that these images do not accurately reflect the environmental conditions within the settlements at the time of the Israeli disengagement, as over two weeks had elapsed between Israeli withdrawal and the acquisition of the image.

The characteristics of this image were:

Sensor: Ikonos 2.
Acquisition date: 26th of September 2005.
Resolution: 2m. Due to Israeli military restrictions, higher resolution was not available.
Format: geoproduct (geo-referenced).
Bands: blue (B) – green (B) – red (R) – near-infrared (NIR).
Cloud cover: 10%.

Change detection

This new image of the Gaza Strip was acquired two weeks after the disengagement process was completed. All vector layers digitized on the June 2005 image were overlapped on the September 2005 images.



Hand-annotated maps were used to update the information database

By comparing the same geographic areas on the different dates it was possible to detect and highlight changes that occurred between the two dates. These changes related mainly to the destruction of buildings:

- All residential buildings were destroyed.
- Some greenhouses were destroyed.
- Many areas of interest were demolished.

In a few areas, new elements appeared, such as new constructions. At the end of this second stage, UNEP created post-disengagement maps highlighting all the changes that had occurred following the disengagement process. Twenty-two such maps at a scale of 1/5,000 were produced.

Stage 3:
Final mapping

In December 2005, UNEP experts went into the field with paper maps, one for each settlement.

The maps were used to navigate between and to orientate within settlements. The maps were updated using observations from the sites:

- Areas of interest indicated as "Unknown" were investigated;
- Errors in interpretation were corrected;
- New information was added including elements that had not previously been detected as well as new constructions;
- All positions where samples were taken, such as water, asbestos and soil, were noted.

All these ground control observations were used to update the information database and new updated maps were created. All the settlement maps presented in this report were created using the process described above.

The names used in the maps regarding settlements correspond to the terminologies used by Israel in various documents.

Field study design

In the absence of standardized methodologies for post-disengagement environmental assessment, UNEP had to design and develop the entire programme. The overall aim was to

Maps generated from satellite images made it possible to locate potential "hot spots" with the minimum of delay

produce a forward looking assessment report, which can be shared with donors with an interest in supporting environmental projects in the region. Hence, the intention in conducting the assessment was not to assign blame, but to present an accurate picture of the state of environmental affairs. The breadth and depth of the study was therefore designed to meet with the study objectives, outlined on page 14, and the guiding principle stated above.

In order to ensure that the assessment was scientifically robust, prior to disengagement UNEP assembled an international team of experts to review the proposed methodology. All aspects of the study were discussed, and the experts agreed upon the terminology and methodologies to be adopted. Information from both the public domain and remote sensing was used as the basis for discussion.

The primary aim of the appraisal was to provide a "snapshot" of the prevailing environmental conditions using a number of techniques and drawing on the experience of the assessment team. The aspects selected for monitoring were water quality, soil/land contamination, hazardous wastes, asbestos and coastal zone issues.

As described on pages 15 to 20, a series of maps was produced from satellite imagery showing the settlements pre- and post-disengagement. These maps were used as the basis for the site assessments.

A desk-based assessment was undertaken, using these maps, to identify settlement areas that were either of potential concern or could assist in fulfilling the assessment's aim. Prior to arrival in the Gaza Strip, each of the maps was annotated using a number of standardized designations including *industry, unknown, agriculture, military, waste disposal site, water treatment plant* and so on, providing a structure that could be used as the basis for the appraisal of each of the former settlements. Noteworthy by their absence were the locations of water wells.

Field teams

The field teams consisted of UNEP experts, who led the fieldwork, and officials representing different Ministries and Agencies of the Palestinian Authority. There was at least one Palestinian expert in each of the specific areas assessed (soil, groundwater, asbestos, hazardous waste and coastal issues). Palestinian Authority

officials from various ministries also provided information about the various locations and activities and, in some instances, requested additional sampling. There was a professional photographer working with the team to document the fieldwork.

Assessment parameters and activities

Assessment of soil/contaminated land

Soil quality, in the context of contaminated land, was assessed using two main techniques: qualitative and quantitative. Qualitative techniques are those in which no measurements are taken and include aspects such as visual observations, the presence of odours, dead vegetation and so on. By their nature they cannot be used to confirm the hazard associated with potential contamination but they are useful in selecting locations for sample recovery and subsequent chemical analysis.

The quantitative and semi-quantitative techniques used involved the use of on-site monitoring equipment and the laboratory chemical analysis of collected soil samples.

Each settlement was visited and efforts were made to undertake as a minimum a qualitative assessment of each of the three categories of site: industrial, waste disposal and unknown.

Upon visiting a settlement the following activities were undertaken to the extent possible, given the constraints of time and security:

- A walkover, to view as much as possible of potential areas of concern at a walking pace. These could include observations of contamination (e.g. oil spills, waste disposal), potential contamination sources (e.g. storage tanks, drains), areas of uncharacteristic or exceptional observations (e.g. dead or stressed vegetation) and the use of anecdotal evidence, such as that provided by Palestinian Authority officials who indicated areas of potential concern.

- Where areas of potential concern were identified, portable monitoring equipment was used, if appropriate, to evaluate the potential for volatile organic compounds or hazardous gases (methane, carbon dioxide, carbon monoxide, as well as oxygen concentration).

- Where it was considered that additional and quantifiable data was required to assess the related risk, soil samples were recovered from the surface and immediate sub-surface for subsequent chemical analysis.

- Where no areas of concern were noted, no samples were taken.

Daily briefing meeting of UNEP experts before the start of fieldwork

UNEP experts collecting samples in the field

Following each day's field activities, the soil samples were packed and refrigerated prior to their despatch by air to the laboratory (AlControl Geochem, UK) for analysis. The samples were accompanied by *analysis request* documentation and a single trip blank (of de-ionised water supplied by the laboratory) for the purposes of quality assurance / quality control.

Assessment of water-related issues

Water quality varies depending on the level and type of pollution, type of use and nature of the geological formation. All 21 disengaged settlements in the Gaza Strip were visited, where information from satellite images and interviews with Palestinian officials were used to locate water wells and other areas of interest. However, it should be noted that in some circumstances it was not possible to locate sampling points within the actual area of the settlement and so efforts were made to locate sampling points as close as possible to the settlements.

Remote sensing high-resolution satellite data was used to identify the drainage system, relief, source of pollution and settlements in the study area.

Water samples were collected from different locations and from different sources (e.g. groundwater, surface water, wastewater, etc.). Field measurements were taken of all the collected samples. Water samples were collected with the appropriate containers, i.e. glass bottles, plastic bottles and vials. Collected samples in the field were stored in a cool box and transported to the UK for analysis every two days.

A number of chemical parameters were analysed in the field by a MP-TROLL 9000 multimeter. Where no wells were identified, no samples were taken.

Water samples were also analysed by Alcontrol Geochem in the UK. The samples were analysed for various parameters based upon the field observations.

Triplicate samples were recovered from each location, which UNEP provided to Palestinian and Israeli officials for their parallel laboratory work.

Trip blanks, consisting of vials of de-ionised water from the laboratory, were despatched to Gaza with the empty sample containers. One blank then accompanied each sample container on the return leg of the journey. Each trip blank was analysed for volatile organic compounds (VOCs).

UNEP water specialist and Palestinian experts collecting water samples

Assessment of hazardous waste issues

The approach to the hazardous waste study was similar to that used in other aspects of the environmental assessment, particularly the contaminated land investigation. The following parameters were set regarding potential sources of hazardous waste:

- The exact location;
- The specific nature;
- The quantity and footprint and
- Potential health and environmental impacts.

The definition of hazardous waste varies throughout the world. Within the European Union (EU), an EU Directive controls such waste, which is defined on the basis of a list of waste types, the *European Waste Catalogue*[3]. In addition, the UK has its own Hazardous Waste Regulations (June 2005). Hazardous waste has properties that may render it harmful to human health or the environment, and may exhibit one or more of the following characteristics:

- Ignitability;
- Corrosivity;
- Reactivity (explosive);
- Toxicity.

Many types of activities in the settlements could potentially have generated hazardous waste, including:

- Small-scale activity centres/businesses:
  - Vehicle workshops;
  - Hospitals & clinics;
  - Wood treatment;
  - Agriculture;
  - Petrol stations;
  - Waste disposal sites and
  - Photographic processing centres.

- Large-scale commercial activities:
  - Power generation;
  - Chemical manufacturers.

Based upon the activities listed above the following types of hazardous waste could be expected, including:

- Hydrocarbons;
- Bio-hazardous waste;
- Agricultural chemicals;
- Sewage;
- Chemicals associated with timber processing;
- White goods (CFCs);
- Derelict vehicles and
- Tyres.

This list is not exhaustive. In conjunction with the field investigations, laboratory analysis were undertaken where necessary to determine the nature of specific waste material, and to provide guidance on appropriate and economical re-use and disposal options.

Assessment of asbestos issues

According to information made available by the Government of Israel, 26,128 m^2 of asbestos cement (471.3 tons) were removed from the Gaza Strip to landfills in Israel. This work is reported to have been done in compliance with best international practice. With this in mind, each settlement was visited and a brief walk round inspection of the site undertaken. Building materials were sampled from the demolished buildings that were suspected of containing asbestos. It was not possible during the site visit to differentiate between buildings that were demolished by Israel before disengagement and buildings that were demolished subsequently.

Any further similar building materials on the site were identified by visual observation only. Other fibrous building materials that were not asbestos were not sampled, e.g. man-made mineral fibers (MMMF) and foam insulation. A photographic record of the building materials was also undertaken at each site.

The identification and analysis of bulk materials were conducted by an approved and UKAS[4] accredited sub-contracted testing laboratory, in accordance with the standard methods outlined in the Health and Safety Executive (UK) Document "Asbestos: The analysts' guide for sampling, analysis and clearance procedures" HSG248.[5]

Assessment of Gaza beach

The assessments of the coastal environment were carried out by visual observations and interviews with local experts. The assessment was not limited to the areas where buildings had been constructed but was extended to cover most of the coastline. Observations in this report are limited to the coastal areas associated with the disengaged settlements.

Field equipment used

The following on-site assessment equipment was employed.

Soil Sampling Kit
Eijkelkemp Soil Augur kits were used to collect soil samples at various depths. These are shallow augers which are operated manually.

Photo-ionisation Detector (PID) (model HNU 102)
A photo-ionisation detector is a hand-held tool that measures volatile organic compound concentration in parts per million (ppm) using an ultraviolet light source. It gives an instantaneous reading and is used to evaluate the presence of hydrocarbon contamination, particularly that of lighter end fractions.

A sample of the soil was recovered and placed into a glass container and aluminium foil placed over the mouth, forming a seal. The container was shaken to stimulate the release of the volatile organics and the probe inserted through the foil to take the reading. The instrument was calibrated using an isobutylene gas and had a 10.6 eV lamp.

UNEP experts operating Multi Parameter Field Analyser

In some places disposable bailers were used to collect water samples

Landfill Gas Analyser (model Geotechnical Instruments GA 2000)
The landfill gas analyser is a portable unit and measures five gases using chemical cells within the unit. It gives an instantaneous reading. Unlike the PID, the landfill gas analyser was employed simply by inserting the probe into areas of potential concern, including drains, tanks and excavations.

Interface Meter (Heron dipper T water level meter)
An interface meter can be used to determine the depth at which a water column is encountered in a well. Some interface meters can also detect the interface between floating hydrocarbon level and the water level beneath it.

Multi Parameter Field Analyser (MP TROLL 9000)
An MP TROLL 9000 was used to measure the water quality parameters in the field. Readings have been taken from all the sampled open wells / bore wells in and around the settlements. Permanent sensors available in the MP TROLL 9000 have been used to measure pressure, temperature, electrical conductivity, dissolved oxygen, etc. Win-Situ software was installed onto a laptop and measurements were taken through the software.

Disposable Bailers
Water samples were collected by bailers in some places. The bailer was gently lowered down to the water column to avoid agitation and turbidity through surging and the sudden impact of the sampling device. The bailer was allowed to descend on its own until it filled. Once the bailer was filled, it was retrieved from the water column slowly, in a steady, smooth motion. The water was then collected in appropriate bottles and stored in a cool box.

Asbestos Sampling Kit
In accordance with standard practice and to minimize possible asbestos-related health and safety concerns, tools and equipment used for the investigation were restricted to simple hand tools including torches, screwdrivers, chisels and similar instruments. No power tools were used.

Sampling was carried out using approved internal methods and using a standard sampling kit. The potential for fibre release was minimized using a dust-suppressing spray where required.

Geographical Positioning System (GeoXM, Handheld)
In order to corroborate the information compiled from remote sensing and to obtain accurate coordinates of various sampling points, all field teams used Geographical Positioning Systems.

Laboratory analysis

Samples of water, wastewater, soil, hazardous substances and asbestos were collected. These samples were sent to Alcontrol Geochem, a laboratory in the UK, employed by UNEP for analytical services.

Alcontrol Geochem has ISO 170253 standard accreditation for the testing and calibration laboratories and participates in the UKAS and MCERTS[6] programme of certification, as well as the AQUACHECK and CONTEST proficiency testing programmes. In accordance with agreements between UNEP, the Palestinian Authority and the Israeli authorities, all samples were taken in triplicate. One part sample was shared with the Palestinian Authority and a second was shared with the Israeli authorities. The third was sent to Alcontrol Geochem.

Field equipment was inspected and calibrated daily by UNEP experts

Management of health and safety during fieldwork

Training in health and safety issues, including asbestos, was conducted in Geneva. Team members were provided with personal protective equipment (gloves, masks, coveralls) to undertake work in environments where asbestos and other hazardous material might be encountered.

Capacity building in the Palestinian Authority

UNEP has been carrying out capacity-building activities with Palestinian Authority officials for a range of issues over the past three years.

Photo: Capacity Building Training Seminar on Environmental Laboratory Analysis, October 2004 in Geneva and Spiez, Switzerland © Matija Potocnik – UNEP / PCoB

Limitations of the Study

As mentioned, in the absence of comparable exercises in the past, UNEP designed the study approach, including the areas to be assessed, type of tools to be used and degree of sampling to be undertaken. Constraints imposed for security reasons by the UN Department of Safety and Security regarding the number of experts, duration of the survey and the daily working hours, all had to be considered while designing the scope of the fieldwork. In particular the following limitations are worth highlighting:

- In order to optimize the time available in the field, the study team initially focused their attention on features identified by background research and remote sensing. However, whenever additional areas of interest/concern were observed in the field or brought to the attention of the team, these were also assessed.
- Ground water sampling was done using only existing ground water wells which could be located while in the field and which were in functioning condition. Consequently, it was not possible to verify if all underlying aquifers of interest were sampled.
- The satellite image procured was taken on 26 September 2005, while the disengagement itself happened on 12 September 2005. All changes identified in the satellite image analyses may therefore not be directly related to the disengagement.
- Field work was conducted during 10 to18 December 2005, almost three months after the disengagement. The observations on the ground therefore cannot be considered an indication of the environment as of 12 September 2005.

Preliminary screening for significance of contamination

The analytical results obtained from the current exercise could be used for a number of purposes, including:

1. With no interpretation, the results can act as baseline values of the environmental situation in the disengaged area at the time of visit of the UNEP team.
2. The results could be compared with internationally recognized screening values to determine whether there is contamination of the environment which requires intervention.
3. The results could be compared with end-user standards (e.g. World Health Organization Standards for drinking water) so as to decide how the resource might be used in the future.

The focus of the current study has been on the first and second elements. Hence, the interpretative part of this report is concerned primarily with comparing the analytical results with screening values.

Tables of screening values for chemical toxicity, for both soil and groundwater, have been in use in Europe, North America, Australia, Japan and elsewhere since the 1980s. The tables are normally chemical- and activity-specific, and provide values against which site-specific chemical data and analysis results can be initially checked for significance. If the site-specific values are higher than the screening values, then the site normally warrants more detailed assessment/intervention.

The systems used for this project were as follows:

Soil

- UK Contaminated Land Exposure Assessment (CLEA) standards[7];
- Dutch (2000) standards and accompanying guidance.[8]

For the Contaminated Land Exposure Assessment standards, the most sensitive of the criteria were used, i.e. domestic gardens with vegetable root uptake.

For the Dutch system, the soil remediation intervention values were used as terms of reference. These values represent the level above which significant contamination warranting corrective action is considered to be present.

These two systems are not precisely equivalent but, when combined, provide a reasonable indication of the significance of the contamination according to international standards.

Water

Dutch Values

For the purpose of comparison, Dutch intervention values have been used. The intervention value is the maximum tolerable concentration above which remediation is required. This occurs if one or more compounds in concentrations equal to or higher than the intervention value are found in more than 1,000 m^3 of groundwater.

For interpretation of the significance, the terms used normally refer strictly to a specific standard, e.g. the concentration in sample *x* exceeds *y* standard.

In the current study, the Dutch intervention standards are used for comparison of both soil and groundwater values because of the following reasons:

For security reasons the assessment team had to maintain constant radio contact with the UN security coordinator

- Dutch standards have been used around the world for identifying contamination for more than two decades and hence there is substantial knowledge of its application in the international scientific community.
- Dutch standards are comprehensive in terms of the number of parameters for which standards have been set.
- Whenever soil/groundwater assessment leads to a need for intervention, Dutch standards can further provide target values for clean-up.

Development of recommendations

It is customary in many contaminated site assessments to undertake detailed "source-pathway-receptor" based risk assessments in order to develop recommendations at sites identified as having pollution in soil or ground water. However, this assessment has taken a more pragmatic approach to developing recommendations. When the assessment results indicated a very localized presence of hazardous materials, the recommendation is to excavate it, thus eliminating the risk altogether. This will assist the authorities to take immediate action and facilitate unrestricted land use once the source of risk is removed.

The recommendations provided in this report refer to specific activities to be undertaken whenever an area of concern has been identified. Settlement-specific recommendations have been given regarding access control and clean-up where appropriate. In addition, broad recommendations for follow-up actions have been outlined on pages 124 to 125.

In a situation where the contaminated land is more extensive, detailed site assessment will be needed followed by risk assessment. Clean-up standards will also have to be set. Whenever such situations were encountered, the current assessment provided recommendations for further studies to be followed by site specific risk assessment.

Study Results

UNEP expert taking soil samples inside one of the settlements: Samples of soil, water, hazardous substances and asbestos were collected and analysed in internationally recognised laboratories.

Study results

The overall condition of the disengaged settlements follows the same pattern: all residential structures had been completely destroyed, as had a proportion of the industrial infrastructure. However some warehouse units remained standing, as did a large proportion of the administrative and public structures (education, culture, sports, etc.).

Infrastructure in the form of power and water supplies was present in some places and absent in others. Roads were in good condition and had been well maintained. Access to settlements was not constrained. However, pedestrian walkways had been extensively damaged as a result of materials such as sub-surface pipes and cables being removed.

Based on the assessment processes described before, the contamination identified in the disengaged settlements are localised and as such are not considered to represent a significant risk to the environment or public health. However, the Erez Industrial Estate is the one noticeable exception to this and represents the one pollution "hot spot" located by the UNEP team of experts. The Erez site is discussed in detail on pages 110 to 119.

Significant amounts of asbestos cement roof and wall sheeting appeared to have been removed from the sites, however, in a number of settlements it was possible to find examples of asbestos cement roof and wall sheeting both in situ and as debris on the ground. The building rubble at the settlement sites was generally free of asbestos cement debris. Any asbestos cement roof sheets that are in good condition and fit for its purpose should be left in place until the end of the life of the building, when they can be removed carefully and disposed.

Though asbestos was observed in a number of settlements and at Erez, this does not represent large quantities. The major risk here is that if the rubble is collected and crushed without first sorting out the asbestos, it has the potential to cause adverse health consequences for the workers and create large quantities of hazardous waste. The handling of the demolition rubble, therefore, needs careful planning.

In addition to asbestos, the most common forms of contamination were, as expected, hydro-carbons, specifically spilled fuels. These were generally diesel but also some lighter hydro-carbon fractions, as well as heavier oils. The spillages were limited in area and considered likely to have been caused by the removal of storage tanks and associated accidental spillages of residual products, rather than by long-term leakage.

Solid and Hazardous waste

During the current assessment, hazardous waste generally raised very few concerns throughout the disengaged Israeli settlements, with a few exceptions of isolated soil contamination. However, the management of routine solid waste, primarily domestic and agricultural, appears to represent a more serious problem than that of hazardous waste, primarily through the operation of low technology disposal sites.

The exposed operational face of the waste disposal site at Kerem Atsama

Horse-drawn carts loaded with scrap metal at the Gadid waste disposal site.

Anecdotal evidence suggests that many of the Israeli settlements operated one disposal site for the management of all wastes, usually in very close proximity to the settlement. This was broadly confirmed by site investigations, although due to time constraints, not all disposal sites were visited, especially if they were located some distance from the centre of the settlements.

During the field assessment it was found that a number of these disposal sites were located within disused borrow-pits and quarries and some, notably Netser Hasani, Karem Atsama and Gadid, were extensive in size, each covering several hectares.

During the assessment, the team did not observe significant quantities of hazardous waste at the dumping site. All waste disposal sites inspected contained a high volume of organic, agricultural waste, usually in excess of 50% by volume which potentially provides opportunities for waste composting in the future. Other significant components of the waste volume were plastic sheeting, possibly used for covering the greenhouses, and metallic waste, which accounted for approximately 25% and 15% of waste volume, respectively. Small quantities of hazardous materials such as lead-acid batteries, solvents, and agricultural chemicals were observed.

It must be noted that the various waste sites assessed did not show levels of contamination that required immediate clean-up. However, these areas should be mapped and incorporated into future land use planning. In addition, a decision has to be taken, for each of the dumpsites, on whether to continue with their use or close them down. Such a decision can be taken as a part of the overall solid waste management strategy for the Gaza Strip and site-specific risk assessment for each of the dumpsites/landfills, which may require additional sampling, monitoring and treatment in situ or ex situ.

Further, it should be noted that it is recognized internationally that the practice of building on old waste disposal sites should be carefully controlled, due to serious potential problems associated with the build-up of landfill gas, structural problems associated with the uneven settlement of the underlying waste and chemical attack on foundations by leachate. This is particularly relevant in developing countries.

Recycling of waste metal was taking place at a number of the disposal sites visited. Information provided by the individuals on site suggested that the material was purchased and processed at a number of smelters within Gaza, such as the one located in Rafah.

Assessment of water quality did not show levels of contamination needing intervention. However, in two wells traces of hydrocarbons were observed and prior to initiating detailed investigations, additional sampling is recommended.

All soil and water samples received at the laboratory were screened for the presence of radioactivity and no radioactivity levels above the background levels was detected. No field equipment for measuring radioactivity was used.

Rafiah Yam (Site 1)

General observations

The former settlement appears mainly to be residential and on a comparatively small scale with some minor industrial areas. It is located close to the Egyptian border in the south of the Katif dune areas. The terrain is hummocky and partially vegetated sand dunes, with the former settlement positioned on top. A wadi to the south of the settlement appears to run in a northwest-southeast orientation, and was considered to be the predominant influencing feature, with a similar watercourse to the north. Key features of the settlement are described in the box below.

Name of settlement:	Rafiah Yam
Year of establishment:	1984
Type of settlement:	agricultural and industrial
Area:	113.8 hectares
Population (prior to disengagement):	116
Residential structures dismantled:	59

Main features identified:
Demolished Israeli military outpost, dumping site, demolished agricultural processing building (2).

Soil

Sampling locations

Two locations of potential contamination were sampled although they were from generally the same location (designated as "industry" on the map).

Location A, (Sample Reference 1/SS/A)

This location is characterised by a concrete slab which would have formed the "footprint" of the units built upon it. The concrete slab shows the effects of being impacted by fire with minor volumes of rubble, including clothing labels, suggesting a possible use for the units. The presence of debris and a burn site adjacent to the main concrete slab footprint suggested a possible indoor air extraction unit or vent or uncontrolled disposal site. It is understood that the prevailing wind direction in this area would be north to south. With this in mind a sample of soil was collected downwind of the above described air vent.

The concrete slab on location A in Rafiah Yam

Map 6. Rafiah Yam

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Location B (Soil Sample Reference 1/SS/B)

Sampling Location B was located some 3 meters from the southern end of the industrial unit described above. It consisted of a mound of dark-coloured, burned material containing metal, waste oil filters, plastics, netting, clothing and other materials. A distinctive but low hydrocarbon odour was associated with this waste material.

It was estimated that the impacted area covered an area no larger than 6m^2 and extended to a depth of 0.5m below ground level.

Results

The contaminants listed in table 1 exceeded their respective soil threshold values.

The results show that the soil is impacted by heavy metals although the concentrations are of a low order and it is likely that the source of these contaminants is related to the combustion of unknown products. Heavy metals present in soil can be taken up by plants, thus causing a pathway to the food-chain. Soil contaminated with heavy metals would have restricted land use and hence the best option will be to evacuate the soil.

Table 1. Rafiah Yam – Soil contaminants

Contaminant	Location	Screening Standard	Soil threshold value mg/kg (screening criteria)	Concentration (mg/kg)
Copper	B	Dutch	96	618
Zinc	B	Dutch	350	900

A mound of burned material at location B in Rafiah Yam

Water

No borehole or well was identified near the settlement and so no sample was recovered.

Asbestos

Sample number:	1/asb/001
Date sampled:	13/12/05
Analysis result:	Chrysotile (white asbestos)
Location:	31 18 46-96 N 34 13 52-07 E

Notes:
Asbestos cement debris was noted in the area. This may have been from the original construction of the now removed industrial building.

Hazardous waste

No issues relating to hazardous waste were found at the Rafiah Yam settlement, other than the contaminated soil described on page 36.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

2. Collect the soil spotted in Location B and transport to a central location for safe storage and disposal.

Slav (Site 2)

General observations

This former Israeli settlement is agricultural in nature with the residential and administrative part occupying the crest of a hill. This appeared to be a comparatively low-density settlement although there was an indication of at least one potentially contaminating activity (a generator) within the settlement itself. A second site, designated as "unknown", located to the south of the settlement on the Rafah road, was also visited and sampled.

Name of settlement:	Slav
Year of establishment:	1982
Type of settlement:	agricultural and industrial
Area:	unknown
Population (prior to disengagement):	unknown
Residential structures dismantled:	unknown

Main features identified:
Water well and pump house, power sub-station, demolished chicken farm.

Soil

Sampling location

Two potentially contaminated locations were sampled.

Location A (Sample Reference 2/SS/A)

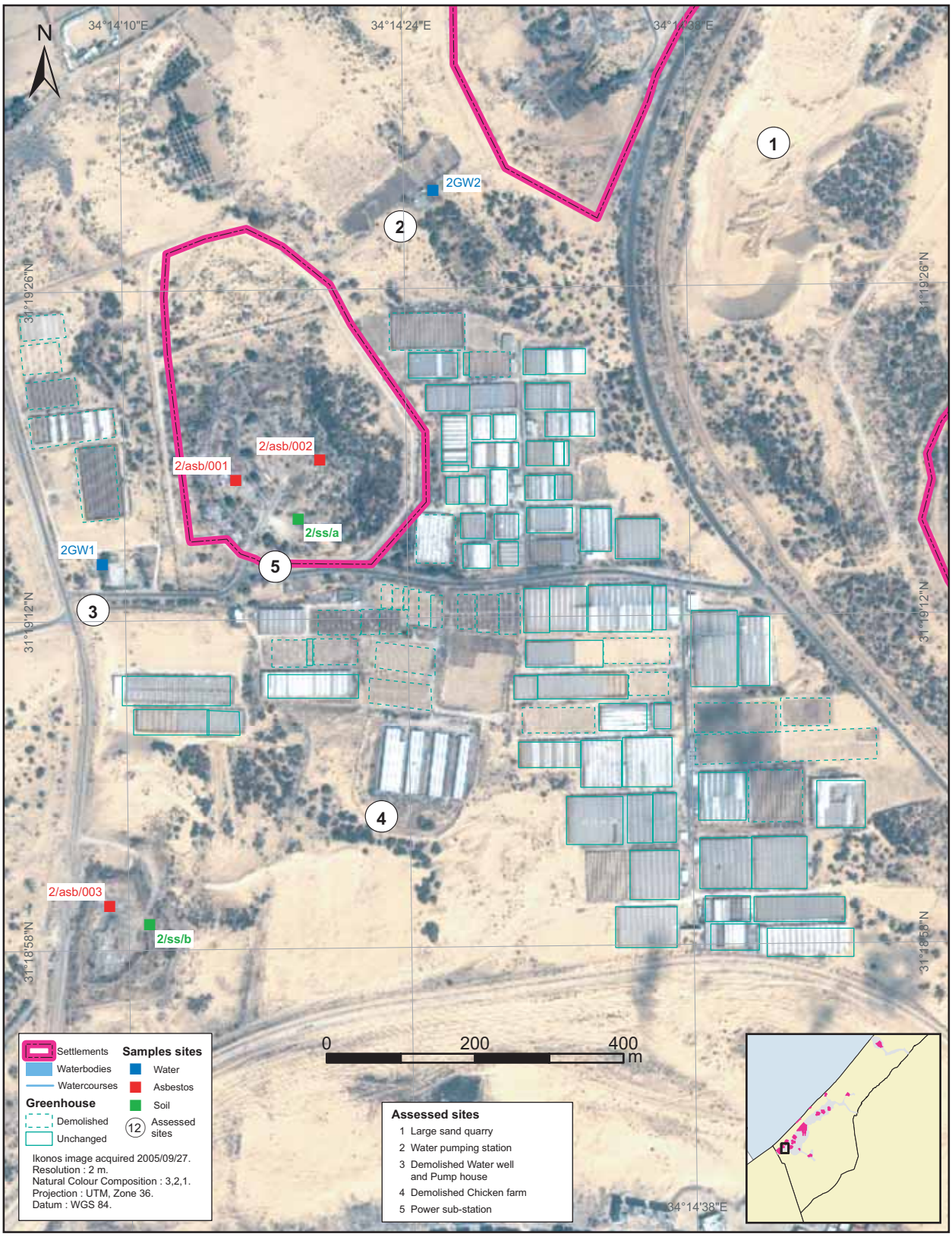
Samples were retrieved from a concrete lined pit with four cables leading into it. Oil was present in the base, which itself was lined but covered in some 0.1m of waste materials (rubble, debris, oils). It was considered that this area of the settlement may have been used as a small scale generator and it was considered that the potential existed for polychlorinated biphenyls (PCBs), as well as hydrocarbon contamination. A maximum Volatile Organic Carbon (VOC) reading of 120 ppm was recorded against a background of 10ppm.

Location B (Sample Reference 2/SS/B)

This sample was recovered from a former Israeli military post occupying a position immediately overlooking the settlement of Rafiah Yam. The compound was enclosed on all sides, providing security walls. Whilst all above-ground evidence of habitation had been removed, hydrocarbon odours were noted, coming from a small area of ground to the north, covering an area of approximately 25m^2. The ground was composed of a sandy gravel mix with a contrasting appearance to the surrounding area. It is assumed that this area was used for fuel storage, most likely an above ground tank or tanks. A maximum VOC reading of 85.2ppm was recovered (background 17ppm).

Sampling for hydrocarbons and PCBs in the Slav settlement

Map 7. Slav



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Results

The contaminants listed in table 2 exceeded their respective soil threshold values.

The results indicate types and concentrations of contaminants that are coincident with the observations made in the field. It is considered that the potential effects of Location A are mitigated significantly by the confining nature of the structure within which the contamination occurred (i.e. the potential for migration is reduced).

The contaminants at Location B reflect the likely storage and handling of fuel. The age of the spill or its provenance cannont be confirmed. These types of fuels can pose a risk to human health and the environment. The risk corresponds to the period of exposure.

All contaminants identified have potential adverse impacts and would restrict the landuse if left in situ. It is therefore recommended to excavate the material and remove from the current location.

Table 2. Slav – Soil contaminants

Contaminant	Location	Screening Standard	Soil threshold value mg/kg (screening criteria)	Concentration (mg/kg)
Mineral oil	A	Dutch	5,000	21170
Cadmium	A	CLEA	1	2
Zinc	A	Dutch	350	1042
Anthracene	A	Dutch	1.60	2.99
Polychlorinated Biphenyls (PCBs)	A	Dutch	1	2
Diesel range organics	A	Dutch	5,000	87888
Mineral oil	A	Dutch	5,000	45234
Petroleum range organics (C4 - C10)	A		500	657
Petroleum range organics (C10 - C12)	A		500	3154
Mineral oil	B	Dutch	5,000	7039
Diesel range organics	B	Dutch	5,000	10284
Petroleum range organics (C10 - C12)	B		500	6138

A view of the former Israeli military post in the Slav settlement

Concrete pit containing accumulated water in the Slav settlement

Water

Two groundwater samples were taken from the western and northern part of the settlement.

Sampling locations

Location A (2GW1)

It is located at the entrance of the Slav settlement close to a small collection pit, observed near the wadi, which appeared to be filled with wastewater. The pit appeared to be in a good condition but was thought to have the potential to overflow in flood conditions. A water sample was collected near the downstream side of the wadi and analysed in the field.

Location B (2GW2)

This well is situated in between Slav and Pe'at Sade settlements.

Results

Detailed results are provided in Appendix III. No contaminants exceeded their screening criteria.

Table 3. Slav – Field monitoring results (water)

Parameter	Unit	2 GW1	2 GW2
Temperature	°F	74.2	73.3
Pressure	psi	0.149	0.155
ORP	mV	185	150
PH		8.27	8.21
DO	g/L	8746	7466
Conductivity	uS/cm	450	465

Asbestos

Sample number: 2/asb/001
Date sampled: 13/12/05
Analysis result: Asbestos not detected
Location: 31 19 18-11 N
34 14 15-31 E

Notes:
Samples of a building board were found not to contain asbestos.

Sample number: 2/asb/002
Date sampled: 13/12/05
Analysis result: Chrysotile (white asbestos)
Location: 31 19 18-93 N
34 14 19-59 E

Notes:
Small amounts of asbestos cement debris were noted in the area.

Sample number: 2/asb/003
Date sampled: 13/12/05
Analysis result: Chrysotile (white asbestos)
Location: 31 18 59-56 N
34 14 08-61 E

Notes:
The former military area contained asbestos cement debris, possibly from the roof of demolished buildings.

Despite the presence of this large, obsolete fuel tank, there were no significant hazardous concerns in the Slav area

Hazardous waste

Generally, the Slav site was found to be free of hazardous waste issues, with the single exception of a large metal storage tank that appeared to have contained fuel at one time. This tank may be re-used subject to its structural integrity. Further, the surface staining of hydrocarbons in the vicinity of the tank was shallow, and again did not represent a significant problem. It is, however, recommended to clean up the site and evacuate the soil so that there is no restriction on land use.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

2. The soil and debris observed in Location A and B should be collected and transported to a central location for safe storage and disposal.

Bnie Atsmon (Site 3)

General observations

This former settlement occupies a level plateau to the east of Pe'at Sade, separated by a large sand quarry. Bnie Atsmon is a relatively large settlement with a large administration and residential base, complete with schools and sports facilities, although the industrial usage appears to be limited to a single small unit. Agricultural greenhouse units occupy land to the northeast and southwest.

Name of settlement:	Bnie Atsmon
Year of establishment:	1979
Type of settlement:	agricultural and industrial
Area:	286.8 hectares
Population (prior to disengagement):	592
Residential structures dismantled:	122

Main features identified:
Large sand quarry, derelict bleach and detergent factory, destroyed breeding factory.

Soil

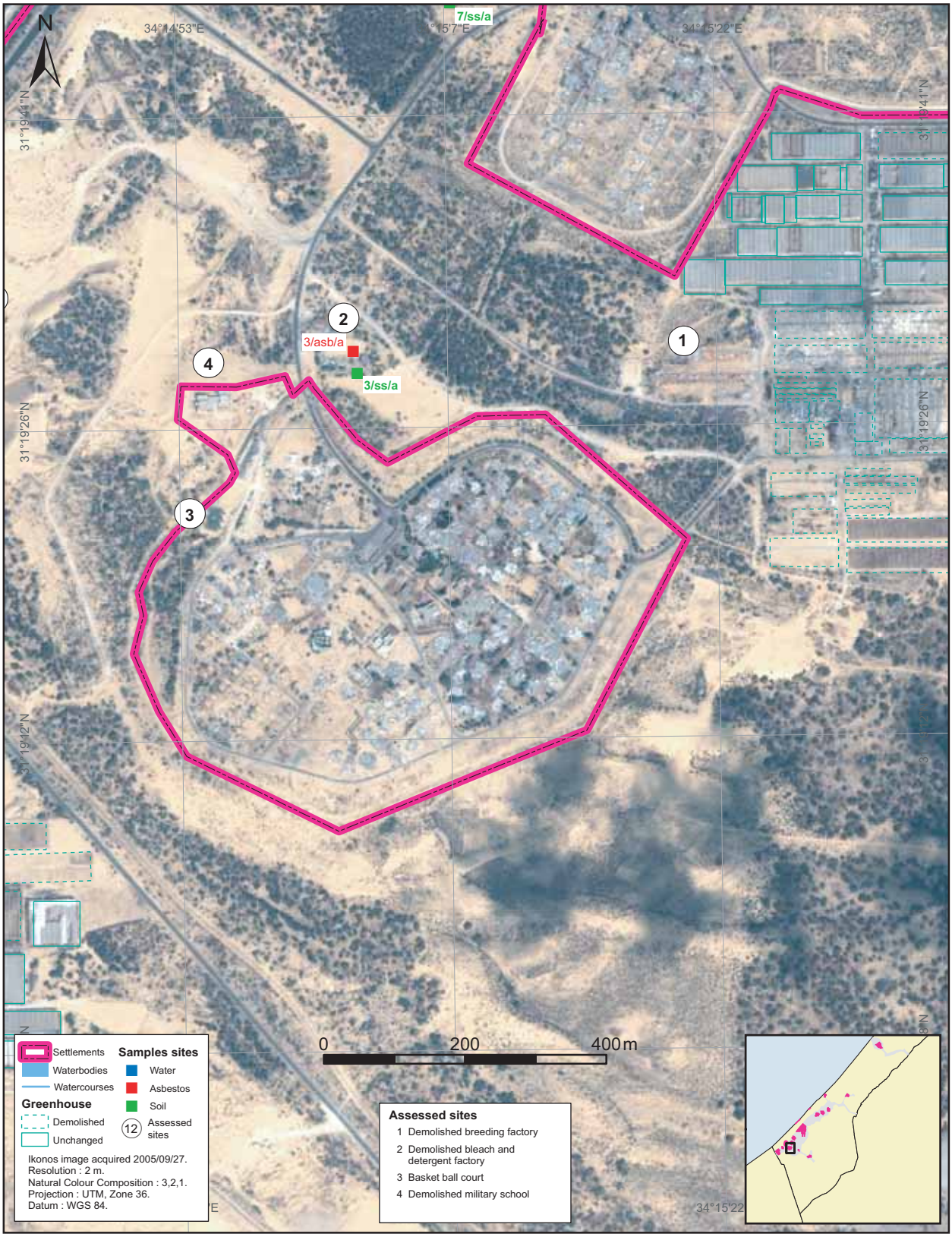
Sampling location (Sample reference 3/SS/A)

A single location was sampled, designated as "industry" on the map and situated close to the northern entrance to the settlement.

The products from this industrial process had been discarded in an uncontrolled manner as had the raw products used in its manufacture. Whilst full identification of the intended use of the products was not possible at the time of the assessment, a preliminary assessment suggested possible use as some form of disinfectant or cleaner, such as bleaches. An area immediately adjacent to the discarded bottles showed the effects of burning. It was estimated that the affected areas consisted of 25m^2 of discarded bottles and raw products with some 30m^2 for the burned area. Shallow excavations showed that the contamination extended to a depth of 0.2m.

A view of the Bnei Atsmon site where industrial waste had been discarded.

Map 8. Bnie Atsmon



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Results

The contaminants listed in table 4 exceeded their respective soil threshold values.

The high (alkaline) pH is thought to reflect the main constituent of the material placed in the containers littering the surface. A high pH, like a low pH, can pose a risk to those coming into contact with the material. Preventing contact or neutralising the pH can mitigate this risk.

Water

Due to the absence of water wells no samples were taken.

Table 4. Bnie Atsmon – soil contaminants

Contaminant	Location	Screening Standard	Soil threshold value mg/kg (screening criteria)	PH
pH	A	na	<4; >10	13.27

An example of industrial waste discarded in the Bnei Atsmon site

Asbestos

Sample number:	3/asb/001
Date sampled:	13/12/05
Analysis result:	Chrysotile (white asbestos)
Location:	31 19 29-57 N 34 15 02-20 E

Notes:
Asbestos cement debris was noted in the area. This may have been from the original construction of the now removed industrial building.

Hazardous waste

There were no significant hazardous waste issues found within the Bnie Atsmon settlement. Problems relating to industrial products, such as bleach and the empty containers, are superficial and limited, and do not represent a significant problem. It is, however, recommended to excavate and remove these containers and associated soil so as to give unrestricted land use.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

2. Access to waste materials with high pH values should be prevented. These materials should be collected and transported to a central location for storage and disposal.

Pe'at Sade (Site 4)

General observations

The former settlement appears to be mainly residential in nature and located approximately 0.5km northeast of Slav.

Soil

The assessment of the site indicated that there were no areas of concern requiring further or more detailed assessment from a contaminated land perspective.

Water

Location A (4GW1)

A single groundwater sample was collected from the up gradient side of the settlement. Field measurements were also taken.

Part of the Pe'at Sade settlement showing largely inert waste

Name of settlement:	Pe'at Sade
Year of establishment:	1993
Type of settlement:	agricultural and industrial
Area:	92.68 hectares
Population (prior to disengagement):	117
Residential structures dismantled:	75 (including Slav)

Main features identified:
Water pumping station, water storage tank and wastewater treatment, water well.

Results

Detailed results are provided in Appendix III. No contaminants exceeded their screening criteria.

Asbestos

An assessment of the settlement indicated that there were no areas of concern. No asbestos samples were therefore taken.

Hazardous waste

Due to the residential nature of the Pe'at Sade settlement, no issues or concerns with hazardous waste were detected.

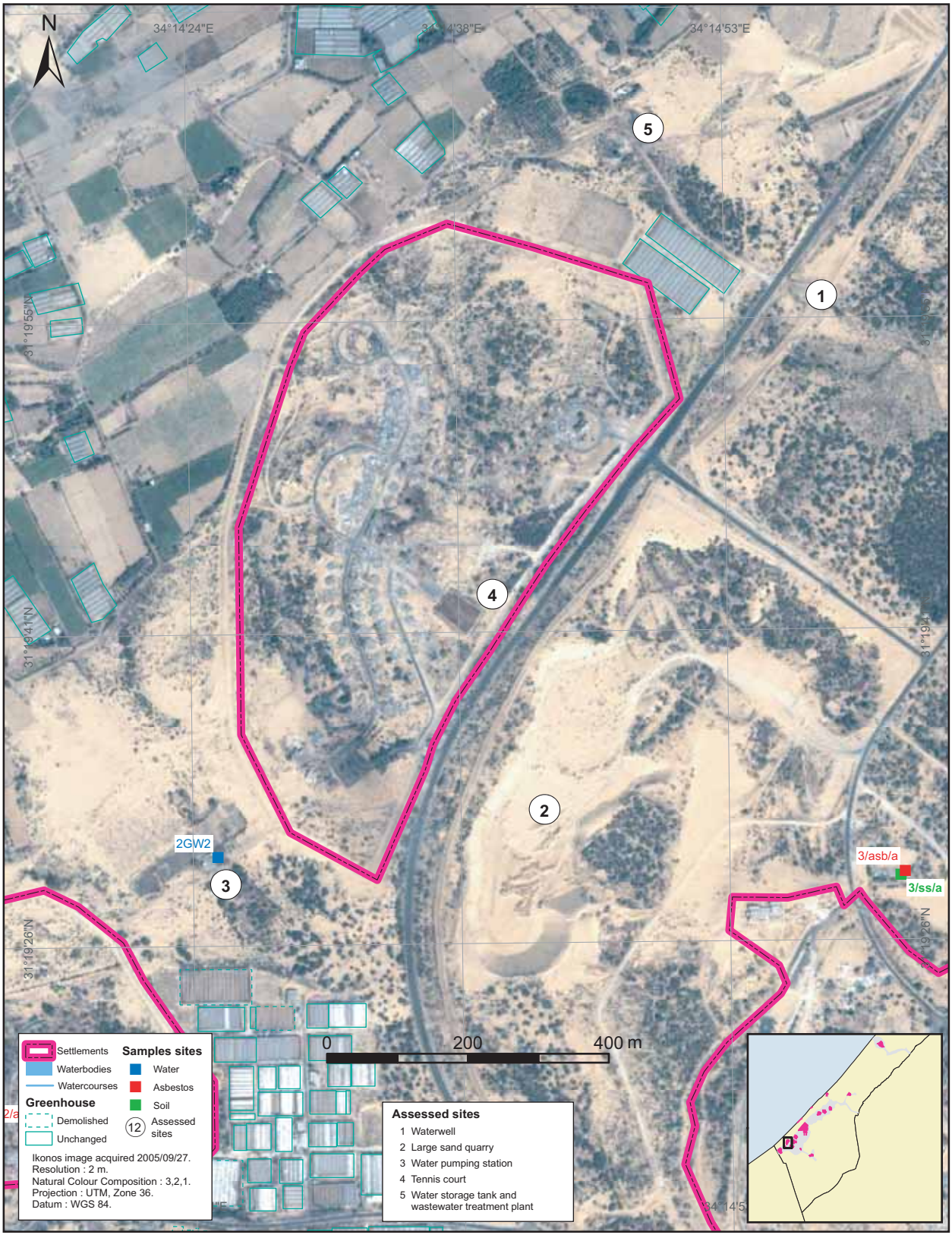
Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

Table 5. Pe'at Sade – Field monitoring results (water)

Parameter	Unit	Concentration
Temperature,°F	°F	73.98
Pressure	psi	0.102
ORP	mV	212
pH		8.35
DO	g/L	7357
Conductivity	uS/cm	467

Map 9. Pe'at Sade



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Karem Atsama (Site 5)

General observations

Karem Atsama is a very small settlement located on a ridge with extensive open land in all directions. It is not clear what activities took place in this settlement, with no obvious signs of industry or agriculture (with the exception of a poultry farm to the northwest).

No contaminated land was identified within the settlement itself. However, to the north a waste disposal site was identified and sampled.

Name of settlement:	Karem Atsama
Year of establishment:	unknown
Type of settlement:	unknown
Area:	unknown
Population (prior to disengagement):	unknown
Residential structures dismantled:	22

Main features identified:
Domestic waste site, demolished poultry farm, Palestinian military camp.

Soil

Sampling locations (Sample Reference 5/SS/A)

A single sample was recovered from the centre of the disposal site, which is a large area containing partially burned generally domestic waste, although some medical wastes were also identified. Excavations indicated the depth of the impacted area extended to no more than 0.20m.

Results

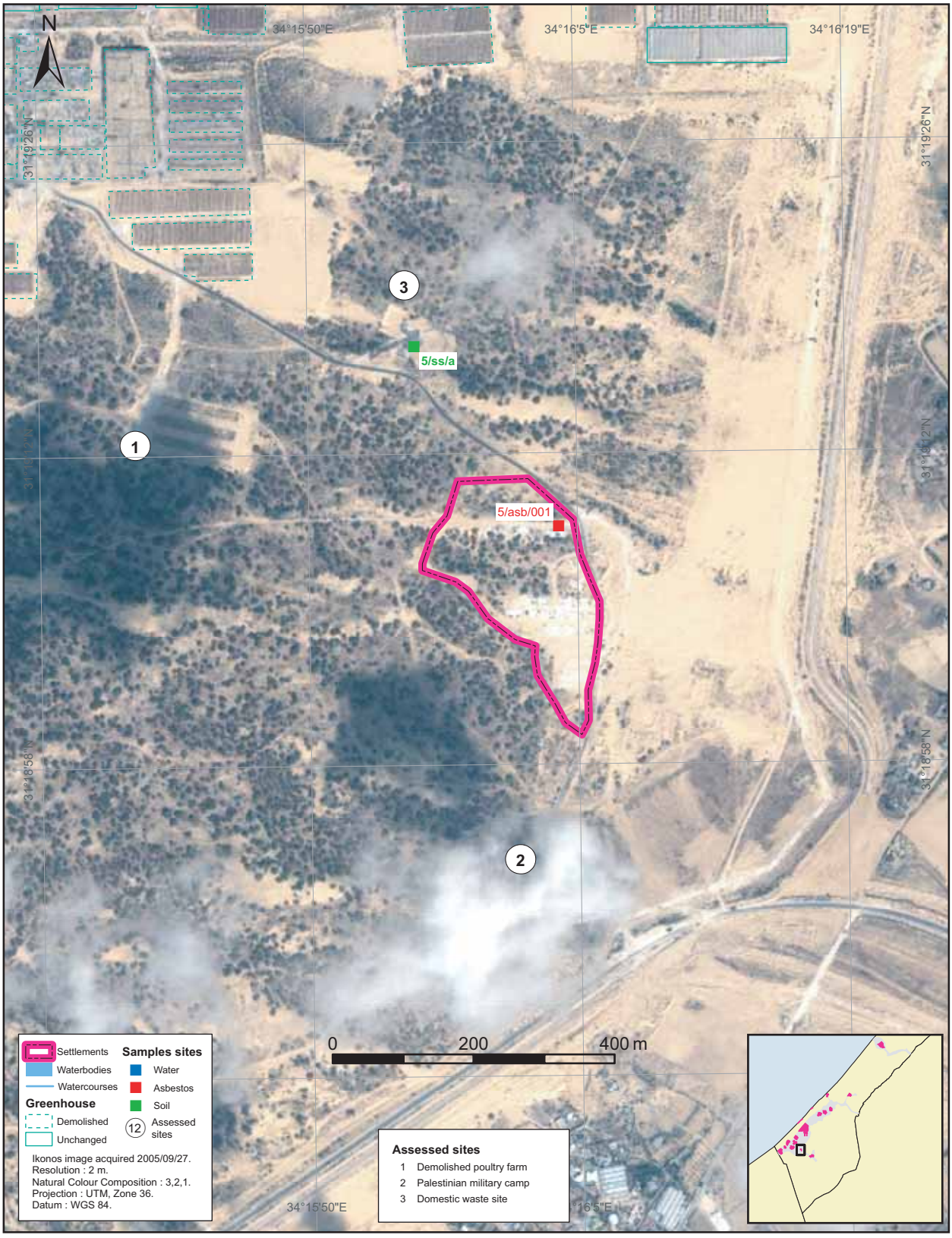
No samples exceeded their soil threshold values.

Water

No borehole or well was identified close to the settlement and so no water sample was recovered.

The waste disposal site in Karem Atsama

Map 10. Karem Atsama



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Asbestos

Sample number: 5/asb/001
Date sampled: 13/12/05
Analysis result: Chrysotile (white asbestos)
Location: 31 19 08-61 N
34 16 03-78 E

Notes:
Asbestos cement had been used in a building board sandwich with polystyrene, possibly for use in an industrial refrigeration building.

A view of the exposed tipping face at Karem Atsama

Bird's eye view of the Karem Atsama waste disposal site

Hazardous waste

The only area of potential concern within this small, agricultural community was the adjacent waste disposal site. However, a walkover inspection of the site revealed that a significant quantity of cover material had been applied across the whole site. This minimized any potential nuisance related to odours, visual blight and pests and disease vectors. A cursory inspection of the underlying waste revealed a high proportion of organic waste, and wastes associated with the poultry industry.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

Morag (Site 6)

General observations

This is a small, residential and agricultural former settlement located on a small hill. Vegetation is well developed. The former settlement has been largely demolished and there were no observations of potentially contaminating activities or actual contaminated land.

To the south of the settlement area was an area designated as "unknown" and was identified by the assessment team as a military outpost. This had been almost wholly destroyed and it was impossible to identify any areas of potential concern.

Soil

Sampling locations

No samples were recovered from this former settlement.

Water

No water wells were identified at this former settlement and therefore no samples were taken.

Asbestos

Sample number:	6/asb/001
Date sampled:	14/12/05
Analysis result:	Asbestos not detected
Location:	GPS not available

Notes:
A sample of the roofing felt from a demolished building was taken for analysis. Asbestos was not detected in the sample.

Name of settlement:	Morag
Year of establishment:	1972
Type of settlement:	agricultural
Area:	120.16 hectares
Population (prior to disengagement):	186
Residential structures dismantled:	61

Main features identified:
Water tower, demolished Israeli military outpost and destroyed greenhouses.

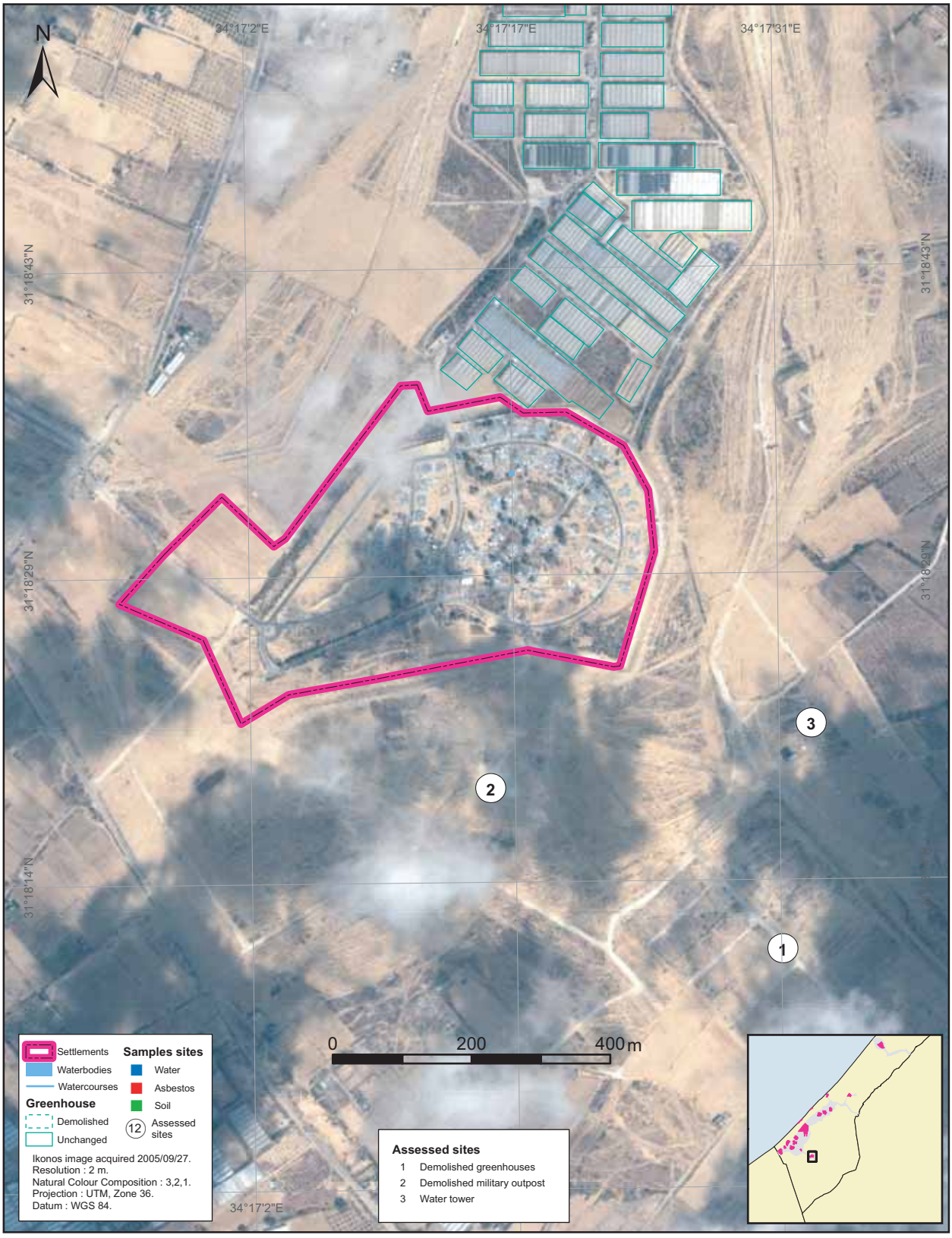
Hazardous waste

Due to the rural nature of the Morag settlement, coupled with an apparent absence of industrial activity, no areas of concern regarding hazardous waste were noted during the assessment.

Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

Map 11. Morag



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Bendolakh (Site 7)

General observations

Bendolakh is situated to the west of a large agricultural greenhouse area and to the northeast of Bnie Atsmon. Topographically, it is located on the edge of a dune area as shown by the landscape to the northwest which falls to a number of shallow wadis. The settlement itself appears to have had little or no industry, and no contamination or potentially contaminating activities were observed within the settlement boundaries. However, the map indicated the presence of a dumping site to the west of the settlement boundary.

Name of settlement:	Bendolakh
Year of establishment:	1986
Type of settlement:	agricultural and industrial
Area:	305 hectares
Population (prior to disengagement):	187
Residential structures dismantled:	108

Main features identified:
Dumping site.

Soil

Sampling locations (Sample 7/SS/A)

A single sampling location on the down-slope side of a waste dump site was accessed. The discarded material consisted of general domestic type refuse with newspapers, bottles and some pipework, with the occasional hazardous type material (paint tins) contained within an ashy sandy matrix with an associated "burned" odour.

It is possible that the depression into which the material had been deposited may be a wadi feature and, as such, has the potential to channel water. It was difficult to estimate the full volume of the material dumped. However, it is thought unlikely to be in excess of 100m^3.

Dumped waste material atthe Bendolakh settlement

Results

Results of the analyses of the samples are presented in Appendix III. No samples exceeded their soil threshold values.

Water

A single water sample was taken down gradient of Bendolakh, between it and the Gan Or settlement. Results are included under Gan Or, on page 58.

Asbestos

No samples were recovered.

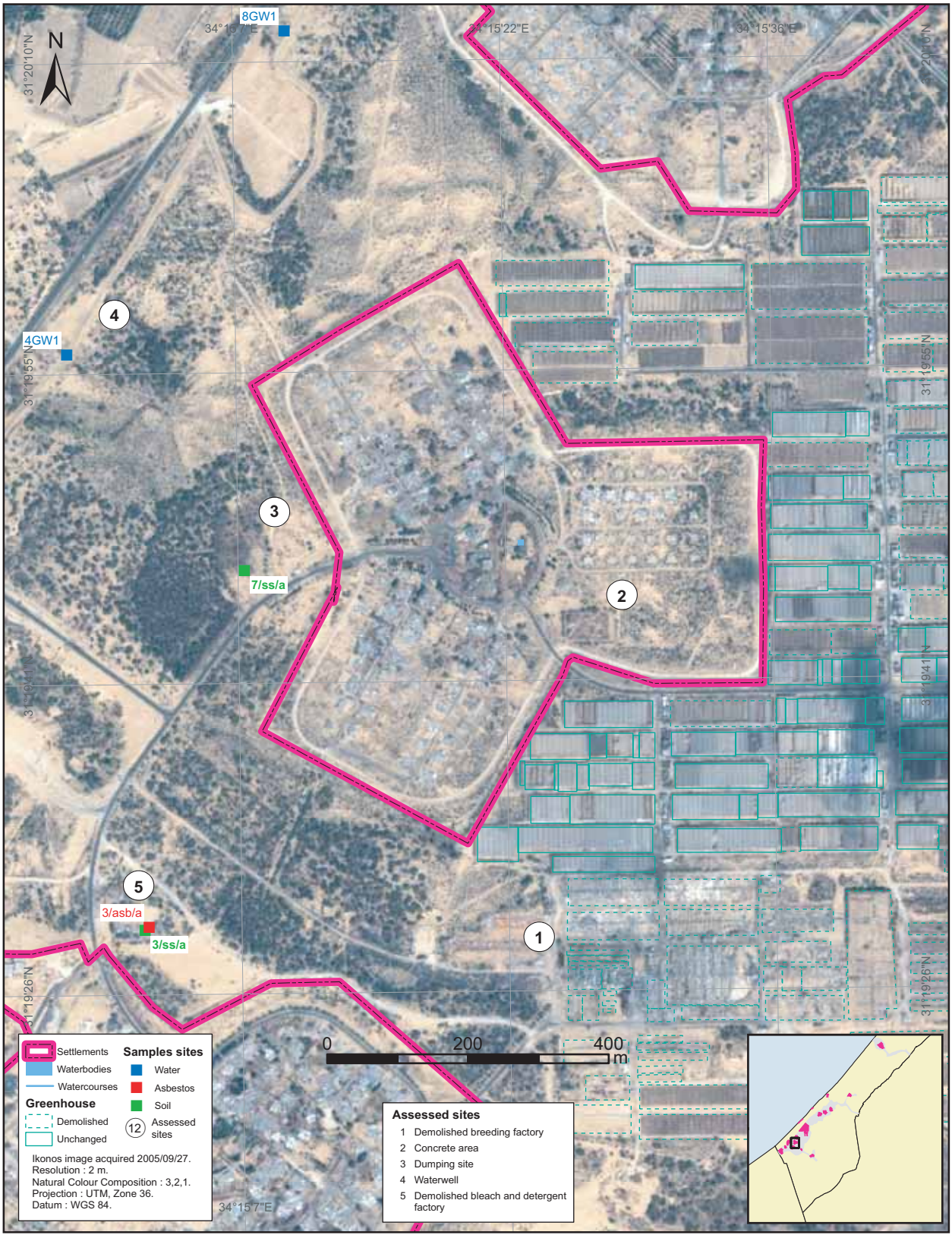
Hazardous waste

The only area of potential concern within the Bendolakh community was the adjacent waste disposal site. However, a walkover survey of the site confirmed that the majority of the waste materials were inert, and were consistent with agricultural practices. One sample was obtained for laboratory analysis, the results of which confirmed the absence of any hazardous material within the soil.

Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

Map 12. Bendolakh



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Gan Or (Site 8)

General observations

A medium-sized agricultural settlement in the Gush Katif. A mapped area designated as "unknown" was assessed, located to the east of the main settlement area. The assessment confirmed that this was a small uncontrolled waste disposal area associated with the agricultural units immediately to the east. The actual disposal area forms the western slope of a well vegetated wadi.

Name of settlement:	Gan Or
Year of establishment:	1983
Type of settlement:	agricultural and industrial
Area:	99.38 hectares
Population (prior to disengagement):	270
Residential structures dismantled:	100

Main features identified:
Destroyed food-processing building.

Soil

Sampling locations (Sample Reference 8/SS/A)

A single sample was recovered from the centre of the disposal site. Waste materials included a large number of wood preservative containers (labelled as containing toluene – 2 – 4 Di- Isocyanate produced by Astra Vernici of Italy). These were either fully or partially burned. Located with these containers were (possibly asbestos) sheeting, packing materials and paint containers as well as unidentifiable general detritus.

The impacted area covered most of the length of the slope on its up gradient end, some 15 – 20m, with waste materials present as a single layer, although impacting the underlying soil to a depth of some 0.1m. This suggests that it is a single waste disposal event and not used continuously over the life of the settlement.

Results

All analysis results are presented in Appendix III. No samples exceeded their soil threshold values.

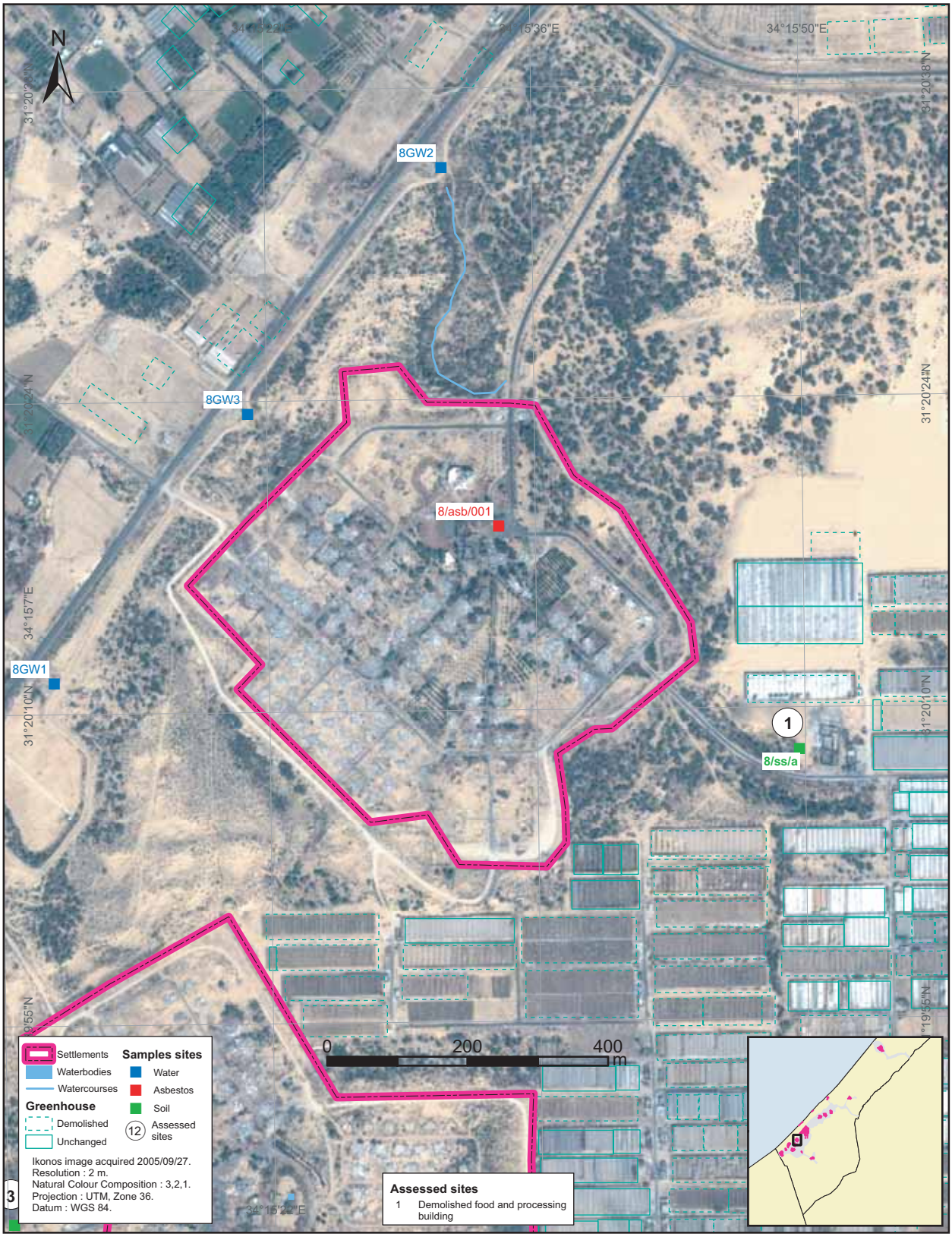
Water

Sampling Locations

Four down-gradient groundwater samples were collected. A large rainwater gathering structure (about 300m^2) was identified in the eastern part of the settlement. It was lined properly with high-density polyethylene material; some parts of the lining were damaged, affecting the ability of the structure to store water effectively. A water sample was taken (8 SW1) to study the condition of the stored water.

Dumped waste at Gan Or. Although unsightly, contamination was minimal

Map 13. Gan Or



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Location A (8GW1)

This is located in between Bedolakh settlement and Gan Or settlement and can be used to assess potential impact from both settlements.

Location B (8GW2)

This well is located directly along the down gradient to Bendolakh beside the main road.

Location C (8GW3)

This sample was recovered at the end of a wadi course. The pollution from agricultural activities may reach this well easily through the wadi located in the northern part of the settlement.

Results

Detailed results are provided in Appendix III. No contaminants exceeded their screening criteria. The surface water sampled showed presence of coliforms, which is not unexpected in an open and exposed water collector. Coliforms are indicative organisms used to warn for potential presence of pathogens. Water with coliform count is unusable without treatment for human consumption or contact activities.

Table 6. Gan Or and Bendolakh (8SW1) – Field monitoring results (water)

Parameter	Units	8 GW1	8 GW2	8 GW3	8 SW1
Temperature,°F	°F	73.77	74.92	76.68	62.15
Pressure	psi	0.164	0.175	0.167	0.179
ORP	mV	189	197	205	166
pH		8.12	8.1	8.08	8.34
DO	g/L	7874	7302	7360	8275
Conductivity	uS/cm	502	552	511	703
Location	**Contaminant**		**Unit**	**Concentration**	
8SW1	Total coliforms		count	100 / 100ml	
	Faecal coliforms		count	3.0 / 100ml	

Asbestos

Sample number: 8/asb/001
Date sampled: 14/12/05
Analysis result: Chrysotile (white asbestos)
Location: 31 20 18-10 N
34 15 34-02 E

Notes:
Significant amounts of asbestos cement where noted in the park. This debris appeared to have been crushed by traffic.

Sample number:	/
Date sampled:	13/12/05
Analysis result:	Assumed Chrysotile (white asbestos)
Location:	31 20 13-23 N 34 15 32-77 E

Notes:
One of the buildings had been partly demolished and it was possible to identify asbestos cement debris within the building rubble.

Hazardous waste

Reflecting largely on the agricultural use of this settlement, no areas of concern regarding hazardous waste were identified during the assessment. However, the one area of potential concern related to the small, informal waste dump located on the slopes of a small wadi in the vicinity of a number of agricultural processing buildings. A walkover survey of the site confirmed that the waste materials were shallow, and contained numerous empty containers that had contained a wood preservative. Laboratory analysis indicated that there was no contamination of the surrounding soil.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

Gadid (Site 9)

General observations

Gadid, a former large agricultural settlement, is located on a raised plateau that overlooks, to the north, the former settlement of Nieve Dkalim. Overall the topography of Gadid is relatively flat, however, the local wadi system appears to be influenced by the topography so that the direction of surface water flow will also be to the north.

Name of settlement:	Gadid
Year of establishment:	1982
Type of settlement:	agricultural and industrial
Area:	315.84 hectares
Population (prior to disengagement):	289
Residential structures dismantled:	137

Main features identified:
Waste disposal site, defense bunker and storage building, large dumping site, derelict farm processing (agricultural processing facilities), and packaging building.

Soil

Sampling locations

Location A

This is an area of the settlement designated on the map as "unknown". This location had an unidentified use and comprises two adjacent tank units. One had three manholes. It was recognised that this might be some form of liquid waste transfer unit, and measurements were taken of the atmosphere within the tanks. No abnormal readings were encountered. No soil sample was recovered from this location.

A view of the chimney to a unit in Gadid. Sampling illustrated elevated concentrations of pH and Nickel

Location B (Sample reference 9/HAZWASTE)

A small mound (less than $5m^3$) of a powdery white silt-like substance, believed to be a fertilizer.

Location C (Sample reference 9/SS/A)

This location was characterized by a small building with a stack (chimney). Below the stack was an area of material similar in composition to ash/coal. The area of impact from this material was minor, only $5m^2$.

Sample 9/SS/B

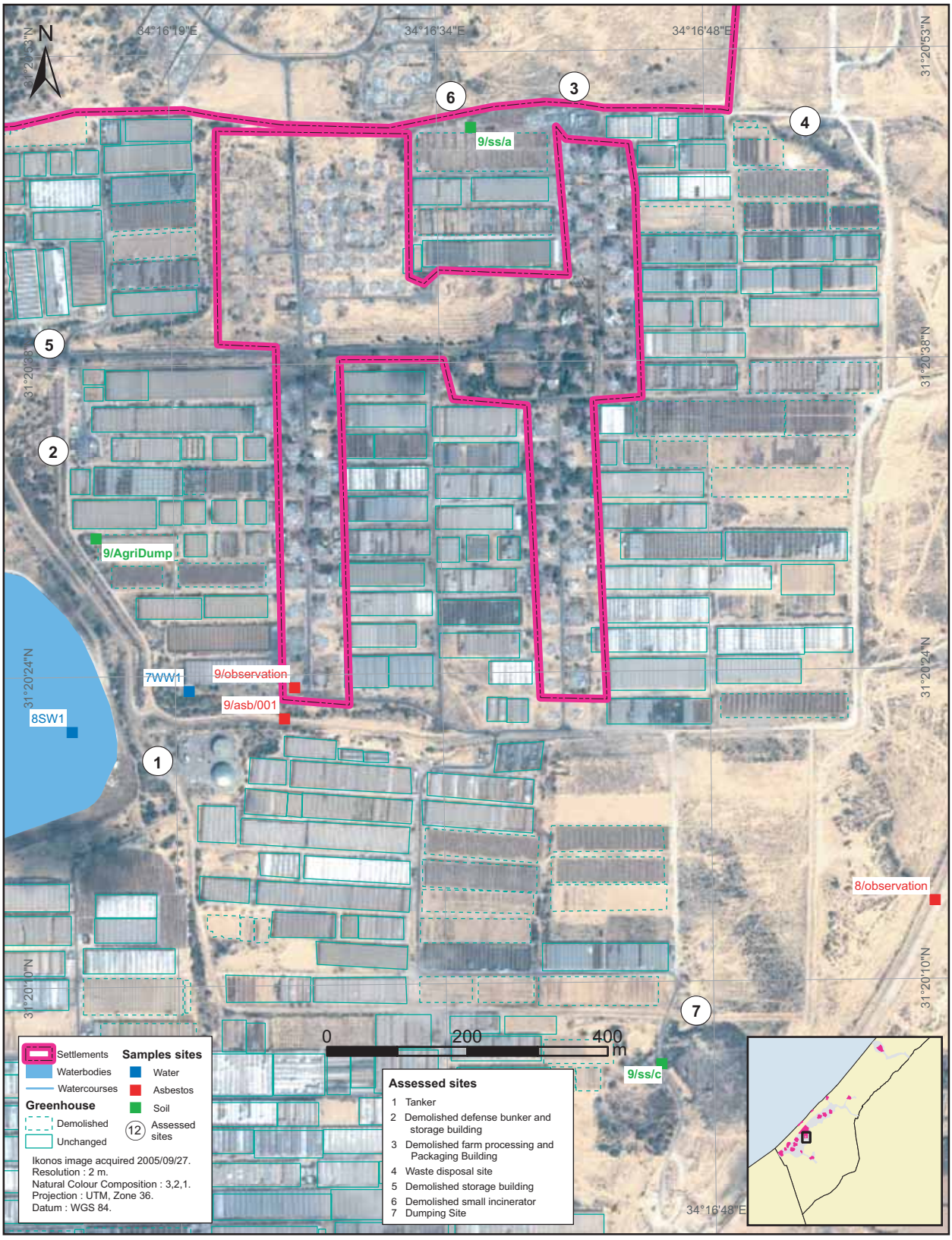
Approximately 3m north of this building was a location believed to represent the bases of fuel tanks. The soil was sandy and the material beneath exhibited a noticeably dark staining.

Location D

This location was characterized by a very large waste disposal area containing a diverse range of wastes, some of them burned.

A soil sample was recovered from the face of the disposal area and consisted of fine grained black grey ash with clinker. However, significant deposits of fertilizer wastes (mounded) as well as domestic refuse (food cans), smaller volumes of clinical waste (bandages) and some industrial materials (paint cans, bags) were also present.

Map 14. Gadid



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Sample 9/SS/C

A section of the waste disposal site in Gadid

Results

The contaminants listed in table 7 exceeded their respective soil threshold values.

The results correspond with the observations in the field. Sample Location A reflects the deposits associated with the incineration activities. Clearly it is not possible to evaluate the types of material burned. However, the risks posed relate, in the context of the contaminants identified, to negative effects on plant growth and also to human health due to the low pH.

Location B reflects the storage of hydrocarbons. The concentration identified is of a relatively low order and this, combined with observations of a limited area of impact, indicate that the risk is confined to the very local area. In the context of the size of the waste dispoal site Location C appears to show that no high risk contaminants were deposited.

Since Location C (Sample A) appeared to be a place where burning/incineration took place, the sample from this location was analysed for the presence of dioxins. Results indicated the presence of dioxins above detection limits. However, since there is as yet no screening value for dioxins it was not possible to determine whether they exceeded acceptable thresholds. The samples did, however, exceed the threshold for pH and Nickel. It is therefore recommended that these burned materials be removed to a central location for storage, treatment and disposal.

Table 7. Gadid – Soil contaminants

Contaminant	Location	Screening Standard	Soil threshold value mg/kg (screening criteria)	Concentration (mg/kg)
Nickel	A	CLEA	50	156
PH	A	Na	<4; >10	3.68
DRO	B	Dutch	5,000	12336
Copper	C	Dutch	96	156
PH	C	Na	<4; >10	10.4

Local and UNEP experts at the site of a subsurface storage tank in Gadid

Water

Sampling Locations
(Sample Reference 7 WW1)

A single water sample was recovered from a large volume storage subsurface tank, located in the southwestern part of the settlement. The integrity of the tank appeared to be good. It is thought likely to have been used to provide the green-houses with water through a piped distribution network. No field measurements were taken, due to the stagnant nature of the water.

Results

Detailed results are provided in Appendix III. No contaminants exceeded their screening criteria.

Asbestos

Sample number: 9/asb/001
Date sampled: 15/12/05
Analysis result: Chrysotile (white asbestos)
Location: 34 67 92-17 N, 62 11 60-37 E

Notes:
Further examples of asbestos cement debris.

Sample number: /
Date sampled: 15/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: 34 67 95-98 N, 62 11 60-37 E

Notes:
An example of asbestos cement sheet on a small building at the rear of the green-houses.

Hazardous waste

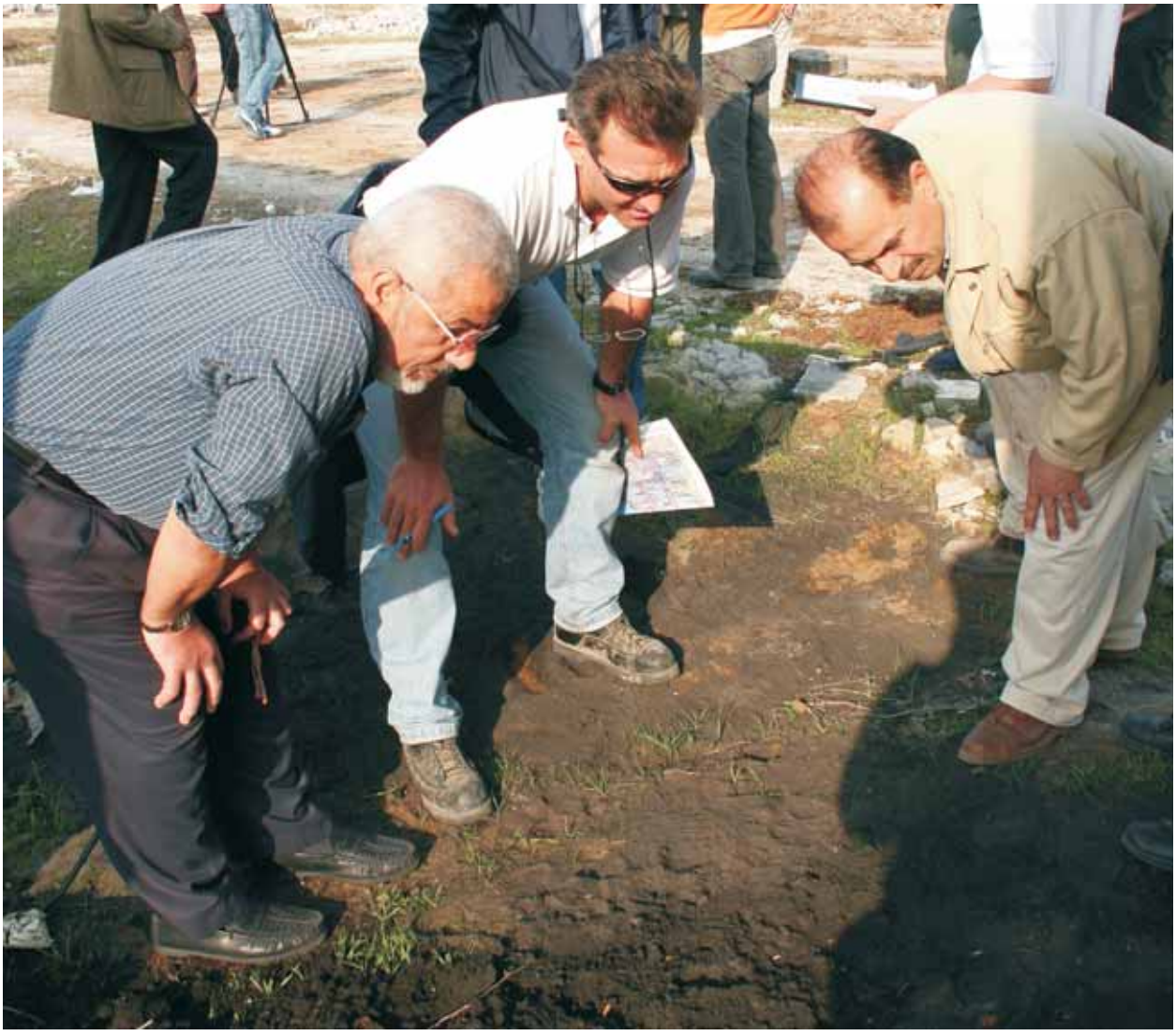
The comparatively large size of the Gadid settlement was reflected in the number of potential areas of concern regarding hazardous waste. These correspond to the specific locations (A, B, C and D) discussed under the "Soil" section on pages 62 to 64.

Other potential items of concern relate to a limited number of derelict vehicles, but their small number renders this a comparatively simple problem to rectify.If the site is to continue to function as a waste disposal facility, an operational plan should be developed to improve the protection of public health and environmental quality. Simple measures should be introduced, such as stopping waste burning, and applying cover material daily.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

2. The material identified as ash (Location C), should be collected and transported to a central storage area for further treatment and disposal.



UNEP and Palestinian experts examining a soil sampling location at Gadid

Derelict vehicles represent only a minor problem

The large waste disposal site in Gadid

Nieve Dkalim (Site 10)

General observations

This is one of the largest of the former settlements, comprising residential, industrial and administrative bases. It is located towards the northern end of the Gush Katif and topographically could be described as being relatively flat, although quite a high escarpment is present to the south of the settlement boundaries (this area was used as a waste disposal site and is described in detail below).

This former industrial area was mainly intact. However, windows and roofs had been removed from some of the buildings.

In response to the size of the former settlement, efforts were concentrated by the team on the industrial units to the east, but also included some of the "unknowns" in addition to the petrol station present on the western boundary.

The maximum depth of the impacted "burned" zone at location A was 10 centimeters

Name of settlement:	Nieve Dkalim
Year of establishment:	1980
Type of settlement:	agricultural and industrial
Area:	194 hectares
Population (prior to disengagement):	2563
Residential structures dismantled:	543 (including Nieve Dkalim Hotel)

Main features identified:
Industrial buildings (5), shopping centre, old zoo, dumping area, petrol station, power plant, town centre, administrative centre (demolished).

Soil

Sampling locations

Location A (Sample Reference 10/SS/A)

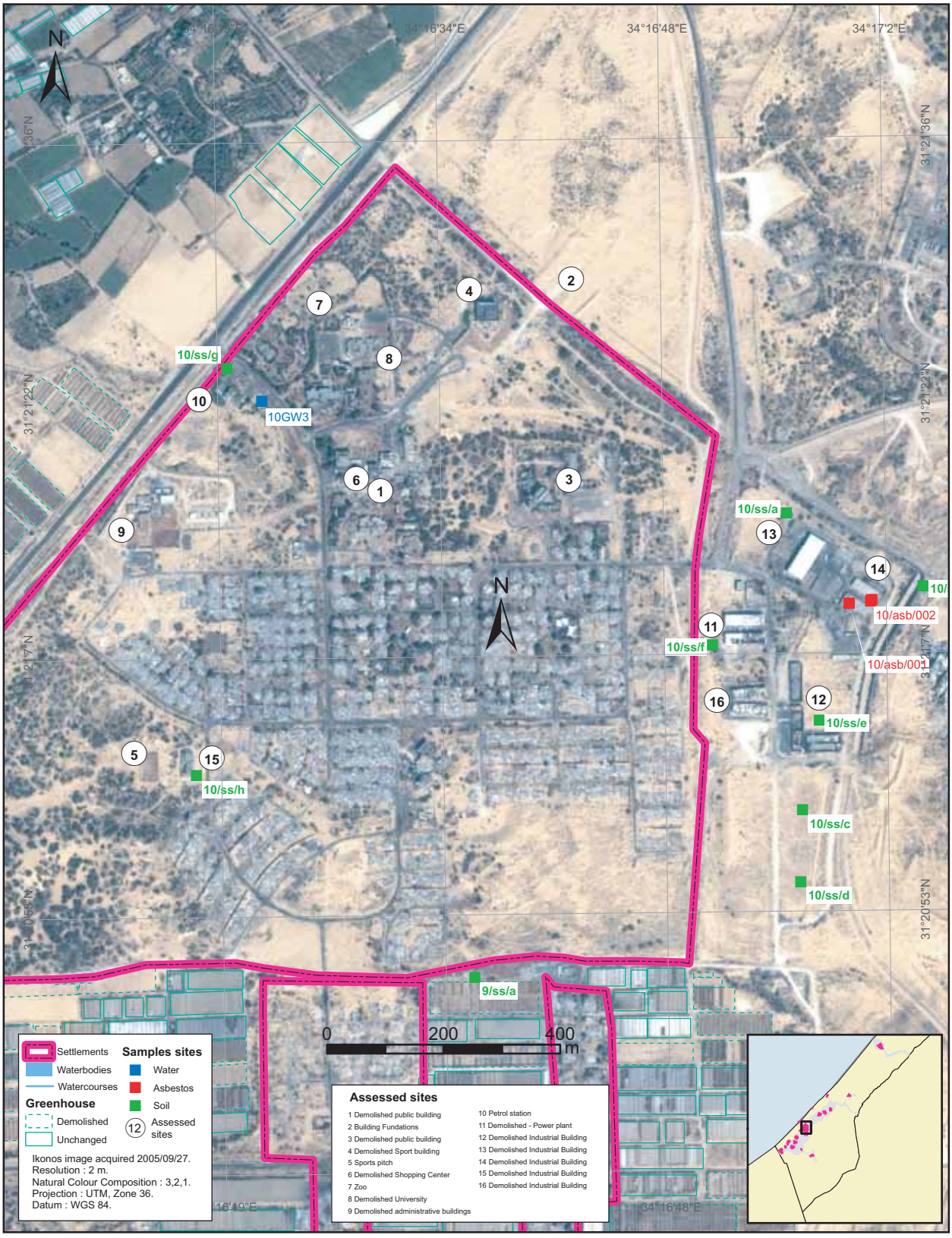
An area of burned ground littered with various car-related debris including bumpers, rubber trim and suspected oil and hydrocarbon odours. The impacted area is about 350m^2. Volatile Organic Compound (VOC) readings from the PID were not above background levels of 10.7ppm. The maximum depth of the impacted "burned" zone was 0.1m. The soil is of a fine to medium grained sandy nature with some gravel.

Within the impacted "burned" zone a small surface water drain was present. This was monitored for methane and carbon dioxide, as wells as oxygen, and no abnormal readings were recorded.

Location B

This area was not sampled but is considered important for waste disposal issues. This represents a large area, some 500m^2, of impaction from waste materials deposited over the road edge and the adjacent natural escarpment. These materials include a large proportion of organic materials (straw and plant bedding) as well as plastic sheeting, clearly from the greenhouses to the south.

Map 15. Neve Dkalim



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Large area of some 500 m² impacted by waste materials, at location B in Nieve Dkalim

Some attempt has been made to dispose of this material through burning, although this has only been partially successful. Importantly, the low-lying valley into which the material has been deposited is likely to represent a wadi, providing a potential future water resource.

Location C

Location C represents the remainder of the industrial units. No samples were recovered, as there was no indication of either potentially contaminated land or potentially contaminating activities, including power sources. Evidence existed in the form of discarded packaging that the units were used for the processing of agricultural products, a low-risk activity in the context of contaminated land.

Location D

This is the site of the former petrol filling station, although much of the infrastructure including the fuel tanks remains. The site does not show any obvious evidence of contamination and there is no evidence of surface staining or any noticeable fuel odours indicating potential spillages (other than those emanating from the tanks themselves).

A conventional three-stage interceptor is present to the rear of the kiosk, which is partially water-filled and no observations of petroleum products were noted floating on the water. The discharge point of the interceptor could not be located. However, vegetation close to the boundary was in good condition suggesting that any surface discharge was of a quality sufficient not to impact on the growth of the plants.

There are four tanks, two of which were colour-coded blue and the remainder red and green. It was not possible to determine whether these contained fuel.

Arco drainage, designed to capture surface water run-off, is present at the entrance and exit to the forecourt and is presumably linked to the interceptor. The drainage was partially filled with sand.

The surfacing of the forecourt is of good quality and is considered to be impermeable.

Results

No samples exceeded their soil threshold values.

Water

Sampling locations

Four water samples were collected from in and around this settlement. A former sewage treatment plant was identified in the western part of the settlement, 700 m away from the Nieve Dkalim settlement. Partially treated sewage water had been discharged into the wadi.

Location A (10GW1)

It is situated near the southwestern part of the Nieve Dkalim settlement.

Location B (10GW2)

A water sample was taken from a private well (outside the now disengaged area) near the downstream area of the former sewage treatment plant. This well is located about 20m from the sewage treatment plant.

Location C (10GW3)

This well is located at the entrance to the settlement and is thought to be a good indicator of potential impact on groundwater from activities undertaken within the settlement.

The site of the former petrol filling station in Nieve Dkalim

Location D (10GW4)

One more water sample was taken in the northern part of the area from a well position at the side of the road.

The derelict sewage treatment plant in Nieve Dkalim

Results

Detailed results are provided in Appendix III. No contaminants exceeded their screening criteria. However, two samples showed traces of hydrocarbons were present (10 GW1 and 10 GW4). The source of these trace levels is unclear and the water pumps attached to the wells are considered as potential oil sources (for example, leaking seals). Prior to undertaking any detailed assessment, it is recommended that these wells are re-sampled after cleaning of any pumps and purging of the well to ensure that the test is representative of the aquifer conditions rather than the well and pump lines. If the results persist, then additional investigations and risk assessment along the "source-pathway-receptor" model will need to be undertaken.

Table 8. Nieve Dkalim – Field monitoring results (water)

Parameter	Units	10 GW1	10 GW2	10 GW3	10 GW4
Temperature,°F	°F	74.55	73.3	74.09	73.78
Pressure	psi	0.146	0.174	0.159	0.150
ORP	mV	201	172	206	208
pH		7.74	7.04	7.88	8.01
DO	g/L	6866	1254	7787	9106
Conductivity	uS/cm	551	1071	471	527

Asbestos

Sample number: 10/asb/001
Date sampled: 14/12/05
Analysis result: Chrysotile (white asbestos)
Location: 31 21 09-97 N
34 16 59-98 E

Notes:
Significant amounts of asbestos cement debris were noted in the area. This was probably from the roof and walls of the original buildings.

Sample number: /
Date sampled: 14/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: 31 21 09-97 N
34 16 59-98 E

Notes:
Asbestos cement sheeting was noted in a poor state of repair still forming the roof of some of the buildings.

Sample number: 10/asb/002
Date sampled: 14/12/05
Analysis result: Amosite (brown asbestos)
Location: 31 21 10-06 N
34 17 01-40 E

Notes:
Asbestos insulation board was noted in one of the factory units. Great care should be taken in this area as it was not possible to identify the original source of the material.

Sample number: /
Date sampled: 13412/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: 31 21 10-15 N
34 17 01-46 E

Notes:
Asbestos cement debris was noted in the former waste disposal area.

Sample number: /
Date sampled: 14/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: GPS not available

Notes:
Asbestos cement debris was noted on the main roadway of the industrial estate.

Sample number: /
Date sampled: 14/12/05
Analysis result: /
Location: Nieve Dkalim university building

Notes:
The former university building was undergoing a redevelopment at the time of the inspection.

Sample number: /
Date sampled: 14/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: Nieve Dkalim university building

Notes:
Asbestos cement pipes had been used to carry cables from the ground floor to the first floor.

Hazardous waste

As one of the largest and most diverse settlements, with a high degree of industrial activity, Nieve Dkalim potentially represented an area of considerable concern regarding hazardous waste.

However, a walkover survey of the majority of the settlement illustrated the relatively minor nature of the issues. For example, a small number of vehicle batteries were found scattered around, some of which had been burned. However, the limited number and extent of these batteries means that this part of the settlement does not represent a significant problem, and that the items can be easily retrieved and disposed of.

The area that was found to represent the greatest concern, from a hazardous waste perspective, was the waste disposal site located on a natural escarpment to the south of the settlement. However, an inspection of the site determined that the accumulated waste materials were inert, comprising a large proportion of organic materials (straw and plant bedding) as well as plastic sheeting, clearly from the greenhouses to the south.

If necessary, this site could continue to be used for waste disposal activities from the re-furbished agricultural greenhouses and the associated farming community. Alternatively, the site could be closed. In this case a closure plan should be developed, which may need additional sampling, monitoring and risk assessment.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out. In particular, additional efforts should be made to identify the source of the asbestos insulation board.

2. Existing buildings should be thoroughly inspected for the presence of asbestos and their condition prior to rehabilitation.

3. Repeat sampling and analyses of the water wells should be carried out after proper cleaning of the pump and purging of the wells, to identify the source of the hydrocarbons observed.

4. A decision should be taken on whether to continue with the waste disposal site. If it is to be continued, then an operational plan should be developed.

5. During the resettlement phase, consideration should be given to possible land uses for the waste disposal area.

The remains of a burned lead-acid battery at Nieve Dkalim

Part of Nieve Dkalim's waste disposal site showing plastic material

Kfar Yam (Site 11)

General observations

The former settlement is located on the coast.

Soil

The assessment of the site indicated that there were no areas of concern requiring further or more detailed assessment from a contaminated land perspective.

Water

One water sample was selected in the up gradient of the settlement.

Sample A (11GW1)

It is believed that the well was used for intensive agricultural activities.

Name of settlement:	Kfar Yam
Year of establishment:	1986
Type of settlement:	unknown
Area:	unknown
Population (prior to disengagement):	unknown
Residential structures dismantled:	11 (including Shirat Hayam)

Main features identified:
Destroyed military infrastructure.

Results

Detailed results are provided in Appendix III. No contaminants exceeded their screening criteria.

Table 9. Kfar Yam – Field monitoring results (water)

Parameter	Units	Concentration
Temperature,°F	°F	73.2
Pressure	psi	0.166
ORP	mV	210
pH		7.34
DO	ug/L	2671
Conductivity	uS/cm	2458

A building on the beach in Kfar Yam had been partly demolished

Map 16. Kfar Yam

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Asbestos

Sample number: 11/asb/001
Date sampled: 15/12/05
Analysis result: Chrysotile (white asbestos)
Location: 34 70 03-46 N
62 03 08-20 E

Notes:
Asbestos cement debris was found to be mixed in the general building rubble.

Sample number: /
Date sampled: 15/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: Kfar Yam beach

Notes:
One part of the building had an asbestos cement roof still in situ. This had been used as shuttering for concrete.

Palestinian security guards were present during the assessment work

Beach near the disengaged Kfar Yam settlement

Hazardous waste

The small, agricultural nature of the Kfar Yam settlement, coupled with an absence of industrial activities, meant that there were no areas of concern from a hazardous waste perspective.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

Ganei Tal (Site 12)

General observations

This is a large, agricultural former settlement occupying level land, for the most part, within a characteristically dune landscape exhibiting a deep wadi system to the west of the main settlement block. On the western border an airstrip has been constructed.

Name of settlement:	Ganei Tal
Year of establishment:	1979
Type of settlement:	agricultural and industrial
Area:	193.34 hectares
Population (prior to disengagement):	275
Residential structures dismantled:	107

Main features identified:
Derelict farm processing building, rehabilitated storage building, large dumping site.

Soil

Sampling locations

Two locations were visited, however, no samples were recovered as visits did not indicate any environmental concern needing laboratory analysis. The findings are detailed below and reference should be made to the map.

Location A

Location A is an area to the south of the main residential and administrative parts of the former settlement on the edge of a large agricultural block. This area was visited to ascertain the designation of the two areas marked "unknown" on the map. Investigation confirmed that these were former agricultural use buildings: one was burned out and contained what appeared to be milling equipment, whilst the second had been re-conditioned and was being used to house equipment and stores for use with the re-conditioned greenhouses.

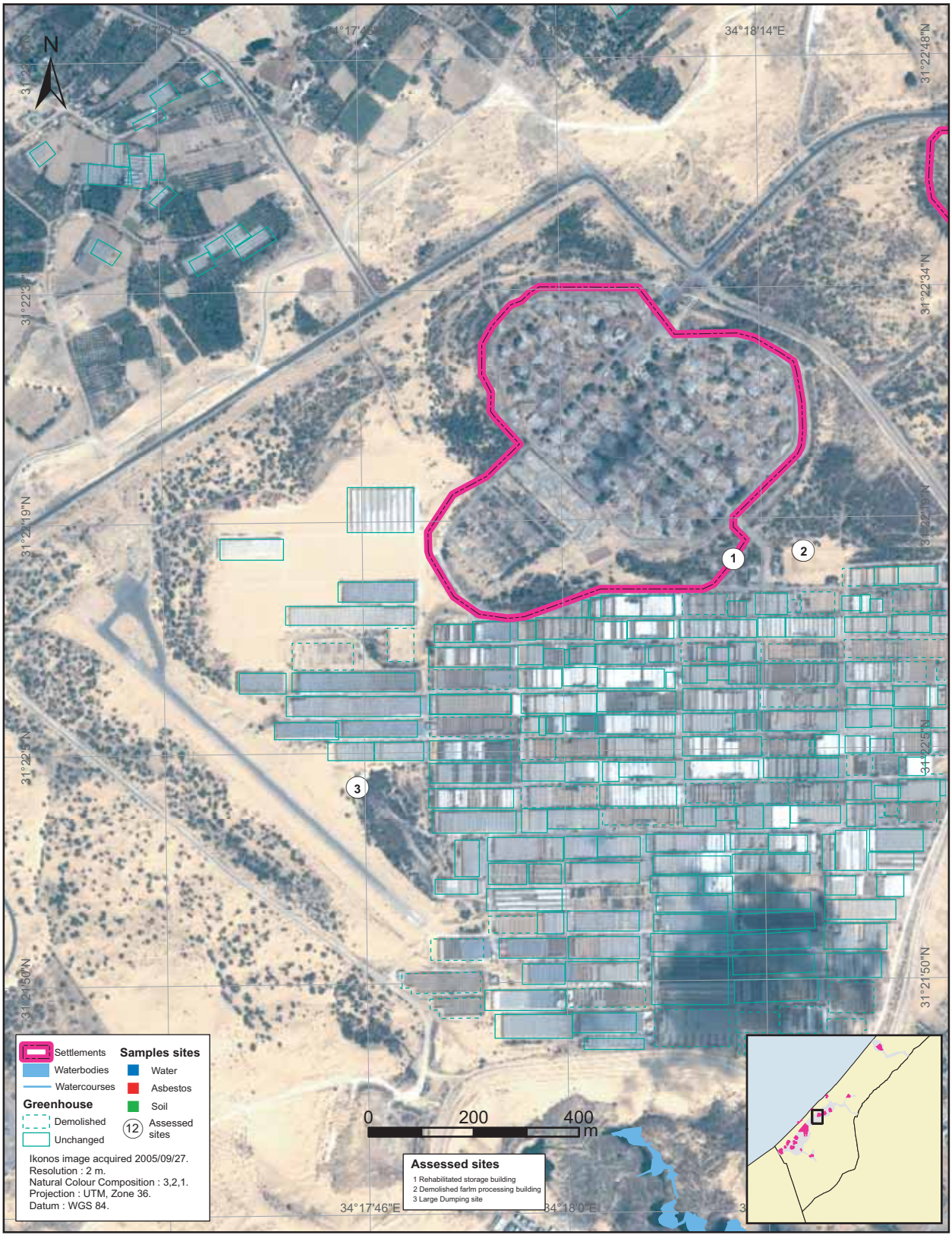
Location B

The northwestern end of the airstrip is considered to represent the probable location of fuel storage tanks. Investigation of this area confirmed that excavations had been made with the probable intention of removing tanks. There was no evidence of spilled products or contamination, either visually or from a measurement of the VOC content using the PID.

Background reading	16.0ppm
VOC recording	15.7ppm

Ganei Tal features an extensive greenhouse complex

Map 17. Ganei Tal



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Results

No soil samples were recovered from this location.

Water

Sampling locations

Location A (12GW1)

This well is located in the main road near the settlement and was named as a Palestine Water Authority well 9 (PWA-9). A waste dump site is located upstream of the well.

Location B (12GW2)

Located in the western part of the settlement, outside the now disengaged areas, this well is currently used for intensive orange and guava horticulture.

Results

Detailed results are provided in Appendix III. No contaminants exceeded their screening criteria.

Table 10. Ganei Tal – Field monitoring results (water)

Parameter	Units	12 GW1	12 GW2
Temperature,°F	°F	74.85	73.32
Pressure	psi	0.155	0.186
ORP	mV	162	218
pH		8.04	8.04
DO	ug/L	7339	6936
Conductivity	uS/cm	683	642

Asbestos

Sample number: 12/asb/001
Date sampled: 15/12/05
Analysis result: Chrysotile (white asbestos)
Location: GPS not available
Notes:
One end of the building had been damaged by fire and damaged asbestos sheeting was both on the floor and still attached to the roof.

Sample number: /
Date sampled: 15/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: GPS not available
Notes:
Asbestos cement sheeting outside and to the rear of the building.

A local farmer assists with sampling at the Ganei Tal borehole

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

2. The waste disposal in the wadi should be discontinued.

3. During the re-settlement phase, consideration should be given to the possible land uses for the waste disposal area.

Hazardous waste

Due to the predominantly agricultural nature of activities within the Ganei Tal settlement, no significant issues were found in relation to hazardous waste.

However, the high degree of uncontrolled disposing of waste within the wadi, principally from the northern and southern banks was of interest. This was visible from and adjacent to the abandoned airport runway. An inspection of this extensive area determined that the majority of the waste was plastic, and probably originated from the refurbishment of the agricultural greenhouses.

Although this uncontrolled dumping of waste material represents a significant visual blight, it does not constitute a public health nuisance as such. However, disposal of waste in a wadi may eventually lead to groundwater contamination. It is recommended to discontinue the use of this site.

A section of Ganei Tal's greenhouses showing plastic waste in the foreground

Katif (Site 14)

General observations

The former settlement is characterized by a greater use of industry, although almost all of this has been demolished. The former settlement lies amidst low vegetated dunes, falling to a level plateau adjacent to the local Palestinian settlement.

Observations of contamination were limited to a former industrial area as indicated on map 18.

An intact evaporation pond from a demolished sewage plant was noted in the eastern part of the settlement. This evaporation pond was properly lined and does not appear to pose a risk of groundwater contamination.

Name of settlement:	Katif
Year of establishment:	1978
Type of settlement:	agricultural and industrial
Area:	unknown
Population (prior to disengagement):	369
Residential structures dismantled:	43

Main features identified:
Derelict cattle farm, industrial sites (2), water treatment plant, sewage pond, vegetable processing industry.

Soil

Sampling location

A single area of potential contamination was sampled.

Location A

This is to the south of a relatively large industrial area although there was no evidence of activities undertaken here. Some exterior walls still standing were clad with polystyrene, suggesting use as a cold store.

Sample 14/SS/A

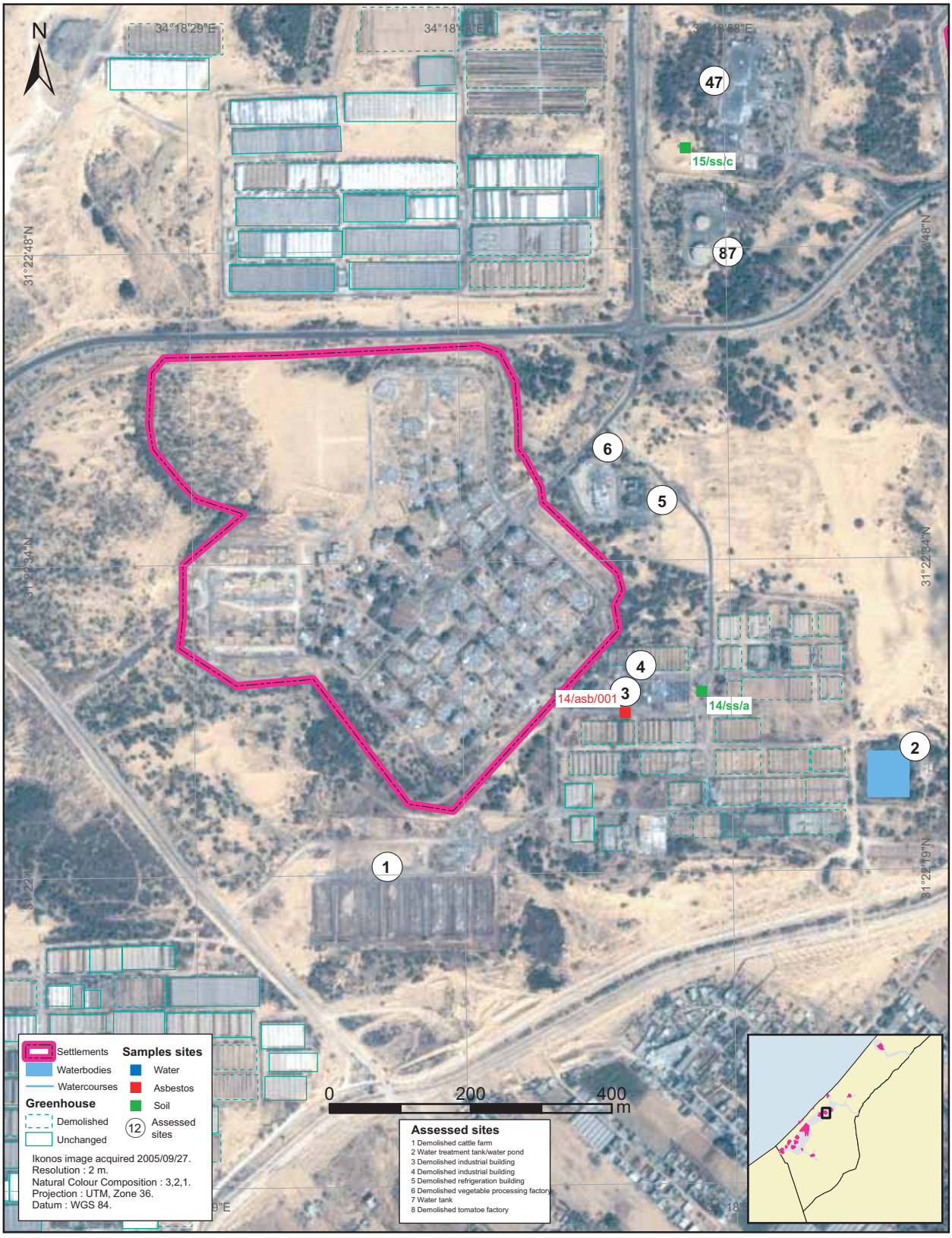
The sample was recovered from an area of the site characterized by a distinctive black staining, produced as the result of burning and forming a hard crust to the surface. Excavations indicated that this extended no more than 0.2m and was accompanied by a slight hydrocarbon odour, for which a VOC reading of 20ppm was recorded (against a background of 13ppm). The total area of impact was no larger than 25m^2.

Results

The sample container was destroyed in transit and the sample could not be analysed.

Location of soil sample collection at Katif

Map 18. Katif



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Water

No sample location exists in and around the settlement, therefore no samples were recovered.

Asbestos

Sample number: 14/asb/001
Date sampled: 12/12/05
Analysis result: Chrysotile (white asbestos)
Location: GPS not available
Notes:
Asbestos cement debris was noted in the area of the evaporation pond.

Sample number: /
Date sampled: 12/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: GPS not available
Notes:
A former garage that had been subject to fire damage was noted on the site. The roof appeared to have been constructed of asbestos cement.

Sample number: /
Date sampled: 12/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: GPS not available
Notes:
The asbestos cement debris was widespread in this area. It was also possible to identify other areas of asbestos cement debris in this location.

UNEP and Palestinian experts in Katif

Hazardous waste

Despite the greater presence of industrial activity within Katif, compared to the majority of other settlements, no hazardous waste was observed during the current assessment.

Recommendations for follow-up action

1 Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

2 The Environment Quality Authority should undertake additional sampling at Location A and analyse for the potential presence of hydrocarbons.

Containers, such as those shown here, were found around the Katif site

Netser Hasani (Site 15)

General observations

The former settlement is characterized by intensive greenhouse agriculture around an administrative and residential core. Former industrial activities, where identified, were small-scale and have limited potential for contamination. All areas marked as "industry" on the aerial map were visited.

Almost all the buildings within the settlement core had been demolished and stockpiles of material deposited across the central area. A proportion of this material was of a construction/demolition source and appeared, on the whole, to be inert. The remainder was clearly of an organic nature as shown below.

Name of settlement:	Netser Hasani
Year of establishment:	1973
Type of settlement:	agricultural and industrial
Area:	56.6 hectares
Population (prior to disengagement):	339
Residential structures dismantled:	154

Main features identified:
Grain store, water tank, vehicle workshops, tomato factory, water well, industry.

Soil

Sampling locations

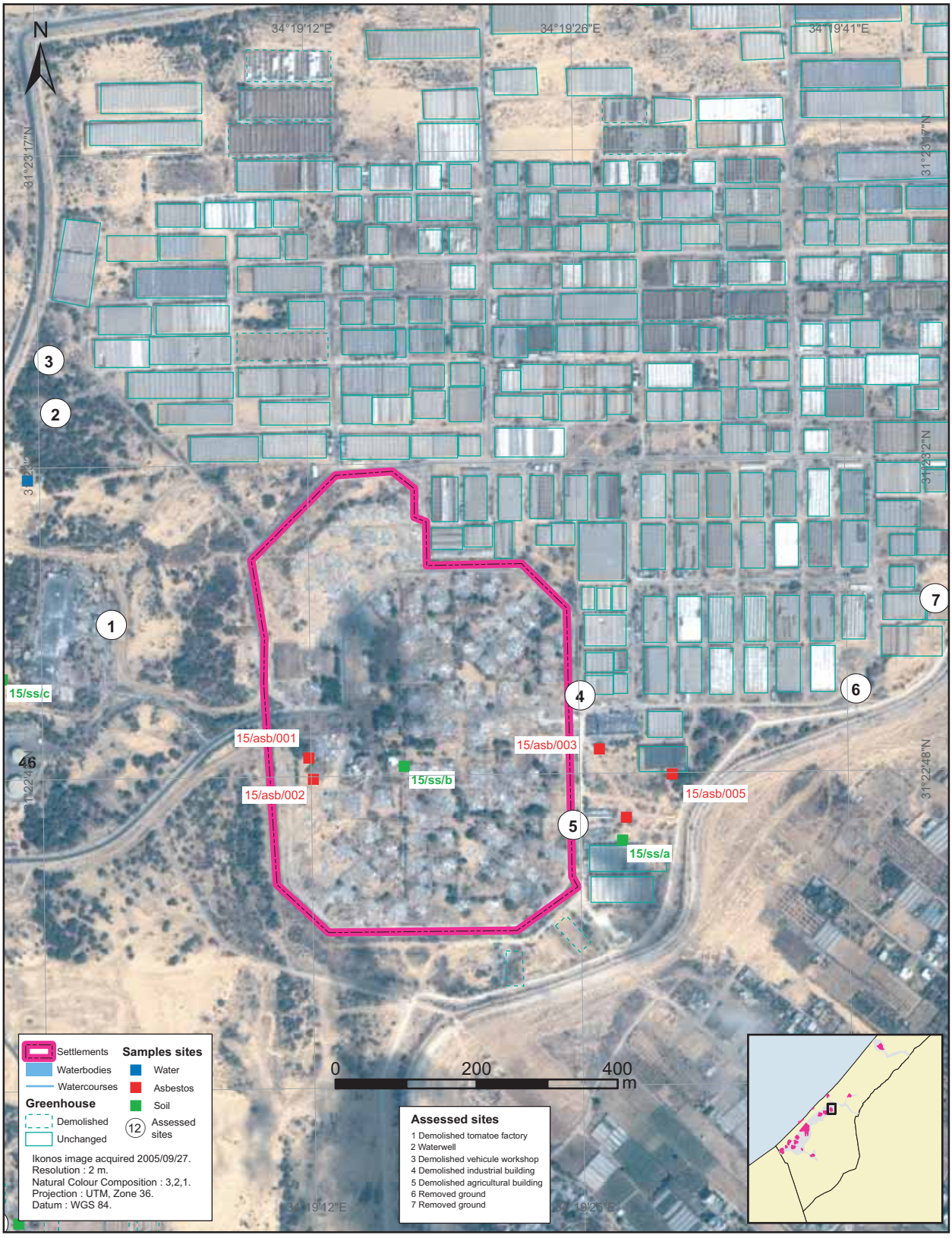
Four areas of potential concern (A to D) were noted, as detailed below. Locations A and B were identified as being of potential concern by the assessment team, whilst sample locations C and D were highlighted as being of concern by officials of the Palestinian Authority who accompanied the team.

Location A (Sample reference 15/SS/A)

The site is located to the east of the residential centre in an area of aqua-culture tanks. Oil is visible covering an area of 5m^2 and appears to have been spilled from a greenhouse heating unit. The viscosity of the oil is high, limiting the extent of the spill, with a PID reading of 65ppm (against a background of 16ppm). The high viscosity and the low PID reading suggest a heavy oil, probably heating oil.

A greenhouse heating unit with localized oil spill in the background

Map 19. Netser Hasani



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

The oil was present to a depth of only 0.20m below the ground surface. Surface geology comprised a medium-grained "clean" sand. Given the limited depth profile of the contamination as shown by visual observation, it was felt that there was no need to extend the depth of the sampling.

Location B (Sample 15/SS/B)

The second area of concern was located within the residential area of the settlement and comprised two 50 litre drums discarded on the surface among the debris. The drums were accompanied by a moderate smell of diesel with some limited staining to the sand beneath. Diesel odours were noted to a depth of 0.50m. A maximum PID reading of 150ppm was recorded against a background of 17ppm, suggesting a moderate level of diesel contamination. The area of impact was limited to $10m^2$.

Location C (Sample 15/SS/C)

This is located to the north of the main settlement area close to an abandoned military observation post. The area is dominated by small, partially vegetated dunes. A sample of soil comprising fine-grained unconsolidated sand was recovered from an area of dune slope. Within this area were four highly corroded 50 litre drums, the provenance of which could not be confirmed (i.e. there were no visible markings).

The soil/sand from both within the drums and the immediate area did not provide any immediate evidence of contamination. Vegetation within the area also appeared to be healthy, so far as the prevailing environment will allow.

Location D (Sample 15/SS/D and samples 14/lfill/A, 14/lfill/B and 14/lfill/C)

This location is outside the settlement boundaries, to the east, and falls within an area described as a mineral extraction site, in reality a sand quarry. It is clear that extensive waste disposal activities have been undertaken here. It has also been used as a firing range, as shown by children excavating for unused small arms munitions.

It was suggested by Palestinian Authority officials that the site was used for the disposal of hazardous waste. A preliminary review of the site was undertaken at surface level and indicated that, with the exception of the munitions, no hazardous materials were identified.

Sampling in the field using hand-held portable equipment

High volumes of plastic and organic material in an excavation pit

However, in order to further verify this observation, this location was visited on two occasions. During the first visit, one sample was recovered from the surface deposits (15/SS/D), whilst on the second visit (three days after the first) samples were recovered at depths of 1.1m, 2.15m and 3.2m, following the excavation of a trial hole by the Palestinian Authority. This corresponds to samples 14/1fill/A – C, the shallowest being A and the deepest being C.

The vertical sequence as evidenced from the trial hole confirmed that a significant volume of waste materials had been deposited into the quarry with observations of plastic sheeting and organic debris (woody stems, straw) within a grey-stained sandy matrix. The excavation was accompanied by a slight odour of ammonia, although gas measurements did not indicate any concerns. This material extended to the depth of the trial hole. It is highly likely that this material originated from the agricultural practices undertaken in the surrounding settlements. No material of hazardous nature was encountered during this investigation.

Results

The contaminants listed in table 11 exceeded their respective soil threshold values.

The concentrations of hydrocarbons within location A fully reflect the field observations. Whilst the concentrations are significant, they are localized. The depth of penetration of the oils into the subsurface was observed as no more than 0.5m and this reflects the viscosity of the fuels used. However, these materials do still pose a risk to human health and should be managed in order to limit human contact. Recommendations are given on pages 124 to 125.

The landfill assessed within sample location D clearly contains deposits of hydrocarbons, albeit only slightly exceeding the screening criteria. Samples recovered from further depths were not analysed for hydrocarbons. Due to the extensive nature of this landfill additional sampling, both along the surface and at depth, is recommended.

Table 11. Netser Hasani – Soil contaminants

Contaminant	Location and depth	Screening Standard	Soil threshold value mg/kg (screening criteria)	Concentration (mg/kg)
Mineral oil	A	Dutch	5,000	21170
DRO	A	Dutch	5,000	77602
Endrin	A	Dutch	0.095	0.1
Phenanthrene	A	Dutch	90	141.4
Fluoranthene	A	CLEA	15	19.0
Benz(a)anthracene	A	Dutch	3	10.0
Chrysene	A	CLEA	15	27.3
Benzo(b)fluoranthene	A	CLEA	1	2.8
Benzo(a)pyrene	A	CLEA	0.5	8.374
Mineral oil	B	Dutch	5,000	8144
DRO	B	Dutch	5,000	13326
DRO	D (0.2m)	Dutch	5,000	5050

Water

Sampling locations

Two groundwater samples were collected from the down-gradient side of the waste disposal site. Location A is situated in the western part of the settlement and Location B in the northern part of the settlement.

Location A (15GW1)

The result of the sample from Location A situated in the western part of the settlement is a good indicator of potential pollution. A water sample was collected from this borehole.

Location B (15GW2)

Location B is situated to the north of the settlement (but outside the now disengaged area) and close to the waste disposal site. The waste disposal site lies over sand dunes and these dune systems are highly vulnerable to groundwater pollution. The shallow static water level was measured in this open well at a depth of 25m.

Results

Detailed results are provided in Appendix III. No contaminants exceeded their screening criteria.

Asbestos

Sample number: 15/asb/001
Date sampled: 12/12/05
Analysis result: Chrysotile (white asbestos)
Location: GPS not available
Notes:
Inside the synagogue building where significant amounts of asbestos cement debris. The former roof of the synagogue appeared to have been constructed of asbestos cement sheets.

Sample number: /
Date sampled: 12/12/05
Analysis result: Chrysotile (white asbestos)
Location: GPS not available
Notes:
Inside the building the asbestos cement debris can be found mixed in with the general building rubble.

Sample number: 15/asb/002
Date sampled: 12/12/05
Analysis result: Asbestos not detected
Location: GPS not available
Notes:
A sample of the textured coating paint from the inside of the synagogue was taken for analysis. Asbestos was not detected in the sample.

Sample number: /
Date sampled: 12/12/05
Analysis result: /
Location: GPS not available
Notes:
Asbestos cement debris was noted in the greenhouse area.

Sample number: 15/asb/003
Date sampled: 12/12/05
Analysis result: Chrysotile (white asbestos)
Location: GPS not available
Notes:
An area of asbestos cement debris adjacent to the greenhouse area had been subject to damage by fire.

Sample number: 15/asb/004
Date sampled: 12/12/05
Analysis result: Asbestos not detected
Location: GPS not available

Notes:
It was possible to observe asbestos cement debris approximately 5 meters down wind of the area of the above fire. A sample of the sand was taken in the area and was found not to contain asbestos.

Sample number: /
Date sampled: 12/12/05
Analysis result: /
Location: GPS not available

Notes:
The roof and walls of the former industrial buildings appeared to have been constructed of asbestos cement. The bulk of the asbestos cement appeared to have been removed from site.

Sample number: 15/asb/005
Date sampled: 12/12/05
Analysis result: Chrysotile (white asbestos)
Location: GPS not available

Notes:
Significant amounts of asbestos cement debris where noted in the above industrial area.

Hazardous waste

Within the settlement itself the only issues of concern regarding hazardous waste related to a number of discarded vehicles. These in themselves did not represent a serious risk, and can be easily removed and recycled and/or disposed of at a suitable facility.

However, to the east of the settlement was a large waste disposal site, located within a substantial former sand borrow-pit, covering several hectares. Due to the presence of hydrocarbons at the site sampled, further investigation at this site is recommended.

Generally, hazardous material was not observed with the notable exception of "live" ammunition, originating from the time when the site was used for shooting practice by Israeli settlers. These items were observed to be reclaimed by children digging on the site.

If there is a need in the future, it is entirely feasible and appropriate for a portion of this site to continue to be used for waste disposal operations. Further, part of the site could be allocated to the practice of composting organic waste, based on the high organic content of the local waste stream. If the site, or part of it, is to continue to be used for waste management purposes, then there is a need to develop and implement appropriate operating procedures to address issues such as the application of cover material to minimise public health nuisances.

Alternatively, if it is decided not to continue using the site for waste disposal activities, then the whole site could be permanently closed. However due to the extensive nature of this landfill, it is recommended that prior to the closure of this landfill further sampling, monitoring and risk assessment is undertaken. It is also recommended to mark the area on the land use map to restrict building activities on the site.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

2. The contaminated soil and drums should be collected from Locations A-C and moved to a central area for treatment/disposal.

3. The surface sample at Location D marginally exceeded the screening criteria for hydrocarbons. Since the file observations did not show any visible stains or odour, hydrocarbon measurements were not requested on the samples taken at various depths. In view of the test result, it is recommended to undertake additional sampling, specifically for hydrocarbons, to ensure that the contamination is not widespread.

4. Undertake water sampling from deeper aquifers.

5. The entire area of the waste disposal site should be mapped and integrated into the land use planning map of the settlements.

6. The options for the continued use of the site for waste disposal and composting activities should be assessed and appropriate operational or closure procedures developed and implemented.

UNEP expert collecting a core sample from an excavation pit

Tel Katifa (Site 16)

Name of settlement:	Tel Katifa
Year of establishment:	1998
Type of settlement:	agricultural
Area:	unknown
Population (prior to disengagement):	unknown
Residential structures dismantled:	20

Main features identified:
Rain-water pond, vegetable storage building.

Soil

The assessment of the site indicated that from a contaminated land perspective there were no areas of concern requiring further or more detailed assessment.

Water

There were no apparent wells in this locality and no samples were recovered.

Asbestos

There were no areas of notable concern in relation to asbestos. However, this does not preclude the presence of asbestos and it is possible that some form of material containing asbestos is present.

Hazardous waste

Following a walkover survey of the site, it was determined that there were no areas of concern regarding hazardous waste within the Tel Katifa settlement. As with a number of the other small unindustrialized settlements, the issues were restricted to a large accumulation of building rubble across the surface of the site.

Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection to be undertaken to verify if asbestos debris is present.

Tel Katifa beach

A section of the Tel Katifa site showing the extent of the rubble

Map 20. Tel Katifa

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Kfar Darom (Site 17)

A small to medium-sized former settlement located on the flat gravel plain east of Gaza City and south of Netsarim. It appears that the main function of the settlement was for housing, with a small number of units possibly used for industry also identified.

Name of settlement:	Kfar Darom
Year of establishment:	1970
Type of settlement:	residential and agricultural
Area:	46 hectares
Population (prior to disengagement):	380
Residential structures dismantled:	92

Main features identified:
Demolished industrial site (2).

Soil

Sampling locations

***Location A* (Sample reference 17/SS/A)**

At the east end of the settlement immediately adjacent to the boundary wall an area of staining was identified. Associated with this were hydrocarbon odours, probably diesel. The area impacted by the spilled fuel was no larger than 25m^2, with a depth of 0.5m, resulting in a volume of 10 - 15m^3.

The contaminants listed in table 12 exceeded their respective soil threshold values.

Clearly some form of fuel has been spilled in this area and no evidence was observed of either tank storage or a re-fuelling facility. Despite this, there are risks to the environment, particularly from contaminated groundwater entering a pathway to the foodchain. Removal of this material will eliminate the source of contamination and mitigate the risk.

Water

No water wells were identified within the settlement and hence no samples were recovered.

Asbestos

There were no areas of notable concern in relation to asbestos. However, this does not preclude the presence of asbestos and it is possible that some form of asbestos-containing material is present.

Hazardous waste

Following a walkover survey of the site, it was determined that there were no areas of concern regarding hazardous waste within the Kfar Darom settlement.

Recommendations for follow-up action

1 Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

2 Soil should be evacuated from Location A and moved to a central location for storage and treatment.

The primary problem in Kfar Darom is rubble removal

Table 12. Kfar Darom – Soil contaminants

Contaminant	Location	Screening Standard	Soil threshold value mg/kg (screening criteria)	Concentration (mg/kg)
DRO	A	Dutch	5,000	18639

Map 21. Kfar Darom

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Netsarim (site 18)

General observations

The former settlement of Netsarim is located in a generally agricultural district south of Gaza City. The residential and administrative part of the settlement is located on a slight hill, although it is unclear to what extent this is man-made.

Name of settlement:	Netsarim
Year of establishment:	1972
Type of settlement:	residential and agricultural
Area:	156.62 hectares
Population (prior to disengagement):	432
Residential structures dismantled:	84

Main features identified:
Demolished factory (2), demolished electric building, hotel, derelict petrol station, sewage discharge pipe.

Soil

Sampling locations
(Sample reference 18/SS/LFILL/A)

There was a concern from Palestinian officials that this area could have been used for the uncontrolled burial of waste materials by the Israelis during the disengagement process. The general area is agricultural in use, although there is a large operational landfill to the east. However, this is sufficiently distant to be insignificant for this assessment. The field exhibited surface track-marks suggesting recent vehicle movements, but the origin of these can clearly not be conclusively established.

Four trial pits were excavated using a back hoe excavator in the top northern corner of the field closest to the road junction. There was no evidence of any waste materials and the geological profile was almost wholly characterized, to a depth of 2.8m, by a moist medium-grained sandy clay-rich soil, distinctly organic-rich.

Results

No samples exceeded their soil threshold values.

Water

Sampling locations

Geomorphologically the general area in which the settlement falls can be considered as acting as a ”basinal” structure. One water sample was taken from the settlement.

Location A (18GW1)

This is situated in the centre of the Netsarim settlement.

The borehole in Netsarim where water samples were collected

Map 22. Netsarim

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Table 13. Netsarim – Field monitoring results (water)

Parameter	Unit	18GW1
Temperature,°F	°F	73.56
Pressure	psi	0.151
ORP	mV	231
pH		7.12
DO	ug/L	4455
Conductivity	uS/cm	1810

Asbestos

Sample number: 18/asb/001

Date sampled: 15/12/05

Analysis result: Chrysotile (white asbestos)

Location: GPS not available

Notes:
Asbestos cement debris was noted in several locations around the greenhouse area.

UNEP experts collecting samples in Netsarim

Trial pitting exercise in a field near Netsarim

Hazardous waste

Hazardous waste, including contaminated soil, was not identified in this settlement during the current assessment.

Recommendations for follow-up action

1. Prior to the disposal and reuse of the demolition waste, asbestos should be identified and sorted out.

Dugit (Site 19)

General observations

This is a small settlement located on a hilltop. Although not fully apparent, it is likely that small wadis run close to the hill, draining into the plain to the west. Low-intensity agriculture is being undertaken on the lands adjacent to the settlement.

Soil

The assessment of the site indicated that from a contaminated land perspective there were no areas of concern requiring further or more detailed assessment.

Water

There were no apparent wells in this locality and no samples were recovered.

Asbestos

There were no areas of notable concern in relation to asbestos. However, this does not preclude the presence of asbestos and it is possible that some form of asbestos-containing materials is present.

Name of settlement:	Dugit
Year of establishment:	1990
Type of settlement:	residential and industrial
Area:	67.46 hectares
Population (prior to disengagement):	66
Residential structures dismantled:	28

Main features identified:
Industrial.

Hazardous waste

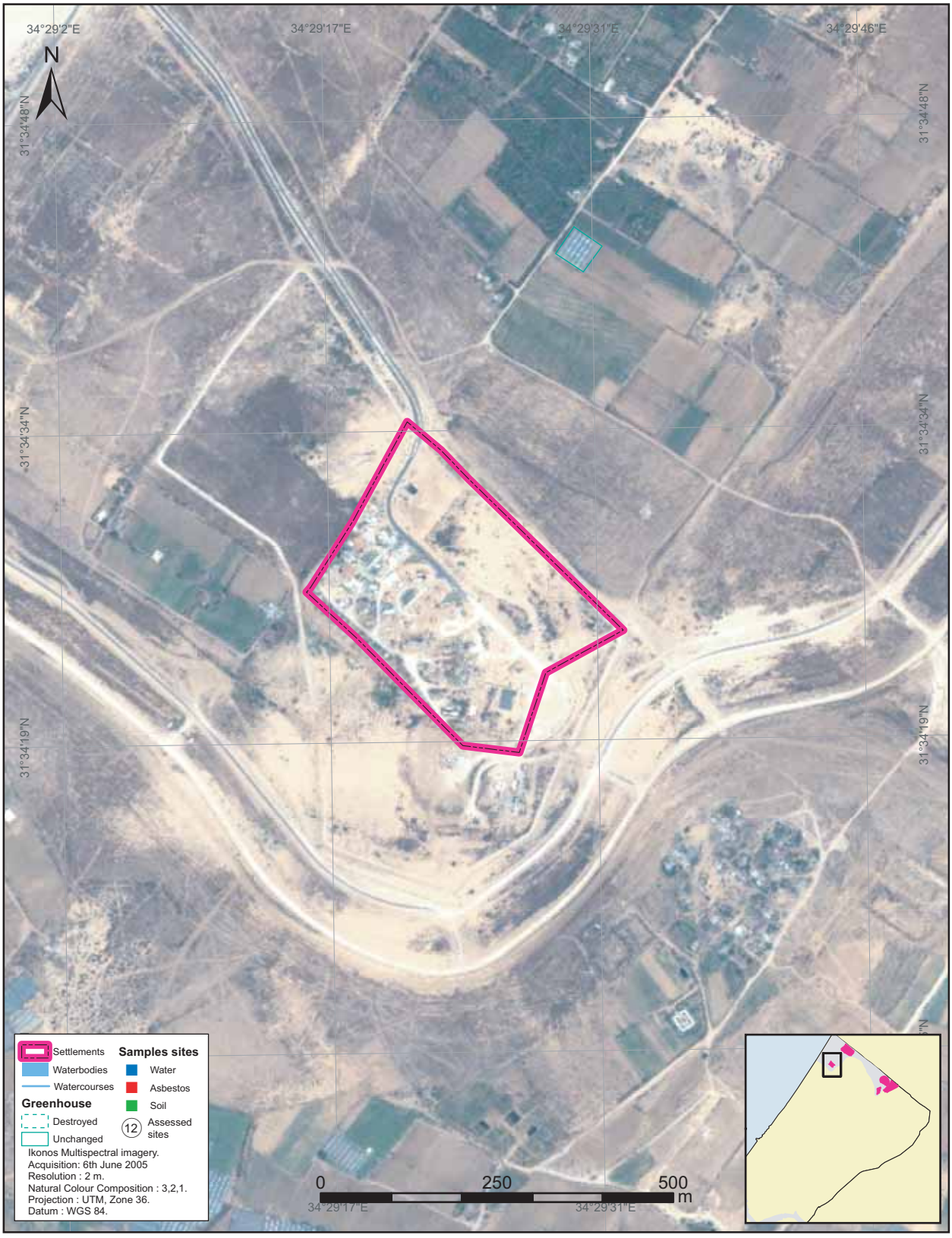
Following a walkover survey of the site, it was determined that there were no areas of concern regarding hazardous waste within the Dugit settlement. The major issue was, once again, that of building rubble, the bulk of which originated from the demolition of a number of domestic and institutional premises.

Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

Rubble removal is the primary problem in Dugit

Map 23. Dugit



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Elei Sinai (Site 20)

Name of settlement:	Elei Sinai
Year of establishment:	1982
Type of settlement:	residential and industrial
Area:	54.9 hectares
Population (prior to disengagement):	349
Residential structures dismantled:	95
Main features identified:	Industrial.

General observations

The settlement of Elei Sinai is located immediately along the current border in the north. It is a settlement located on a hillside. Due to security considerations it was only possible to view the former settlement briefly.

Soil

The assessment of the site indicated that, from a contaminated land perspective, there were no areas of concern requiring further or more detailed assessment.

Water

No wells were apparent in this locality and no samples were recovered.

Asbestos

There were no areas of notable concern in relation to asbestos, therefore no samples were taken.

Hazardous waste

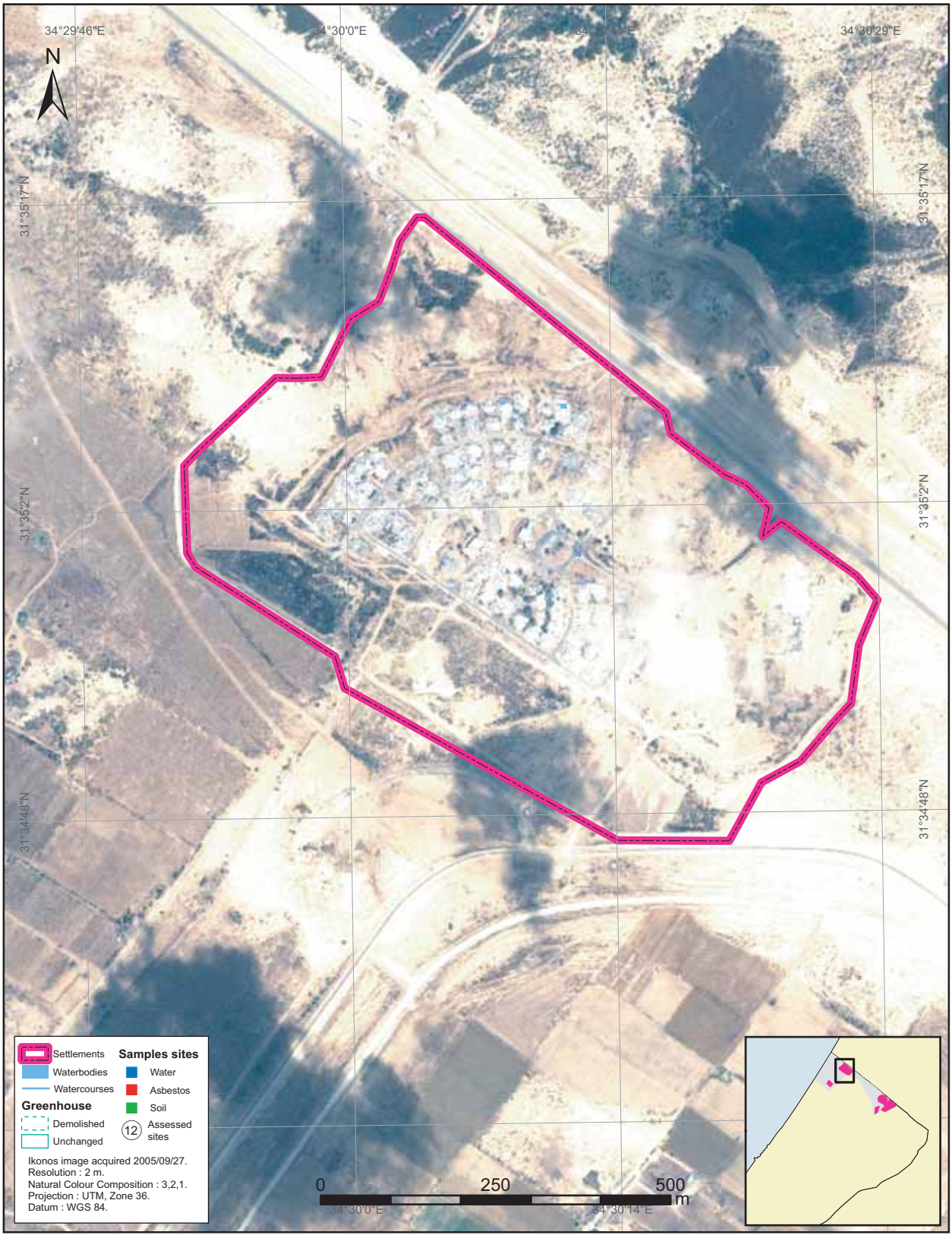
Following a walkover survey of the site, it was determined that there were no areas of concern regarding hazardous waste within the Elei Sinai settlement. The major issue was once again that of building rubble, the bulk of which appeared to have come from the demolition of a number of domestic and institutional premises.

Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

As with the other small settlements, the main issue was rubble

Map 24. Elei Sinai



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Nisanit / New Nisanit (Site 21)

Name of settlement:	Nisanit / New Nisanit
Year of establishment:	1982
Type of settlement:	residential and industrial
Area:	126.6 hectares
Population (prior to disengagement):	1035
Residential structures dismantled:	280
Main features identified:	Industrial (6), surface water (1).

General observations

Nisanit and New Nisanit are essentially a single settlement and are located on a hilltop immediately adjacent to the current border. Security considerations prevented a thorough assessment.

Geographically, the former settlements overlook Erez to the east and Palestinian residential areas to the west. Surface water is likely to drain to the west.

Soil

The assessment of the site indicated that, from a contaminated land perspective, there were no areas of concern requiring further or more detailed assessment.

Water

There were no apparent wells in this locality and no samples were recovered.

Asbestos

There were no areas of notable concern in relation to asbestos, therefore no samples were taken.

Hazardous waste

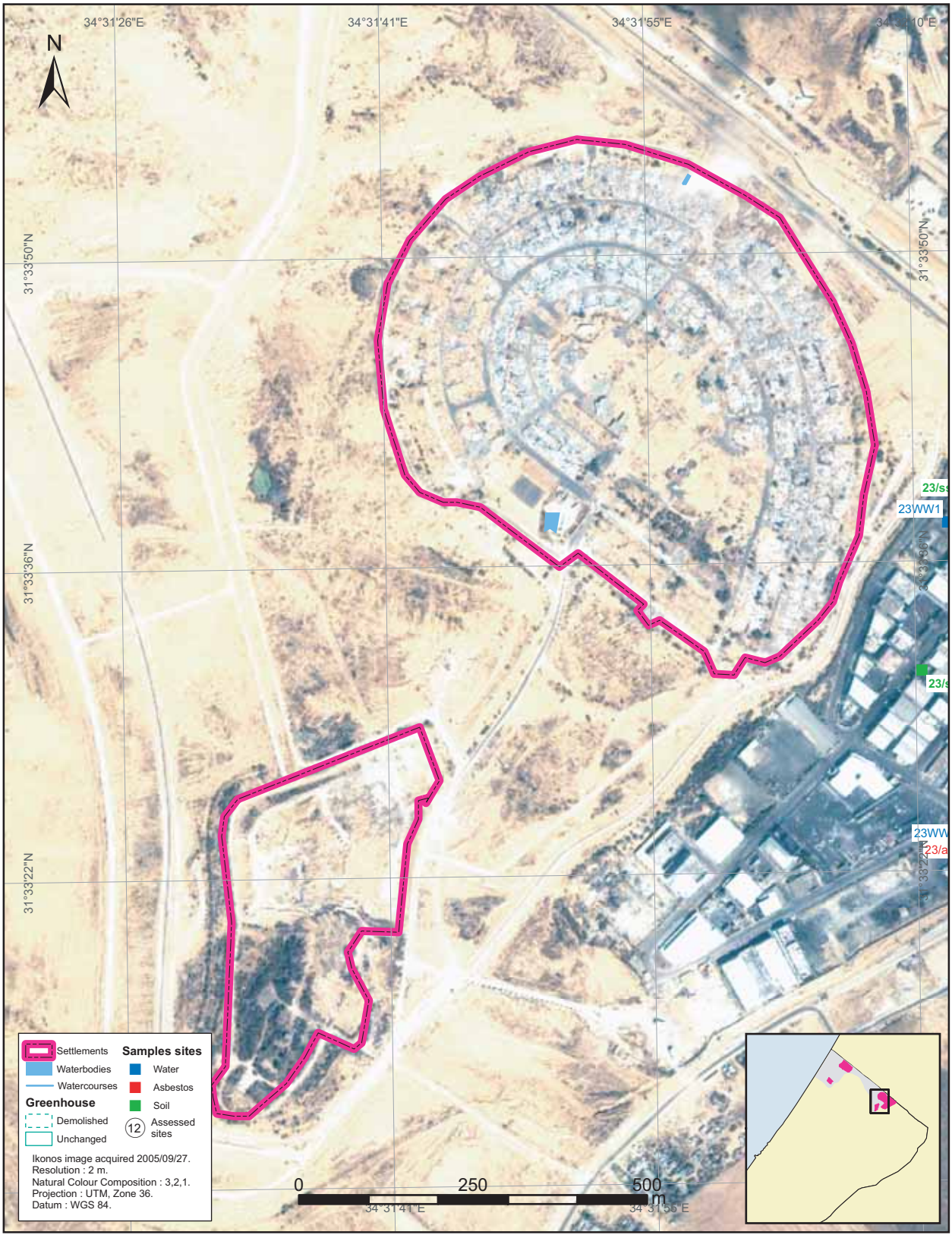
Following a walkover survey of the site, it was determined that there were no areas of concern regarding hazardous waste within the Nisanit settlement. The major issue was, once again, that of building rubble. The bulk of this appeared to have come from the demolition of a number of domestic, institutional and recreational premises, including a swimming pool and basketball court.

Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

Abandoned sports and leisure facility in Nisanit

Map 25. Nisanit / New Nisanit



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Erez Industrial Estate (Site 23)

General observations

The industrial estate, established in 1970, is located on the northern border with Israel. It is a large, wholly industrial complex used for a range of activities including power generation, light industry, car repair and breaking, and petrol retail. It was not possible to review every building. However, efforts were made to visit those considered to have the highest potential to contaminate.

The estate itself is located in a low-lying area, with low hills to the west. There are no apparent wadi systems or surface water. The surface water is likely to drain underground (through soakaways) or through natural surface drainage. Vegetation is sparse, as would be expected.

Overall the condition of the buildings and the surfacing of the underlying ground were fairly good. The exception is the power station, which had been largely destroyed. The power house exhibits free oil standing on the surface. Fingerprinting of this oil showed it to be composed of the carbon range C_9 - C_{40}, identified as used engine oil. This represents a risk to those accessing the site, as well as a risk to the local subsurface where the integrity of the concrete is not good. If not addressed soon the oil could eventually cause wider pollution of soil and groundwater, even though the viscosity of the oil is high, limiting the rate of migration. As mentioned previously, it is not clear where surface waters are drained and whether interceptors are present to capture the oils. If interceptors are present, it is highly likely that their effectiveness will have been compromised by the volume of spilled oils migrating into the drainage system.

An inspection was made of an auto breaker/repairer. The surface cover of this unit was not protected by concrete, and obvious and widespread staining of the soil was observed. Analysis of the soil sample showed the presence of high concentrations of hydrocarbons, polychlorinated bi-phenyls and metals. This was to be expected, given the use of the site. However, it was apparent that the contamination, visually at least, had not penetrated deeply into the soils, probably because of their density and impermeability. This was the only activity of this nature observed during the assessment and it is considered likely that units undertaking works of a similar nature will have similar levels of contamination. Whilst the contamination does not appear to have migrated far, it still presents a risk to site users through direct contact with the contamination, as well as through the generation of gases and the migration – albeit slowly – of contaminated leachates into the groundwater.

UNEP expert and Palestinian boy in Erez

Map 26. Erez Industrial Estate

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

A fuel filling station was also visited and the results of the analysis confirmed the presence of hydrocarbon contamination in the area observed close to the tanks. The contamination extended to at least a depth of 0.5m and it is highly likely that it extends further. The soil profile was a loose sand, which will not prevent migration. However, the contamination did not appear to cover a large area, suggesting that the spill was localized and of a limited volume. Risks posed are again of an immediate nature - to those accessing the site (dermal contact), as well as through the generation of gases, although it is acknowledged that the risk of gas generation is mitigated to some extent by the exterior location of the contamination.

Soil

Sampling locations

Locations A and B (Sample references 23/SS/A and 23/SS/B)

The power station is located in the northwestern corner of the estate, with the main production plant located in the northern part of the compound closest to the Israeli border. A number of observations were made which are noted on the plan below.

The overall impression of this location was that, although spilled oils were prevalent over much of the area, they had not migrated outside the compound, being of high viscosity. The local subsurface soil environment was protected further by the good impermeability of the surfacing. However, it was not immediately apparent how surface water drainage was collected and directed to its final discharge point, although previous observations from other settlements indicate a preference for using interceptor units. There is little reason to believe that this is not the case here. Given the volume of spilled oils, if an interceptor is present, it is highly likely that the chambers will be filled and the capacity, and functionability, of the interceptor heavily compromised.

Spilled oils on location in Erez Industrial Estate

A compound, on location in Erez, used for breaking down motor vehicles

Location C

This was a small to medium-sized compound of an approximate area of 3,000m^2 used for the breaking of motor vehicles with resulting piles of various engine and body parts. A building covers about half of the compound and it was not possible to view inside. There was no impermeable cover to the ground surface and mobile contaminants could migrate directly into the subsurface. The surface was clearly stained with oils and lubricants.

A soil sample was recovered and the surface geology confirmed as a compact medium to coarse-grained sand with some gravel. The soil became very dense after a depth of 0.1m, which appeared to be limiting the migration of contaminants

Sample 23/SS/C

It should be noted that immediately outside this compound a drain cover was lifted and inspected to assess the presence of contamination, in particular hydrocarbons. The results from the PID confirmed that hydrocarbon vapours were not present above the background concentration of 17.2ppm.

Location D

A petrol station located on the southeastern corner of the estate. This was a large facility and clearly served a number of vehicle types with three conventional car pump islands and two large vehicle pump islands. The former were served by five underground storage tanks (coloured green, grey, red, white and blue) themselves filled through offset pipes. The larger vehicle pumps were serviced from three tanks located to the south of the service area, where hydrocarbon staining and odours were identified covering a small area of about 10m^2 but extending to 0.5m. PID readings of 300ppm were recorded from 0.1m and 190ppm from 0.5m (background readings of 14ppm for both depths).

Sample 23/SS/D

Hydrocarbon staining was also noted over an area of the forecourt close to the five tanks. However, this appeared to be only surface staining and contained by the concrete, which was of high integrity.

There was no indication of any petrol interceptor unit and there was no Arco drainage within the entrance/exit ramps. It is possible that the surface water run-off from the petrol station entered into drainage servicing the whole estate and that a series of interceptors or possibly even a primary treatment unit exists elsewhere in the estate.

A petrol station located on the southeastern corner of Erez

Map 27. Erez Industrial Estate before disengagement

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Results

The contaminants listed in table 14 exceeded their respective soil threshold values.

The overall levels of contamination within the samples recovered from Erez reflect the observations on site. In isolation, each of these represents specific risks to both the environment and human health. However, it is recommended that these risks should not be taken in isolation and that Erez itself should be viewed as a single risk source and that measures be taken to control the current and future operations of the site. Further detailed characterisation of the extent of contamination and risk assessment need to be undertaken prior to initiating clean-up.

Table 14. Erez Industrial Estate – Soil contaminants

Contaminant	Location	Screening Standard	Soil threshold value mg/kg (screening criteria)	Concentration (mg/kg)
Zinc	A	Dutch	350	367
DRO	A	Dutch	5,000	28,111
Zinc	C	Dutch	350	891
Copper	C	Dutch	96	1,257
Cadmium	C	CLEA	1	6
PCBs	C	Dutch	1	1.4
DRO	C	Dutch	5,000	25,309
DRO	D	Dutch	5,000	24,244

Map 28. Erez Industrial Estate after disengagement

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Spilled oil inside cemented isolation structure

Water

Sampling locations

During the field visit two boreholes were identified, but these were completely destroyed and so could not be sampled. Three samples of wastewater were taken.

Location C (23WW1)

Two diesel storage tanks were seen inside the industrial area and leakage was noted inside the cemented isolation structure. A water sample was collected from the cemented tank.

Location D (23WW2)

This was an unknown factory inside which were two subsurface storage tanks, full of stagnant water. These storage tanks are 7m long, 4m wide and 1m deep and they appear to be of good integrity (i.e. not leaking). The water sample was taken from the polluted water based on visual analysis.

Taking a water sample from an industrial unit in Erez

Location E (23WW3)

A sample of product was recovered from the petrol station.

Results

The waste water samples showed the presence of hydrocarbons and co-liforms.

Asbestos

Sample number:	/
Date sampled:	16/12/05
Analysis result:	Assumed Chrysotile (white asbestos)
Location:	GPS not available

Notes:
Asbestos cement has been used in the construction of many building in the Erez industrial estate. Some of the asbestos cement roof sheets are in good condition.

Sample number:	Erez/asb/001
Date sampled:	16/12/05
Analysis result:	Chrysotile (white asbestos)
Location:	31 33 23-37 N 34 32 13-48 E

Notes:
In a number of locations the asbestos sheets had been dropped on to the floor of the buildings.

Sample number: /
Date sampled: 16/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: GPS not available
Notes:
Damaged asbestos cement sheets where still fixed to some of the buildings.

Sample number: /
Date sampled: 16/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: GPS not available
Notes:
Large stock pipes of asbestos cement where noted in one location.

Sample number: /
Date sampled: 16/12/05
Analysis result: Assumed Chrysotile (white asbestos)
Location: GPS not available
Notes:
A significant amount of asbestos cement had been stored in this industrial unit.

Hazardous waste

As discussed on pages 112 to 114, numerous locations within the Erez Industrial Estate gave rise to concerns in respect of hazardous waste. They included the power generation plant, light industry, car repair and breaking, and petrol retail facilities.

However, with the exception of the power generation plant, which had been largely destroyed, the majority of the industrial locations remained in good condition and posed little immediate threat to the environment or groundwater, thanks to the presence of concrete flooring. This was generally found to be in good condition and would limit the migration of any pollutants into surface or groundwater. Where sites lacked concrete flooring, it was found that the relatively low permeability soils had formed a vertical migration barrier, such as within the vehicle workshop and breaker yard. Consequently, contamination of the soil by pollutants such as hydrocarbons was very shallow and is currently localized in nature.

In a number of locations throughout the industrial site, a small number of drums with unidentified contents were found. There was also evidence of localized spillage in the immediate vicinity of the drums. It is recommended to undertake housekeeping measures, such as removal of the drums, clean-up of spilled materials and soils, prior to restarting commercial activities within the Erez Industrial Area.

UNEP assessment team arriving at the Erez Industrial Estate site

Abandoned Erez Industrial Estate complex

Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

2. Existing buildings should be thoroughly inspected for the presence of asbestos and their condition prior to rehabilitating the buildings.

3. The area would benefit from a short-term clean-up of the contaminated sites, including cleaning of the spilled oil, contaminated soils and their proper disposal.

4. Clean-up of soil can be undertaken after further site assessment to determine the extent of the contamination. Risk assessment and identification of a clean-up standard based on the chosen end use of the area should be conducted.

5. The various sources of waste water identified need to be treated and disposed of.

6. In the longer term, a proper environment management plan should be developed for the area, which includes facilities for common effluent treatment, emergency response to oil/chemical spill control and storage and treatment of hazardous materials.

Coastal areas (Sites 13 and 22)

Gaza beaches, Kfar Yam, Tel Katifa

Although the entire coastal strip between the border to Egypt and Tel Katifa was under Israeli control, no settlements were located with immediate contact to the beach. However, in certain places restaurants and resorts had been built on the beach dunes (Kfar Yam, "Gaza Beaches", Tel Katifa). North of Tel Katifa the settlement Netsarim had been established very close to the coast, although most of the housing was located further inland.

All the beaches and coastal areas of Gaza have been affected by human activities to a greater or lesser extent. In general, most parts of the coastline south of Tel Katifa were still in relatively good condition. However, in places where houses and other facilities had been established on the sand dunes between the coastal road and the sea, degradation of the coastal vegetation could be clearly noticed. Also, there appeared to be sand mining on the coastal dunes in many places. To protect against wave erosion, a sea-wall has been constructed by depositing boulders along the upper beach.

The demolition of the houses in Kfar Yam, Tel Katifa, "Gaza Beaches" and to some extent in Netsarim, has further contributed to the destruction of the sensitive dunes and is likely to add to erosion problems.

Recommendations for follow-up action

1. Prior to the handling of the demolition debris final inspection should be undertaken to verify if asbestos debris is present.

2. The entire coastal area of the Gaza Strip would benefit from integrated coastal resources management.

Rubble at Gaza Beaches site

Fishing boats on the beach near Tel Katifa

Conclusions and Follow-up Actions

Sunset on Gaza beach:
In addition to specific follow-up work in the disengaged settlements, UNEP also recommends an integrated coastal management plan for Gaza strip.

Conclusions and follow-up actions

The following general conclusions may be drawn, based on the studies undertaken. In the interest of clarity and accountability, these have been divided into those conclusions relating directly to the disengagement process and those that are longer term in nature and as such not directly related to the disengagement process.

Conclusions and follow-up actions directly related to the disengagement

On the whole, the Israeli residential settlements in Gaza have remained in an environmentally acceptable condition. A brief summary of the observed issues follows below:

- Seven settlements had localized spots of contamination, needing clean-up.
- In twelve settlements and the Erez industrial area, fragments of asbestos debris were identified, needing proper handling.
- Eight of the twenty-one settlements had associated waste dumps/landfills, needing land use restrictions and follow-up action.

Recommendations have been given in the various sections for clean-up and follow-up actions.

The removal and disposal of rubble remains a major activity to be undertaken prior to resettlement in the area. A memorandum of understanding has been signed between the Government of Israel and UNDP to undertake this task. During this project (to remove and dispose of rubble), issues associated with asbestos need to be handled carefully so as not to expose workers to unnecessary harm.

Subject to the implementation of the above recommendations, there are no environmental constraints to Palestinian settlement in the area.

The Erez Industrial Estate showed some additional areas of contamination by hydrocarbons and other chemicals. Prior to initiation of clean-up, this will need to be further assessed to delineate the extent of contamination and degree of clean-up required. Erez also presented additional concerns regarding asbestos. All buildings being refurbished need to be comprehensively inspected and sampled for the presence of asbestos materials prior to undertaking repairs.

Once the contaminated areas have been delineated and asbestos debris cleaned up, the Erez industrial area could be re-occupied for industrial development. Clean-up of the contaminated soil itself is expected to be a longer term task. In this context, it is further recommended that the contaminated soil collected from the various residential settlements is stored in a secured area and treated along with the contaminated soil generated from Erez Industrial Estate.

Strategic decisions need to be made about the use of the former waste disposal sites. Each site needs to be assessed in the context of the specific risk it poses, as well as the overall solid waste management strategy for the Gaza Strip. This may need additional investigations, monitoring (including all underlying acquifers) and risk assessment to decide upon the best option for each site.

In the interim, however, each of the former waste disposal sites should be mapped and the details incorporated in land use maps to restrict building or agricultural activities in the area.

Analyses of groundwater quality did not show contamination above screening levels used. However, in some instances recommendations have been made for repeat sampling when traces of hydrocarbon were observed in the samples.

Follow-up actions not directly related to disengagement

A number of waste management issues result from the disengagement process. These include the disposal of the asbestos debris, handing of

The removal and disposal of rubble remains a major activity to be undertaken prior to resettlement, issues associated with asbestos need to be handled carefully so as not to expose workers to unnecessary harm

contaminated soil, and future plans for the number of landfills. In order to ensure that improvements in the waste management sector are appropriate, affordable and sustainable, a Waste Management Strategy for the Gaza Strip needs to be developed.

Coastal zone management needs to be carried out in an integrated manner throughout the Gaza Strip, covering the areas of coastal construction, effluent disposal areas and dune disturbances.

The information collected during the exercise could be used to develop land use planning maps and to make resource allocation decisions.

Establish a monitoring system for groundwater in the Gaza Strip, including the wells in the disengaged areas.

UNEP is currently preparing an environmental information system integrating all the information collected during this assignment, including satellite image maps. This will be made available to the Palestinian Authority, various UN agencies, donors and other interested organizations.

Appendices

Appendix I
List of acronyms, abbreviations and units

EQA	Environment Quality Authority
UNEP	United Nations Environment Programme
PA	Palestinian Authority
UK	United Kingdom
CFC	Chloro- fluro-carbon
MMMF	man made mineral fibres
UKAS	United Kingdom Accreditation Service
PID	photo ionisation detector
ppm	parts per million
eV/uV	Ultraviolet (lamp strength for the PID)
ISO	International Standards Organisation
MCERTS	Monitoring Certification Scheme
CLEA	Contaminated Land Exposure Assessment
m^3	metres cubed (volume)
m^2	metres squared (area)
m	metres (measurement)
SS	soil sample
Mg/kg	milligrams per kilogramme
PCB	polychlorinated bi-phenyls
VOC	Volatile Organic Compound
GW	groundwater
DO	dissolved oxygen
°F	degrees farenheit
psi	pounds per square inch
ug/L	micro-grammes per litre
uS/cm	micro-siemens per cm
mV	millivolts
na	not applicable
ml	millilitres
DRO	diesel range organics
PRO	petroleum range organics
Mbgl	metres below ground level
FAO	Food and agriculture organisation
ICP MS	Induction Coupled Plasma Mass Spectrometry
CVAAS	Cold-Vapor Atomic Absorption Spectroscopy
HPLC	High Performance Liquid Chromatography
GC-FID	Gas Chromatograph-Flame Ionisation Detector

Appendix II
List of references and internet sources

References

1a. "Desk Study on the Environment in the Occupied Palestinian Territories", UNEP (2003)

1. *Environmental Survey in the Gaza Strip – Status Report* (from Ministry of Defence, State of Israel), 11 September 2005
2. *Results and Recommendations in Initial Environmental Audits on Former Israeli Settlements in the Gaza Strip and West Bank.*, Thorsten Kallnischkies, October 2005
3. European Waste Directory
4. United Kingdom Accreditation Services
5. Health and Safety Executive (UK), HSE Document MDHS 77 - "Asbestos in bulk materials"
6. MCERTS, Environment Agency certification scheme for pollution monitoring equipment
7. Department of Environment, Food and Rural Affairs (UK) 2002. *Assessment of risks to human health from land contamination.* An overview of the development of soil guideline values and related research
8. *Netherlands Government Gazette* 24th February 2000, No 39 English translation. Circular on target values and intervention values for soil remediation.

Internet sources

PID supplier;
www.hnu.com

Landfill gas analyser;
www.geotech.co.uk

Troll water analysers;
www.geotech.co.uk

Soil sampling kit;
www.techtrend.com.hk/agricultural/eijelkamp

Heron interface meter;
www.heroninstruments.com

Disposable bailers;
www.geotech.co.uk

UKAS 2005. United Kingdom Accreditation Service;
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UK 2005. MCERTS monitoring quality certification scheme;
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http://www.environment-agency.gov.uk/subjects/landquality/113813/672771/675330/?version=1&lang=_e

US EPA PCB characteristics
http://www.epa.gov/opptintr/pcb/

HSE UK . Asbestos background information.
http://www.hse.gov.uk/asbestos/

UK health and safety executive
http://www.hse.gov.uk/

Appendix III
Laboratory results

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**1/ASB/ 001**	**1/SS/BC**	**EREZ/ ASB/001**	**2/ASB/ 001**	**2/ASB/ 002**	**2/ASB/ 003**	**2/SS/AC**	**2/SS/BC**	**3/ASB/ 001**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	ASBESTOS	SOIL	ASBESTOS	ASBESTOS	ASBESTOS	ASBESTOS	SOIL	SOIL	ASBESTOS		
Sampled Date		14.12.05					14.12.05	14.12.05			
Sample Received	21.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05	21.12.05		
Batch	2	1	2	2	2	2	1	1	2		
Sample Number(s)	32	1	33	34	35	36	2	3	68		
Arsenic	-	16	-	-	-	-	1	<1	-	TM129#M	<1 mg/kg
Barium	-	240	-	-	-	-	75	76	-	TM129#M	<2 mg/kg
Beryllium	-	<1	-	-	-	-	<1	<1	-	TM129#M	<1 mg/kg
Cadmium	-	<1	-	-	-	-	2	<1	-	TM129#M	<1 mg/kg
Chromium	-	88	-	-	-	-	22	18	-	TM129#M	<1 mg/kg
Copper	-	618	-	-	-	-	72	10	-	TM129#M	<1 mg/kg
Lead	-	155	-	-	-	-	64	7	-	TM129#M	<1 mg/kg
Mercury	-	<1	-	-	-	-	<1	<1	-	TM129#	<1 mg/kg
Molybdenum	-	3	-	-	-	-	5	<1	-	TM129#M	<1 mg/kg
Nickel	-	21	-	-	-	-	10	6	-	TM129#M	<1 mg/kg
Selenium	-	<3	-	-	-	-	<3	<3	-	TM129#M	<3 mg/kg
Zinc	-	900	-	-	-	-	1042	42	-	TM129#M	<1 mg/kg
Hexavalent Chromium	-	0.3	-	-	-	-	-	-	-	TM151#	<0.3 mg/kg
Phenols Total Monohydric	-	<0.05	-	-	-	-	1.51	<0.05	-	TM062#	<0.01 mg/kg
Total Cyanide	-	<1	-	-	-	-	<1	<1	-	TM153#M	<1 mg/kg
Ammoniacal Nitrogen as N	-	-	-	-	-	-	-	-	-	TM024#M	<5.5 mg/kg
Chloride 2:1soil / water extract BRE	-	-	-	-	-	-	-	-	-	TM097#	<0.001 g/l
Exchangeable Ammonium as NH4	-	85.3	-	-	-	-	10.0	28.0	-	TM024#M	<5.5 mg/kg
Miscellaneous Analysis*	-	-	-	-	-	-	-	-	-		
Nitrate 2:1 soil / water extract BRE	-	-	-	-	-	-	-	-	-	TM102#	<0.0003 g/l
pH Value	-	7.83	-	-	-	-	7.12	8.20	-	TM133#M	<1.00 pH Units
Amosite (Brown) Asbestos*	See Attached	-	See Attached	See Attached	See Attached	See Attached	-	-	See Attached	SUB	NONE
Chrysotile (White) Asbestos*	See Attached	-	See Attached	See Attached	See Attached	See Attached	-	-	See Attached	SUB	NONE
Crocidolite (Blue) Asbestos*	See Attached	-	See Attached	See Attached	See Attached	See Attached	-	-	See Attached	SUB	NONE
Man-made Mineral Fibre*	See Attached	-	See Attached	See Attached	See Attached	See Attached	-	-	See Attached	SUB	NONE
Organic Fibre*	See Attached	-	See Attached	See Attached	See Attached	See Attached	-	-	See Attached	SUB	NONE
EPH (DRO) (C10-C40)	-	800	-	-	-	-	87888	10284	-	TM061#M	<1 mg/kg
Mineral Oil	-	433	-	-	-	-	45234	7039	-	TM061#	<1 mg/kg
EPH C10-16	-	29	-	-	-	-	24727	3096	-	TM061#	<1 mg/kg
EPH >C16-24	-	279	-	-	-	-	56371	6425	-	TM061#	<1 mg/kg
EPH >C24-40	-	492	-	-	-	-	6790	764	-	TM061#	<1 mg/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	1/ASB/ 001	1/SS/BC	EREZ/ ASB/001	2/ASB/ 001	2/ASB/ 002	2/ASB/ 003	2/SS/AC	2/SS/BC	3/ASB/ 001	Method Code	LoD / Units
Depth (m)											
Sample Type	ASBESTOS	SOIL	ASBESTOS	ASBESTOS	ASBESTOS	ASBESTOS	SOIL	SOIL	ASBESTOS		
Sampled Date		14.12.05					14.12.05	14.12.05			
Sample Received	21.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05	21.12.05		
Batch	2	1	2	2	2	2	1	1	2		
Sample Number(s)	32	1	33	34	35	36	2	3	68		
GRO (C4-C10)	-	<10	-	-	-	-	657	489	-	TM089#M	<10 ug/kg
GRO (C10-C12)	-	<10	-	-	-	-	3154	6138	-	TM089#M	<10 ug/kg
Benzene	-	<10	-	-	-	-	<10	<10	-	TM089#M	<10 ug/kg
Toluene	-	<10	-	-	-	-	<10	<10	-	TM089#M	<10 ug/kg
Ethyl benzene	-	<10	-	-	-	-	<10	<10	-	TM089#M	<10 ug/kg
m & p Xylene	-	<10	-	-	-	-	<10	<10	-	TM089#M	<10 ug/kg
o Xylene	-	<10	-	-	-	-	<10	<10	-	TM089#M	<10 ug/kg
MTBE	-	<10	-	-	-	-	<10	<10	-	TM089#	<10 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**1/ASB/ 001**	**1/SS/BC**	**EREZ/ ASB/001**	**2/ASB/ 001**	**2/ASB/ 002**	**2/ASB/ 003**	**2/SS/AC**	**2/SS/BC**	**3/ASB/ 001**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	**ASBESTOS**	**SOIL**	**ASBESTOS**	**ASBESTOS**	**ASBESTOS**	**ASBESTOS**	**SOIL**	**SOIL**	**ASBESTOS**		
Sampled Date		14.12.05					14.12.05	14.12.05			
Sample Received	21.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05	21.12.05		
Batch	2	1	2	2	2	2	1	1	2		
Sample Number(s)	32	1	33	34	35	36	2	3	68		
PAH by GCMS											
Naphthalene	-	113	-	-	-	-	870	57	-	TM074#	<10 ug/kg
Acenaphthylene	-	7	-	-	-	-	3434	39	-	TM074#M	<5 ug/kg
Acenaphthene	-	18	-	-	-	-	3907	398	-	TM074#M	<14 ug/kg
Fluorene	-	<12	-	-	-	-	5029	257	-	TM074#M	<12 ug/kg
Phenanthrene	-	173	-	-	-	-	11603	258	-	TM074#M	<21 ug/kg
Anthracene	-	<9	-	-	-	-	2994	124	-	TM074#M	<9 ug/kg
Fluoranthene	-	94	-	-	-	-	4410	130	-	TM074#M	<25 ug/kg
Pyrene	-	75	-	-	-	-	4163	283	-	TM074#M	<22 ug/kg
Benz(a)anthracene	-	43	-	-	-	-	1361	29	-	TM074#M	<12 ug/kg
Chrysene	-	169	-	-	-	-	897	117	-	TM074#M	<10 ug/kg
Benzo(b) fluoranthene	-	43	-	-	-	-	171	<16	-	TM074#M	<16 ug/kg
Benzo(k) fluoranthene	-	<25	-	-	-	-	108	<25	-	TM074#M	<25 ug/kg
Benzo(a)pyrene	-	14	-	-	-	-	66	17	-	TM074#M	<12 ug/kg
Indeno(123cd) pyrene	-	14	-	-	-	-	42	<11	-	TM074#M	<11 ug/kg
Dibenzo(ah) anthracene	-	<8	-	-	-	-	32	<8	-	TM074#M	<8 ug/kg
Benzo(ghi) perylene	-	19	-	-	-	-	63	14	-	TM074#M	<10 ug/kg
PAH 16 Total	-	782	-	-	-	-	39150	1723	-	TM074#	<25 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	1/ASB/ 001	1/SS/BC	EREZ/ ASB/001	2/ASB/ 001	2/ASB/ 002	2/ASB/ 003	2/SS/AC	2/SS/BC	3/ASB/ 001	Method Code	LoD / Units
Depth (m)											
Sample Type	ASBESTOS	SOIL	ASBESTOS	ASBESTOS	ASBESTOS	ASBESTOS	SOIL	SOIL	ASBESTOS		
Sampled Date		14.12.05					14.12.05	14.12.05			
Sample Received	21.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05	21.12.05		
Batch	2	1	2	2	2	2	1	1	2		
Sample Number(s)	32	1	33	34	35	36	2	3	68		
PCBs (vs Aroclor 1254)	-	-	-	-	-	-	<2000	-	-	TM070#M	<20 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**3/HAZ WASTE**	**3/SS/AC**	**5/ASB/ 001**	**5/SS/AC**	**6/ASB/ 001**	**7/HAZ WASTE**	**7/SS/AC**	**8/ASB/ 001**	**8/SS/AA**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	SOIL	SOIL	ASBESTOS	SOIL	ASBESTOS	SOIL	SOIL	ASBESTOS	SOIL		
Sampled Date	14.12.05	14.12.05		14.12.05		14.12.05	14.12.05				
Sample Received	20.12.05	20.12.05	21.12.05	20.12.05	21.12.05	20.12.05	20.12.05	21.12.05	21.12.05		
Batch	1	1	2	1	2	1	1	2	2		
Sample Number(s)	5	4	37	6	38	8	7	39	40		
Arsenic	<1	<1	-	<1	-	18	<1	-	<1	TM129#M	<1 mg/kg
Barium	18	26	-	29	-	175	66	-	36	TM129#M	<2 mg/kg
Beryllium	<1	<1	-	<1	-	<1	<1	-	<1	TM129#M	<1 mg/kg
Cadmium	<1	<1	-	<1	-	<1	<1	-	<1	TM129#M	<1 mg/kg
Chromium	4	22	-	15	-	45	15	-	5	TM129#M	<1 mg/kg
Copper	2	6	-	5	-	42	72	-	2	TM129#M	<1 mg/kg
Lead	2	3	-	2	-	28	4	-	3	TM129#M	<1 mg/kg
Mercury	<1	<1	-	<1	-	<1	<1	-	<1	TM129#	<1 mg/kg
Molybdenum	<1	<1	-	<1	-	3	1	-	2	TM129#M	<1 mg/kg
Nickel	<1	3	-	2	-	22	4	-	6	TM129#M	<1 mg/kg
Selenium	<3	<3	-	<3	-	<3	<3	-	<3	TM129#M	<3 mg/kg
Zinc	6	123	-	12	-	109	115	-	13	TM129#M	<1 mg/kg
Hexavalent Chromium	-	-	-	-	-	NDP	-	-	-	TM151#	<0.3 mg/kg
Phenols Total Monohydric	<0.05	0.33	-	<0.05	-	NDP	<0.05	-	-	TM062#	<0.01 mg/kg
Total Cyanide	<1	<1	-	<1	-	NDP	<1	-	<1	TM153#M	<1 mg/kg
Ammoniacal Nitrogen as N	-	-	-	-	-	-	-	-	-	TM024#M	<5.5 mg/kg
Chloride 2:1soil / water extract BRE	-	-	-	-	-	-	-	-	-	TM097#	<0.001 g/l
Exchangeable Ammonium as NH4	23.2	<5.5	-	<5.5	-	67.4	6.2	-	-	TM024#M	<5.5 mg/kg
Miscellaneous Analysis*	-	-	-	-	-	-	-	-	-		
Nitrate 2:1 soil / water extract BRE	-	-	-	-	-	-	-	-	-	TM102#	<0.0003 g/l
pH Value	13.27	8.50	-	8.82	-	8.05	9.67	-	8.01	TM133#M	<1.00 pH Units
Amosite (Brown) Asbestos*	-	-	See Attached	-	See Attached	-	-	See Attached	-	SUB	NONE
Chrysotile (White) Asbestos*	-	-	See Attached	-	See Attached	-	-	See Attached	-	SUB	NONE
Crocidolite (Blue) Asbestos*	-	-	See Attached	-	See Attached	-	-	See Attached	-	SUB	NONE
Man-made Mineral Fibre*	-	-	See Attached	-	See Attached	-	-	See Attached	-	SUB	NONE
Organic Fibre*	-	-	See Attached	-	See Attached	-	-	See Attached	-	SUB	NONE
EPH (DRO) (C10-C40)	-	957	-	67	-	-	28	-	31	TM061#M	<1 mg/kg
Mineral Oil	-	104	-	36	-	-	25	-	-	TM061#	<1 mg/kg
EPH C10-16	-	17	-	20	-	-	6	-	-	TM061#	<1 mg/kg
EPH >C16-24	-	150	-	30	-	-	7	-	-	TM061#	<1 mg/kg
EPH >C24-40	-	790	-	17	-	-	15	-	-	TM061#	<1 mg/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	3/HAZ WASTE	3/SS/AC	5/ASB/ 001	5/SS/AC	6/ASB/ 001	7/HAZ WASTE	7/SS/AC	8/ASB/ 001	8/SS/AA	Method Code	LoD / Units
Depth (m)											
Sample Type	SOIL	SOIL	ASBESTOS	SOIL	ASBESTOS	SOIL	SOIL	ASBESTOS	SOIL		
Sampled Date	14.12.05	14.12.05		14.12.05		14.12.05	14.12.05				
Sample Received	20.12.05	20.12.05	21.12.05	20.12.05	21.12.05	20.12.05	20.12.05	21.12.05	21.12.05		
Batch	1	1	2	1	2	1	1	2	2		
Sample Number(s)	5	4	37	6	38	8	7	39	40		
GRO (C4-C10)	-	<10	-	<10	-	-	<10	-	-	TM089#M	<10 ug/kg
GRO (C10-C12)	-	<10	-	<10	-	-	<10	-	-	TM089#M	<10 ug/kg
Benzene	-	<10	-	<10	-	-	<10	-	-	TM089#M	<10 ug/kg
Toluene	-	<10	-	<10	-	-	<10	-	-	TM089#M	<10 ug/kg
Ethyl benzene	-	<10	-	<10	-	-	<10	-	-	TM089#M	<10 ug/kg
m & p Xylene	-	<10	-	<10	-	-	<10	-	-	TM089#M	<10 ug/kg
o Xylene	-	<10	-	<10	-	-	<10	-	-	TM089#M	<10 ug/kg
MTBE	-	<10	-	<10	-	-	<10	-	-	TM089#	<10 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**3/HAZ WASTE**	**3/SS/AC**	**5/ASB/ 001**	**5/SS/AC**	**6/ASB/ 001**	**7/HAZ WASTE**	**7/SS/AC**	**8/ASB/ 001**	**8/SS/AA**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	SOIL	SOIL	ASBESTOS	SOIL	ASBESTOS	SOIL	SOIL	ASBESTOS	SOIL		
Sampled Date	14.12.05	14.12.05		14.12.05		14.12.05	14.12.05				
Sample Received	20.12.05	20.12.05	21.12.05	20.12.05	21.12.05	20.12.05	20.12.05	21.12.05	21.12.05		
Batch	1	1	2	1	2	1	1	2	2		
Sample Number(s)	5	4	37	6	38	8	7	39	40		
PAH by GCMS											
Naphthalene	-	13	-	13	-	-	14	-	-	TM074#	<10 ug/kg
Acenaphthylene	-	<5	-	<5	-	-	<5	-	-	TM074#M	<5 ug/kg
Acenaphthene	-	<14	-	<14	-	-	<14	-	-	TM074#M	<14 ug/kg
Fluorene	-	<12	-	<12	-	-	<12	-	-	TM074#M	<12 ug/kg
Phenanthrene	-	38	-	94	-	-	<21	-	-	TM074#M	<21 ug/kg
Anthracene	-	<9	-	<9	-	-	<9	-	-	TM074#M	<9 ug/kg
Fluoranthene	-	<25	-	57	-	-	<25	-	-	TM074#M	<25 ug/kg
Pyrene	-	23	-	40	-	-	<22	-	-	TM074#M	<22 ug/kg
Benz(a)anthracene	-	28	-	28	-	-	21	-	-	TM074#M	<12 ug/kg
Chrysene	-	15	-	35	-	-	25	-	-	TM074#M	<10 ug/kg
Benzo(b) fluoranthene	-	<16	-	<16	-	-	<16	-	-	TM074#M	<16 ug/kg
Benzo(k) fluoranthene	-	<25	-	<25	-	-	<25	-	-	TM074#M	<25 ug/kg
Benzo(a)pyrene	-	23	-	16	-	-	<12	-	-	TM074#M	<12 ug/kg
Indeno(123cd) pyrene	-	16	-	13	-	-	<11	-	-	TM074#M	<11 ug/kg
Dibenzo(ah) anthracene	-	18	-	<8	-	-	<8	-	-	TM074#M	<8 ug/kg
Benzo(ghi) perylene	-	14	-	17	-	-	<10	-	-	TM074#M	<10 ug/kg
PAH 16 Total	-	188	-	313	-	-	60	-	-	TM074#	<25 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	3/HAZ WASTE	3/SS/AC	5/ASB/ 001	5/SS/AC	6/ASB/ 001	7/HAZ WASTE	7/SS/AC	8/ASB/ 001	8/SS/AA	Method Code	LoD / Units
Depth (m)											
Sample Type	SOIL	SOIL	ASBESTOS	SOIL	ASBESTOS	SOIL	SOIL	ASBESTOS	SOIL		
Sampled Date	14.12.05	14.12.05		14.12.05		14.12.05	14.12.05				
Sample Received	20.12.05	20.12.05	21.12.05	20.12.05	21.12.05	20.12.05	20.12.05	21.12.05	21.12.05		
Batch	1	1	2	1	2	1	1	2	2		
Sample Number(s)	5	4	37	6	38	8	7	39	40		
OCP											
Tecnazene	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Trifluralin	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Alpha-BHC (Lindane)	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Hexachloro-benzene	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Beta-BHC (Lindane)	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Gamma-BHC (Lindane)	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Quintozene (PCNB)	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Triallate	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Chlorothalonil	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Heptachlor	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Aldrin	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Triadimefon	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Telodrin	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Isodrin	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Pendimethalin	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Heptachlor Epoxide	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
trans-Chlordane	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
o,p'-DDE	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Endosulphan I	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
cis-Chlordane	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
p,p'-DDE	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Dieldrin	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
p,p'-TDE(DDD)	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Endrin	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Endosulphan II	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
o,p'-TDE(DDD)	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
o,p'-DDT	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
p,p'-DDT	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Endosulphan sulphate	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
o,p'-Methoxychlor	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**3/HAZ WASTE**	**3/SS/AC**	**5/ASB/ 001**	**5/SS/AC**	**6/ASB/ 001**	**7/HAZ WASTE**	**7/SS/AC**	**8/ASB/ 001**	**8/SS/AA**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	SOIL	SOIL	ASBESTOS	SOIL	ASBESTOS	SOIL	SOIL	ASBESTOS	SOIL		
Sampled Date	14.12.05	14.12.05		14.12.05		14.12.05	14.12.05				
Sample Received	20.12.05	20.12.05	21.12.05	20.12.05	21.12.05	20.12.05	20.12.05	21.12.05	21.12.05		
Batch	1	1	2	1	2	1	1	2	2		
Sample Number(s)	5	4	37	6	38	8	7	39	40		
OCP (cont.)											
p,p'-Methoxychlor	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Permethrin I	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg
Permethrin II	<1	-	-	-	-	-	-	-	-	TM144	<1 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	9/ASB/ 001	9/HAZ-WASTE	9/SS/AA	9/SS/BA	9/SS/CA	10/ASB/ 001	10/ASB/ 002	10/SS/AA	11/ASB/ 001	Method Code	LoD / Units
Depth (m)											
Sample Type	ASBESTOS	SOIL	SOIL	SOIL	SOIL	ASBESTOS	ASBESTOS	SOIL	ASBESTOS		
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	41	42	31	62	43	44	45	46	47		
Arsenic	-	<1	<1	<1	4	-	-	<1	-	TM129#M	<1 mg/kg
Barium	-	74	44	31	78	-	-	34	-	TM129#M	<2 mg/kg
Beryllium	-	<1	<1	<1	<1	-	-	<1	-	TM129#M	<1 mg/kg
Cadmium	-	<1	<1	<1	<1	-	-	<1	-	TM129#M	<1 mg/kg
Chromium	-	17	28	7	36	-	-	4	-	TM129#M	<1 mg/kg
Copper	-	26	21	3	156	-	-	6	-	TM129#M	<1 mg/kg
Lead	-	<1	5	2	2	-	-	2	-	TM129#M	<1 mg/kg
Mercury	-	<1	<1	<1	<1	-	-	<1	-	TM129#	<1 mg/kg
Molybdenum	-	1	71	<1	1	-	-	<1	-	TM129#M	<1 mg/kg
Nickel	-	5	156	14	9	-	-	2	-	TM129#M	<1 mg/kg
Selenium	-	<3	<3	<3	<3	-	-	<3	-	TM129#M	<3 mg/kg
Zinc	-	37	86	75	85	-	-	201	-	TM129#M	<1 mg/kg
Hexavalent Chromium	-	-	1.1	-	<0.3	-	-	-	-	TM151#	<0.3 mg/kg
Phenols Total Monohydric	-	-	-	-	-	-	-	-	-	TM062#	<0.01 mg/kg
Total Cyanide	-	<1	<1	<1	<1	-	-	<1	-	TM153#M	<1 mg/kg
Ammoniacal Nitrogen as N	-	10.9	-	-	-	-	-	-	-	TM024#M	<5.5 mg/kg
Chloride 2:1soil / water extract BRE	-	-	0.056	-	-	-	-	-	-	TM097#	<0.001 g/l
Exchangeable Ammonium as NH4	-	-	-	-	-	-	-	-	-	TM024#M	<5.5 mg/kg
Miscellaneous Analysis*	-	-	-	-	-	-	-	-	-		
Nitrate 2:1 soil / water extract BRE	-	-	0.0022	-	-	-	-	-	-	TM102#	<0.0003 g/l
pH Value	-	7.82	3.68	7.77	10.40	-	-	8.06	-	TM133#M	<1.00 pH Units
Amosite (Brown) Asbestos*	See Attached	-	-	-	-	See Attached	See Attached	-	See Attached	SUB	NONE
Chrysotile (White) Asbestos*	See Attached	-	-	-	-	See Attached	See Attached	-	See Attached	SUB	NONE
Crocidolite (Blue) Asbestos*	See Attached	-	-	-	-	See Attached	See Attached	-	See Attached	SUB	NONE
Man-made Mineral Fibre*	See Attached	-	-	-	-	See Attached	See Attached	-	See Attached	SUB	NONE
Organic Fibre*	See Attached	-	-	-	-	See Attached	See Attached	-	See Attached	SUB	NONE
EPH (DRO) (C10-C40)	-	-	65	12336	989	-	-	964	-	TM061#M	<1 mg/kg
Mineral Oil	-	-	-	-	-	-	-	-	-	TM061#	<1 mg/kg
EPH C10-16	-	-	-	-	-	-	-	-	-	TM061#	<1 mg/kg
EPH >C16-24	-	-	-	-	-	-	-	-	-	TM061#	<1 mg/kg
EPH >C24-40	-	-	-	-	-	-	-	-	-	TM061#	<1 mg/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**9/ASB/ 001**	**9/HAZ-WASTE**	**9/SS/AA**	**9/SS/BA**	**9/SS/CA**	**10/ASB/ 001**	**10/ASB/ 002**	**10/SS/AA**	**11/ASB/ 001**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	**ASBESTOS**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**ASBESTOS**	**ASBESTOS**	**SOIL**	**ASBESTOS**		
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	41	42	31	62	43	44	45	46	47		
GRO (C4-C10)	-	-	-	-	-	-	-	<10	-	TM089#M	<10 ug/kg
GRO (C10-C12)	-	-	-	-	-	-	-	<10	-	TM089#M	<10 ug/kg
Benzene	-	-	-	-	-	-	-	<10	-	TM089#M	<10 ug/kg
Toluene	-	-	-	-	-	-	-	<10	-	TM089#M	<10 ug/kg
Ethyl benzene	-	-	-	-	-	-	-	<10	-	TM089#M	<10 ug/kg
m & p Xylene	-	-	-	-	-	-	-	<10	-	TM089#M	<10 ug/kg
o Xylene	-	-	-	-	-	-	-	<10	-	TM089#M	<10 ug/kg
MTBE	-	-	-	-	-	-	-	<10	-	TM089#	<10 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	9/ASB/ 001	9/HAZ-WASTE	9/SS/AA	9/SS/BA	9/SS/CA	10/ASB/ 001	10/ASB/ 002	10/SS/AA	11/ASB/ 001	Method Code	LoD / Units
Depth (m)											
Sample Type	ASBESTOS	SOIL	SOIL	SOIL	SOIL	ASBESTOS	ASBESTOS	SOIL	ASBESTOS		
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	41	42	31	62	43	44	45	46	47		
OCP											
Tecnazene	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Trifluralin	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Alpha-BHC (Lindane)	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Hexachloro-benzene	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Beta-BHC (Lindane)	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Gamma-BHC (Lindane)	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Quintozene (PCNB)	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Triallate	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Chlorothalonil	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Heptachlor	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Aldrin	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Triadimefon	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Telodrin	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Isodrin	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Pendimethalin	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Heptachlor Epoxide	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
trans-Chlordane	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
o,p'-DDE	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Endosulphan I	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
cis-Chlordane	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
p,p'-DDE	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Dieldrin	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
p,p'-TDE(DDD)	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Endrin	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Endosulphan II	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
o,p'-TDE(DDD)	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
o,p'-DDT	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
p,p'-DDT	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Endosulphan sulphate	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
o,p'-Methoxychlor	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**9/ASB/ 001**	**9/HAZ-WASTE**	**9/SS/AA**	**9/SS/BA**	**9/SS/CA**	**10/ASB/ 001**	**10/ASB/ 002**	**10/SS/AA**	**11/ASB/ 001**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	ASBESTOS	SOIL	SOIL	SOIL	SOIL	ASBESTOS	ASBESTOS	SOIL	ASBESTOS		
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	41	42	31	62	43	44	45	46	47		
OCP (cont.)											
p,p'-Methoxychlor	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Permethrin I	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg
Permethrin II	-	-	-	-	<1	-	-	-	-	TM144	<1 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	9/ASB/ 001	9/HAZ-WASTE	9/SS/AA	9/SS/BA	9/SS/CA	10/ASB/ 001	10/ASB/ 002	10/SS/AA	11/ASB/ 001	Method Code	LoD / Units
Depth (m)											
Sample Type	ASBESTOS	SOIL	SOIL	SOIL	SOIL	ASBESTOS	ASBESTOS	SOIL	ASBESTOS		
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	41	42	31	62	43	44	45	46	47		
2,3,7,8 TCDD	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,7,8 PeCDD	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,4,7,8 HxCDD	-	-	See Attached	-	-	-	-	-	-		pg/g fat
1,2,3,6,7,8 HxCDD	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,7,8,9 HxCDD	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,4,6,7,8 HpCDD	-	-	See Attached	-	-	-	-	-	-		ng/kg
OCDD	-	-	See Attached	-	-	-	-	-	-		ng/kg
2,3,7,8, TCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,7,8 PeCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
2,3,4,7,8 PeCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,4,7,8 HxCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,6,7,8 HxCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,7,8,9 HxCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
2,3,4,6,7,8 HxCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,4,6,7,8 HpCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
1,2,3,4,7,8,9 HpCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
OCDF	-	-	See Attached	-	-	-	-	-	-		ng/kg
TCDD I-TEQ Lower Bound	-	-	See Attached	-	-	-	-	-	-		ng/kg
TCDD I-TEQ Upper Bound	-	-	See Attached	-	-	-	-	-	-		ng/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**12/ASB/ 001**	**14/ASB/ 001**	**14/LFILL/ AA**	**14/LFILL/ BA**	**14/LFILL/ CA**	**15/ASB/ 001**	**15/ASB/ 002**	**15/ASB/ 003**	**15/ASB/ 004**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	**ASBESTOS**	**ASBESTOS**	**SOIL**	**SOIL**	**SOIL**	**ASBESTOS**	**ASBESTOS**	**ASBESTOS**	**ASBESTOS**		
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	2	2	2	2	2	2	2	2		
Sample Number(s)	48	50	51	52	53	54	55	56	57		
Arsenic	-	-	NDP	2	2	-	-	-	-	TM129#M	<1 mg/kg
Barium	-	-	NDP	41	43	-	-	-	-	TM129#M	<2 mg/kg
Beryllium	-	-	NDP	<1	<1	-	-	-	-	TM129#M	<1 mg/kg
Cadmium	-	-	NDP	<1	<1	-	-	-	-	TM129#M	<1 mg/kg
Chromium	-	-	NDP	11	10	-	-	-	-	TM129#M	<1 mg/kg
Copper	-	-	NDP	16	13	-	-	-	-	TM129#M	<1 mg/kg
Lead	-	-	NDP	2	4	-	-	-	-	TM129#M	<1 mg/kg
Mercury	-	-	NDP	<1	<1	-	-	-	-	TM129#	<1 mg/kg
Molybdenum	-	-	NDP	<1	<1	-	-	-	-	TM129#M	<1 mg/kg
Nickel	-	-	NDP	4	5	-	-	-	-	TM129#M	<1 mg/kg
Selenium	-	-	NDP	<3	<3	-	-	-	-	TM129#M	<3 mg/kg
Zinc	-	-	NDP	76	66	-	-	-	-	TM129#M	<1 mg/kg
Hexavalent Chromium	-	-	-	-	-	-	-	-	-	TM151#	<0.3 mg/kg
Phenols Total Monohydric	-	-	-	-	-	-	-	-	-	TM062#	<0.01 mg/kg
Total Cyanide	-	-	NDP	<1	<1	-	-	-	-	TM153#M	<1 mg/kg
Ammoniacal Nitrogen as N	-	-	NDP	125.3	145.7	-	-	-	-	TM024#M	<5.5 mg/kg
Chloride 2:1soil / water extract BRE	-	-	-	-	-	-	-	-	-	TM097#	<0.001 g/l
Exchangeable Ammonium as NH4	-	-	-	-	-	-	-	-	-	TM024#M	<5.5 mg/kg
Miscellaneous Analysis*	-	-	NDP	See Attached	See Attached	-	-	-	-		
Nitrate 2:1 soil / water extract BRE	-	-	-	-	-	-	-	-	-	TM102#	<0.0003 g/l
pH Value	-	-	NDP	9.14	9.42	-	-	-	-	TM133#M	<1.00 pH Units
Amosite (Brown) Asbestos*	See Attached	See Attached	-	-	-	See Attached	See Attached	See Attached	See Attached	SUB	NONE
Chrysotile (White) Asbestos*	See Attached	See Attached	-	-	-	See Attached	See Attached	See Attached	See Attached	SUB	NONE
Crocidolite (Blue) Asbestos*	See Attached	See Attached	-	-	-	See Attached	See Attached	See Attached	See Attached	SUB	NONE
Man-made Mineral Fibre*	See Attached	See Attached	-	-	-	See Attached	See Attached	See Attached	See Attached	SUB	NONE
Organic Fibre*	See Attached	See Attached	-	-	-	See Attached	See Attached	See Attached	See Attached	SUB	NONE
EPH (DRO) (C10-C40)	-	-	-	-	-	-	-	-	-	TM061#M	<1 mg/kg
Mineral Oil	-	-	-	-	-	-	-	-	-	TM061#	<1 mg/kg
EPH C10-16	-	-	-	-	-	-	-	-	-	TM061#	<1 mg/kg
EPH >C16-24	-	-	-	-	-	-	-	-	-	TM061#	<1 mg/kg
EPH >C24-40	-	-	-	-	-	-	-	-	-	TM061#	<1 mg/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	15/ASB/ 005	15/SS/AC	15/SS/BC	15/SS/CC	15/SS/DC	17/SS/AA	18/ASB/ 001	18/SS/ LFILL/AA	23/SS// CA	Method Code	LoD / Units
Depth (m)											
Sample Type	ASBESTOS	SOIL	SOIL	SOIL	SOIL	SOIL	ASBESTOS	SOIL	SOIL		
Sampled Date		14.12.05	14.12.05	14.12.05	14.12.05						
Sample Received	21.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	1	1	1	1	2	2	2	2		
Sample Number(s)	58	9	10	11	12	59	60	61	49		
Arsenic	-	<1	<1	2	<1	<1	-	2	4	TM129#M	<1 mg/kg
Barium	-	17	29	19	48	74	-	107	175	TM129#M	<2 mg/kg
Beryllium	-	<1	<1	<1	<1	<1	-	<1	<1	TM129#M	<1 mg/kg
Cadmium	-	<1	<1	<1	<1	<1	-	<1	6	TM129#M	<1 mg/kg
Chromium	-	3	18	20	45	18	-	106	28	TM129#M	<1 mg/kg
Copper	-	4	3	4	8	9	-	92	1257	TM129#M	<1 mg/kg
Lead	-	<1	<1	5	2	206	-	39	360	TM129#M	<1 mg/kg
Mercury	-	<1	<1	<1	<1	<1	-	<1	2	TM129#	<1 mg/kg
Molybdenum	-	<1	<1	1	3	<1	-	2	4	TM129#M	<1 mg/kg
Nickel	-	5	3	2	9	12	-	22	11	TM129#M	<1 mg/kg
Selenium	-	<3	<3	<3	<3	<3	-	<3	<3	TM129#M	<3 mg/kg
Zinc	-	28	8	5	35	93	-	181	891	TM129#M	<1 mg/kg
Hexavalent Chromium	-	-	-	-	<0.3	-	-	<1.5	4.5	TM151#	<0.3 mg/kg
Phenols Total Monohydric	-	0.33	<0.05	<0.05	<0.05	-	-	-	-	TM062#	<0.01 mg/kg
Total Cyanide	-	<1	<1	<1	<1	<1	-	<1	<1	TM153#M	<1 mg/kg
Ammoniacal Nitrogen as N	-	-	-	-	-	-	-	18.4	-	TM024#M	<5.5 mg/kg
Chloride 2:1soil/water extract BRE	-	-	-	-	-	-	-	-	-	TM097#	<0.001 g/l
Exchangeable Ammonium as NH4	-	24.0	11.2	60.0	33.3	-	-	-	-	TM024#M	<5.5 mg/kg
Miscellaneous Analysis*	-	-	-	-	-	-	-	-	-		
Nitrate 2:1 soil / water extract BRE	-	-	-	-	-	-	-	-	-	TM102#	<0.0003 g/l
pH Value	-	7.55	7.78	8.44	8.21	8.06	-	8.66	7.53	TM133#M	<1.00 pH Units
Amosite (Brown) Asbestos*	See Attached	-	-	-	-	-	See Attached	-	-	SUB	NONE
Chrysotile (White) Asbestos*	See Attached	-	-	-	-	-	See Attached	-	-	SUB	NONE
Crocidolite (Blue) Asbestos*	See Attached	-	-	-	-	-	See Attached	-	-	SUB	NONE
Man-made Mineral Fibre*	See Attached	-	-	-	-	-	See Attached	-	-	SUB	NONE
Organic Fibre*	See Attached	-	-	-	-	-	See Attached	-	-	SUB	NONE
EPH (DRO) (C10-C40)	-	77602	13326	13	5050	18639	-	103	25309	TM061#M	<1 mg/kg
Mineral Oil	-	21170	8144	29	2410	-	-	-	-	TM061#	<1 mg/kg
EPH C10-16	-	14651	3376	3	472	-	-	-	-	TM061#	<1 mg/kg
EPH >C16-24	-	31503	9001	3	2402	-	-	-	-	TM061#	<1 mg/kg
EPH >C24-40	-	31448	949	7	2176	-	-	-	-	TM061#	<1 mg/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**15/ASB/ 005**	**15/SS/AC**	**15/SS/BC**	**15/SS/CC**	**15/SS/DC**	**17/SS/AA**	**18/ASB/ 001**	**18/SS/ LFILL/AA**	**23/SS// CA**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	ASBESTOS	SOIL	SOIL	SOIL	SOIL	SOIL	ASBESTOS	SOIL	SOIL		
Sampled Date		14.12.05	14.12.05	14.12.05	14.12.05						
Sample Received	21.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	1	1	1	1	2	2	2	2		
Sample Number(s)	58	9	10	11	12	59	60	61	49		
GRO (C4-C10)	-	<10	<10	<10	<10	-	-	-	<10	TM089#M	<10 ug/kg
GRO (C10-C12)	-	490	323	<10	<10	-	-	-	<10	TM089#M	<10 ug/kg
Benzene	-	<10	<10	<10	<10	-	-	-	<10	TM089#M	<10 ug/kg
Toluene	-	<10	<10	<10	<10	-	-	-	<10	TM089#M	<10 ug/kg
Ethyl benzene	-	<10	<10	<10	<10	-	-	-	<10	TM089#M	<10 ug/kg
m & p Xylene	-	<10	<10	<10	<10	-	-	-	<10	TM089#M	<10 ug/kg
o Xylene	-	<10	<10	<10	<10	-	-	-	<10	TM089#M	<10 ug/kg
MTBE	-	<10	<10	<10	<10	-	-	-	<10	TM089#	<10 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	15/ASB/ 005	15/SS/AC	15/SS/BC	15/SS/CC	15/SS/DC	17/SS/AA	18/ASB/ 001	18/SS/ LFILL/AA	23/SS// CA	Method Code	LoD / Units
Depth (m)											
Sample Type	ASBESTOS	SOIL	SOIL	SOIL	SOIL	SOIL	ASBESTOS	SOIL	SOIL		
Sampled Date		14.12.05	14.12.05	14.12.05	14.12.05						
Sample Received	21.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	1	1	1	1	2	2	2	2		
Sample Number(s)	58	9	10	11	12	59	60	61	49		
PAH by GCMS											
Naphthalene	-	39838	11	<10	25	-	-	-	-	TM074#	<10 ug/kg
Acenaphthylene	-	16216	279	<5	69	-	-	-	-	TM074#M	<5 ug/kg
Acenaphthene	-	26522	733	<14	467	-	-	-	-	TM074#M	<14 ug/kg
Fluorene	-	33322	623	<12	350	-	-	-	-	TM074#M	<12 ug/kg
Phenanthrene	-	141396	1595	<21	1359	-	-	-	-	TM074#M	<21 ug/kg
Anthracene	-	21101	66	<9	223	-	-	-	-	TM074#M	<9 ug/kg
Fluoranthene	-	19000	130	<25	508	-	-	-	-	TM074#M	<25 ug/kg
Pyrene	-	50687	515	<22	1458	-	-	-	-	TM074#M	<22 ug/kg
Benz(a)anthracene	-	10008	44	19	426	-	-	-	-	TM074#M	<12 ug/kg
Chrysene	-	27330	116	<10	1105	-	-	-	-	TM074#M	<10 ug/kg
Benzo(b) fluoranthene	-	2760	17	<16	120	-	-	-	-	TM074#M	<16 ug/kg
Benzo(k) fluoranthene	-	1612	<25	<25	67	-	-	-	-	TM074#M	<25 ug/kg
Benzo(a)pyrene	-	8374	40	<12	243	-	-	-	-	TM074#M	<12 ug/kg
Indeno(123cd) pyrene	-	393	14	<11	53	-	-	-	-	TM074#M	<11 ug/kg
Dibenzo(ah) anthracene	-	849	17	<8	98	-	-	-	-	TM074#M	<8 ug/kg
Benzo(ghi) perylene	-	2366	25	<10	109	-	-	-	-	TM074#M	<10 ug/kg
PAH 16 Total	-	401774	4225	<25	6680	-	-	-	-	TM074#	<25 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**15/ASB/ 005**	**15/SS/AC**	**15/SS/BC**	**15/SS/CC**	**15/SS/DC**	**17/SS/AA**	**18/ASB/ 001**	**18/SS/ LFILL/AA**	**23/SS// CA**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	**ASBESTOS**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**ASBESTOS**	**SOIL**	**SOIL**		
Sampled Date		14.12.05	14.12.05	14.12.05	14.12.05						
Sample Received	21.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	1	1	1	1	2	2	2	2		
Sample Number(s)	58	9	10	11	12	59	60	61	49		
OCP											
Tecnazene	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Trifluralin	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Alpha-BHC (Lindane)	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Hexachloro-benzene	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Beta-BHC (Lindane)	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Gamma-BHC (Lindane)	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Quintozene (PCNB)	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Triallate	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Chlorothalonil	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Heptachlor	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Aldrin	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Triadimefon	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Telodrin	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Isodrin	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Pendimethalin	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Heptachlor Epoxide	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
trans-Chlordane	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
o,p'-DDE	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Endosulphan I	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
cis-Chlordane	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
p,p'-DDE	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Dieldrin	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
p,p'-TDE(DDD)	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Endrin	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Endosulphan II	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
o,p'-TDE(DDD)	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
o,p'-DDT	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
p,p'-DDT	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Endosulphan sulphate	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
o,p'-Methoxychlor	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	15/ASB/ 005	15/SS/AC	15/SS/BC	15/SS/CC	15/SS/DC	17/SS/AA	18/ASB/ 001	18/SS/ LFILL/AA	23/SS// CA	Method Code	LoD / Units
Depth (m)											
Sample Type	ASBESTOS	SOIL	SOIL	SOIL	SOIL	SOIL	ASBESTOS	SOIL	SOIL		
Sampled Date		14.12.05	14.12.05	14.12.05	14.12.05						
Sample Received	21.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	1	1	1	1	2	2	2	2		
Sample Number(s)	58	9	10	11	12	59	60	61	49		
OCP (cont.)											
p,p'-Methoxychlor	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Permethrin I	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg
Permethrin II	-	<100	-	-	-	-	-	<1	-	TM144	<1 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**15/ASB/ 005**	**15/SS/AC**	**15/SS/BC**	**15/SS/CC**	**15/SS/DC**	**17/SS/AA**	**18/ASB/ 001**	**18/SS/ LFILL/AA**	**23/SS// CA**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	**ASBESTOS**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**ASBESTOS**	**SOIL**	**SOIL**		
Sampled Date		14.12.05	14.12.05	14.12.05	14.12.05						
Sample Received	21.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	2	1	1	1	1	2	2	2	2		
Sample Number(s)	58	9	10	11	12	59	60	61	49		
PCBs (vs Aroclor 1254)	-	-	-	-	-	-	-	-	1364	TM070#M	<20 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**23/SS/AA**	**23/SS/BA**	**23/SS/DA**	**24/SW/ 3A**	**25/SW/A**					**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL						
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05						
Batch	2	2	2	2	2						
Sample Number(s)	64	65	63	67	66						
Arsenic	<1	1	-	<1	<1					TM129#M	<1 mg/kg
Barium	39	39	-	50	36					TM129#M	<2 mg/kg
Beryllium	<1	<1	-	<1	<1					TM129#M	<1 mg/kg
Cadmium	<1	<1	-	<1	<1					TM129#M	<1 mg/kg
Chromium	13	13	-	4	7					TM129#M	<1 mg/kg
Copper	67	83	-	<1	1					TM129#M	<1 mg/kg
Lead	9	8	-	<1	<1					TM129#M	<1 mg/kg
Mercury	<1	<1	-	<1	<1					TM129#	<1 mg/kg
Molybdenum	<1	<1	-	<1	<1					TM129#M	<1 mg/kg
Nickel	31	15	-	<1	2					TM129#M	<1 mg/kg
Selenium	<3	<3	-	<3	<3					TM129#M	<3 mg/kg
Zinc	367	158	-	5	6					TM129#M	<1 mg/kg
Hexavalent Chromium	-	-	-	-	-					TM151#	<0.3 mg/kg
Phenols Total Monohydric	-	-	-	-	-					TM062#	<0.01 mg/kg
Total Cyanide	<1	<1	-	<1	<1					TM153#M	<1 mg/kg
Ammoniacal Nitrogen as N	-	-	-	-	-					TM024#M	<5.5 mg/kg
Chloride 2:1soil / water extract BRE	-	-	-	-	-					TM097#	<0.001 g/l
Exchangeable Ammonium as NH4	-	-	-	-	-					TM024#M	<5.5 mg/kg
Miscellaneous Analysis*	-	-	-	See Attached	See Attached						
Nitrate 2:1 soil / water extract BRE	-	-	-	-	-					TM102#	<0.0003 g/l
pH Value	8.04	7.90	7.54	-	-					TM133#M	<1.00 pH Units
Amosite (Brown) Asbestos*	-	-	-	-	-					SUB	NONE
Chrysotile (White) Asbestos*	-	-	-	-	-					SUB	NONE
Crocidolite (Blue) Asbestos*	-	-	-	-	-					SUB	NONE
Man-made Mineral Fibre*	-	-	-	-	-					SUB	NONE
Organic Fibre*	-	-	-	-	-					SUB	NONE
EPH (DRO) (C10-C40)	28111	185	24244	-	-					TM061#M	<1 mg/kg
Mineral Oil	-	-	-	-	-					TM061#	<1 mg/kg
EPH C10-16	-	-	-	-	-					TM061#	<1 mg/kg
EPH >C16-24	-	-	-	-	-					TM061#	<1 mg/kg
EPH >C24-40	-	-	-	-	-					TM061#	<1 mg/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**23/SS/AA**	**23/SS/BA**	**23/SS/DA**	**24/SW/ 3A**	**25/SW/A**					**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL						
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05						
Batch	2	2	2	2	2						
Sample Number(s)	64	65	63	67	66						
GRO (C4-C10)	<10	<10	<10	-	-					TM089#M	<10 ug/kg
GRO (C10-C12)	<10	<10	647	-	-					TM089#M	<10 ug/kg
Benzene	<10	<10	<10	-	-					TM089#M	<10 ug/kg
Toluene	<10	<10	<10	-	-					TM089#M	<10 ug/kg
Ethyl benzene	<10	<10	<10	-	-					TM089#M	<10 ug/kg
m & p Xylene	<10	<10	<10	-	-					TM089#M	<10 ug/kg
o Xylene	<10	<10	<10	-	-					TM089#M	<10 ug/kg
MTBE	<10	<10	<10	-	-					TM089#	<10 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	23/SS/AA	23/SS/BA	23/SS/DA	24/SW/ 3A	25/SW/A					Method Code	LoD / Units
Depth (m)											
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL						
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05						
Batch	2	2	2	2	2						
Sample Number(s)	64	65	63	67	66						
OCP											
Tecnazene	-	-	-	<1	<1					TM144	<1 ug/kg
Trifluralin	-	-	-	<1	<1					TM144	<1 ug/kg
Alpha-BHC (Lindane)	-	-	-	<1	<1					TM144	<1 ug/kg
Hexachloro-benzene	-	-	-	<1	<1					TM144	<1 ug/kg
Beta-BHC (Lindane)	-	-	-	<1	<1					TM144	<1 ug/kg
Gamma-BHC (Lindane)	-	-	-	<1	<1					TM144	<1 ug/kg
Quintozene (PCNB)	-	-	-	<1	<1					TM144	<1 ug/kg
Triallate	-	-	-	<1	<1					TM144	<1 ug/kg
Chlorothalonil	-	-	-	<1	<1					TM144	<1 ug/kg
Heptachlor	-	-	-	<1	<1					TM144	<1 ug/kg
Aldrin	-	-	-	<1	<1					TM144	<1 ug/kg
Triadimefon	-	-	-	<1	<1					TM144	<1 ug/kg
Telodrin	-	-	-	<1	<1					TM144	<1 ug/kg
Isodrin	-	-	-	<1	<1					TM144	<1 ug/kg
Pendimethalin	-	-	-	<1	<1					TM144	<1 ug/kg
Heptachlor Epoxide	-	-	-	<1	<1					TM144	<1 ug/kg
trans-Chlordane	-	-	-	<1	<1					TM144	<1 ug/kg
o,p'-DDE	-	-	-	<1	<1					TM144	<1 ug/kg
Endosulphan I	-	-	-	<1	<1					TM144	<1 ug/kg
cis-Chlordane	-	-	-	<1	<1					TM144	<1 ug/kg
p,p'-DDE	-	-	-	<1	<1					TM144	<1 ug/kg
Dieldrin	-	-	-	<1	<1					TM144	<1 ug/kg
p,p'-TDE(DDD)	-	-	-	<1	<1					TM144	<1 ug/kg
Endrin	-	-	-	<1	<1					TM144	<1 ug/kg
Endosulphan II	-	-	-	<1	<1					TM144	<1 ug/kg
o,p'-TDE(DDD)	-	-	-	<1	<1					TM144	<1 ug/kg
o,p'-DDT	-	-	-	<1	<1					TM144	<1 ug/kg
p,p'-DDT	-	-	-	<1	<1					TM144	<1 ug/kg
Endosulphan sulphate	-	-	-	<1	<1					TM144	<1 ug/kg
o,p'-Methoxychlor	-	-	-	<1	<1					TM144	<1 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**23/SS/AA**	**23/SS/BA**	**23/SS/DA**	**24/SW/ 3A**	**25/SW/A**					**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL						
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05						
Batch	2	2	2	2	2						
Sample Number(s)	64	65	63	67	66						
OCP (cont.)											
p,p'-Methoxychlor	-	-	-	<1	<1					TM144	<1 ug/kg
Permethrin I	-	-	-	<1	<1					TM144	<1 ug/kg
Permethrin II	-	-	-	<1	<1					TM144	<1 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **SOLID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	23/SS/AA	23/SS/BA	23/SS/DA	24/SW/ 3A	25/SW/A					Method Code	LoD / Units
Depth (m)											
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL						
Sampled Date											
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05						
Batch	2	2	2	2	2						
Sample Number(s)	64	65	63	67	66						
PCBs (vs Aroclor 1254)	<20	<20	-	-	-					TM070#M	<20 ug/kg

All results expressed on a dry weight basis.

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**SOIL TRIP/A**	**WATER TRIP**	**2GW1**	**2GW2**	**4GW1**	**7WW1**	**8GW1**	**8GW2**	**8GW3**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date								14.12.05	14.12.05		
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05		
Batch	2	2	2	2	2	2	2	1	1		
Sample Number(s)	86	87	88-89	90-91	92-93	94	95-96	13-14	15-16		
Arsenic Dissolved (ICP-MS)	-	-	1	1	2	<1	1	3	3	TM152#	<1 ug/l
Barium Dissolved (ICP-MS)	-	-	252	245	256	34	196	312	203	TM152#	<1 ug/l
Beryllium Dissolved (ICP-MS)	-	-	<1	<1	<1	<1	<1	<1	<1	TM152#	<1 ug/l
Cadmium Dissolved (ICP-MS)	-	-	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	TM152#	<0.4 ug/l
Calcium Dissolved (ICP-MS)	-	-	17960	17040	10130	126600	17000	25270	19180	TM152#	<5 ug/l
Chromium Dissolved (ICP-MS)	-	-	41	30	32	48	32	19	24	TM152#	<1 ug/l
Copper Dissolved (ICP-MS)	-	-	10	<1	<1	2	<1	4	4	TM152#	<1 ug/l
Lead Dissolved (ICP-MS)	-	-	2	1	<1	1	<1	<1	<1	TM152#	<1 ug/l
Magnesium Dissolved (ICP-MS)	-	-	11450	10270	7168	25020	11070	14390	11950	TM152#	<5 ug/l
Molybdenum Dissolved (ICP-MS)	-	-	<1	<1	1	<1	3	<1	4	TM152#	<1 ug/l
Nickel Dissolved (ICP-MS)	-	-	2	3	2	8	2	2	<1	TM152#	<1 ug/l
Selenium Dissolved (ICP-MS)	-	-	<1	<1	<1	<1	<1	4	2	TM152#	<1 ug/l
Zinc Dissolved (ICP-MS)	-	-	19	23	18	25	17	24	8	TM152#	<3 ug/l
Mercury Dissolved (CVAA)	-	-	<0.05	<0.05	<0.05	NDP	<0.05	<0.05	<0.05	TM127#	<0.05 ug/l
Carbonate Alkalinity as CaCO3	-	-	20	10	10	NDP	40	<2	<2	TM043#	<2 mg/l
Bicarbonate Alkalinity as CaCO3	-	-	115	125	140	NDP	95	120	130	TM043#	<2 mg/l
BOD	-	-	<1	<1	<1	<1	<1	<1	<1	TM045#	<1 mg/l
COD	-	-	<10	<10	<10	<10	<10	<10	<10	TM107#	<10 mg/l
Potassium Dissolved	-	-	2.6	2.7	3.5	19.5	2.3	2.1	1.8	TM083#	<0.2 mg/l
Sodium Dissolved	-	-	64.5	58.5	73.5	106.5	72.0	54.8	54.8	TM083#	<0.2 mg/l
Nitrate as NO3	-	-	31.3	47.0	21.6	<0.3	39.3	68.3	36.8	TM102#	<0.3 mg/l
Sulphate (soluble)	-	-	16	15	19	34	23	14	21	TM098#	<3 mg/l
Chloride	-	-	53	45	56	171	57	70	55	TM097#	<1 mg/l
Phosphate (Ortho as PO4)	-	-	<0.08	<0.08	<0.08	13.40	0.09	<0.08	<0.08	TM100#	<0.08 mg/l
Ammoniacal Nitrogen as N	-	-	<0.2	<0.2	0.2	48.9	<0.2	<0.2	<0.2	TM099#	<0.2 mg/l
Silica	-	-	12	12	11	NDP	13	13	12	TM044	<1 mg/l
Phenols Total Monohydric	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	TM062#	<0.01 mg/l
Total Cyanide	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	TM153#	<0.05 mg/l
Miscellaneous Analysis*	-	-	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached		
pH Value	-	-	8.43	8.39	8.44	8.86	8.45	8.40	8.43	TM133#	<1.00 pH Units
Total Nitrogen*	-	-	<10	11	<10	44	<10	12	11		mg/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	SOIL TRIP/A	WATER TRIP	2GW1	2GW2	4GW1	7WW1	8GW1	8GW2	8GW3	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date								14.12.05	14.12.05		
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05		
Batch	2	2	2	2	2	2	2	1	1		
Sample Number(s)	86	87	88-89	90-91	92-93	94	95-96	13-14	15-16		
EPH (DRO) (C10-C40)	-	-	<10	<10	<10	43	<10	49	<10	TM061	<10 ug/l
Mineral Oil	-	-	<10	<10	<10	<10	<10	<10	<10	TM061	<10 ug/l
EPH C10-16	-	-	<10	<10	<10	<10	<10	49	<10	TM061	<10 ug/l
EPH >C16-24	-	-	<10	<10	<10	43	<10	<10	<10	TM061	<10 ug/l
EPH >C24-40	-	-	<10	<10	<10	<10	<10	<10	<10	TM061	<10 ug/l
GRO (C4-C10)	-	-	<10	<10	<10	<10	<10	43	45	TM089#	<10 ug/l
GRO (C10-C12)	-	-	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Benzene	-	-	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Toluene	-	-	<10	<10	<10	<10	<10	21	23	TM089#	<10 ug/l
Ethyl benzene	-	-	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
m & p Xylene	-	-	<10	<10	<10	<10	<10	22	22	TM089#	<10 ug/l
o Xylene	-	-	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
MTBE	-	-	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**SOIL TRIP/A**	**WATER TRIP**	**2GW1**	**2GW2**	**4GW1**	**7WW1**	**8GW1**	**8GW2**	**8GW3**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date								14.12.05	14.12.05		
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05		
Batch	2	2	2	2	2	2	2	1	1		
Sample Number(s)	86	87	88-89	90-91	92-93	94	95-96	13-14	15-16		
PAH by GCMS											
Naphthalene	-	-	160	90	<10	<10	120	5666	335	TM074	<10 ng/l
Acenaphthylene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Acenaphthene	-	-	47	<10	<10	<10	<10	65	<10	TM074	<10 ng/l
Fluorene	-	-	63	<10	<10	<10	<10	42	<10	TM074	<10 ng/l
Phenanthrene	-	-	78	<10	<10	<10	<10	71	<10	TM074	<10 ng/l
Anthracene	-	-	82	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Fluoranthene	-	-	<10	<10	<10	<10	<10	28	<10	TM074	<10 ng/l
Pyrene	-	-	<10	<10	<10	<10	<10	35	<10	TM074	<10 ng/l
Benz(a)anthracene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Chrysene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Benzo(b) fluoranthene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Benzo(k) fluoranthene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Benzo(a)pyrene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Indeno(123cd) pyrene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Dibenzo(ah) anthracene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Benzo(ghi) perylene	-	-	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
PAH 16 Total	-	-	430	90	<10	<10	120	5907	335	TM074	<10 ng/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	SOIL TRIP/A	WATER TRIP	2GW1	2GW2	4GW1	7WW1	8GW1	8GW2	8GW3	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date								14.12.05	14.12.05		
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05		
Batch	2	2	2	2	2	2	2	1	1		
Sample Number(s)	86	87	88-89	90-91	92-93	94	95-96	13-14	15-16		
OCP											
Tecnazene	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Trifluralin	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Alpha-BHC (Lindane)	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Hexachloro-benzene	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Beta-BHC (Lindane)	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Gamma-BHC (Lindane)	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Quintozene (PCNB)	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Triallate	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Chlorothalonil	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Heptachlor	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Aldrin	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Triadimefon	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Telodrin	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Isodrin	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Pendimethalin	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Heptachlor Epoxide	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
trans-Chlordane	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
o,p'-DDE	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Endosulphan I	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
cis-Chlordane	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
p,p'-DDE	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Dieldrin	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
p,p'-TDE (DDD)	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Endrin	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Endosulphan II	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
o,p'-TDE (DDD)	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
o,p'-DDT	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
p,p'-DDT	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Endosulphan sulphate	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
o,p'-Methoxychlor	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**SOIL TRIP/A**	**WATER TRIP**	**2GW1**	**2GW2**	**4GW1**	**7WW1**	**8GW1**	**8GW2**	**8GW3**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date								14.12.05	14.12.05		
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05		
Batch	2	2	2	2	2	2	2	1	1		
Sample Number(s)	86	87	88-89	90-91	92-93	94	95-96	13-14	15-16		
OCP (cont.)											
p,p'-Methoxychlor	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Permethrin I	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Permethrin II	-	-	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	SOIL TRIP/A	WATER TRIP	2GW1	2GW2	4GW1	7WW1	8GW1	8GW2	8GW3	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date								14.12.05	14.12.05		
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05		
Batch	2	2	2	2	2	2	2	1	1		
Sample Number(s)	86	87	88-89	90-91	92-93	94	95-96	13-14	15-16		
Volatile Organic Compounds											
Dichlorodifluoro-methane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Chloromethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Vinyl Chloride	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Bromomethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Chloroethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Trichlorofluoro-methane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
trans-1-2-Dichloro-ethene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Dichloromethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Carbon Disulphide	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Methyl Tertiary Butyl Ether	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
cis-1-2-Dichloro-ethene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Bromochloro-methane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Chloroform	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
2.2-Dichloro-propane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.1.1-Trichloro-ethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.1-Dichloro-propene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Benzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Carbontetra-chloride	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2-Dichloro-propane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Bromodichloro-methane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
cis-1-3-Dichloro-propene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
trans-1-3-Dichloro-propene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.1.2-Trichloro-ethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Toluene	<1	<1	<1	<1	<1	1	<1	-	-	TM116#	<1 ug/l
1.3-Dichloro-propane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**SOIL TRIP/A**	**WATER TRIP**	**2GW1**	**2GW2**	**4GW1**	**7WW1**	**8GW1**	**8GW2**	**8GW3**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date								14.12.05	14.12.05		
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05		
Batch	2	2	2	2	2	2	2	1	1		
Sample Number(s)	86	87	88-89	90-91	92-93	94	95-96	13-14	15-16		
Volatile Organic Compounds (cont.)											
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2-Dibromoethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.1.1.2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
p/m-Xylene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Bromoform	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Styrene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.1.2.2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
o-Xylene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2.3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Isopropylbenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
2-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Propylbenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
4-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2.4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
4-Isopropyltoluene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.3.5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2-Dibromo-3-chloropropane	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2.4-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
Naphthalene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l
1.2.3-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	SOIL TRIP/A	WATER TRIP	2GW1	2GW2	4GW1	7WW1	8GW1	8GW2	8GW3	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date								14.12.05	14.12.05		
Sample Received	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	20.12.05	20.12.05		
Batch	2	2	2	2	2	2	2	1	1		
Sample Number(s)	86	87	88-89	90-91	92-93	94	95-96	13-14	15-16		
Volatile Organic Compounds (cont.)											
Hexachloro-butadiene	<1	<1	<1	<1	<1	<1	<1	-	-	TM116#	<1 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**8GW4**	**8SW1**	**10GW1**	**10GW2**	**10GW3**	**10GW4**	**11GW1**	**12GW1**	**12GW2**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05					
Sample Received	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	1	1	1	1	1	2	2	2		
Sample Number(s)	17-18	19-20	21-22	23-24	25-26	27-28	97-98	99-100	101-102		
Arsenic Dissolved (ICP-MS)	3	3	3	3	3	3	2	1	<1	TM152#	<1 ug/l
Barium Dissolved (ICP-MS)	54	85	263	337	189	126	101	342	1404	TM152#	<1 ug/l
Beryllium Dissolved (ICP-MS)	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM152#	<1 ug/l
Cadmium Dissolved (ICP-MS)	<0.4	<0.4	<0.4	0.5	<0.4	<0.4	<0.4	<0.4	<0.4	TM152#	<0.4 ug/l
Calcium Dissolved (ICP-MS)	93980	33980	28400	57570	31270	18350	170300	34920	162800	TM152#	<5 ug/l
Chromium Dissolved (ICP-MS)	37	12	18	5	21	34	22	33	23	TM152#	<1 ug/l
Copper Dissolved (ICP-MS)	23	2	<1	3	2	<1	2	<1	10	TM152#	<1 ug/l
Lead Dissolved (ICP-MS)	<1	<1	<1	4	<1	<1	1	<1	1	TM152#	<1 ug/l
Magnesium Dissolved (ICP-MS)	42790	12890	16710	39860	12140	13270	64380	26810	65650	TM152#	<5 ug/l
Molybdenum Dissolved (ICP-MS)	6	1	2	<1	<1	5	10	2	<1	TM152#	<1 ug/l
Nickel Dissolved (ICP-MS)	5	3	1	9	1	<1	7	3	7	TM152#	<1 ug/l
Selenium Dissolved (ICP-MS)	6	<1	2	1	3	<1	5	<1	<1	TM152#	<1 ug/l
Zinc Dissolved (ICP-MS)	5	20	10	16	15	12	21	26	20	TM152#	<3 ug/l
Mercury Dissolved (CVAA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NDP	<0.05	<0.05	TM127#	<0.05 ug/l
Carbonate Alkalinity as CaCO3	<2	<2	<2	30	<2	<2	NDP	20	10	TM043#	<2 mg/l
Bicarbonate Alkalinity as CaCO3	165	90	125	375	135	135	NDP	135	120	TM043#	<2 mg/l
BOD	1	3	<1	<1	<1	<1	1	<1	<1	TM045#	<1 mg/l
COD	10	96	<10	<10	<10	<10	23	<10	<10	TM107#	<10 mg/l
Potassium Dissolved	10.4	5.6	2.0	8.4	2.1	2.4	7.1	3.3	9.8	TM083#	<0.2 mg/l
Sodium Dissolved	372.0	102.0	59.3	123.0	46.5	59.3	300.0	49.5	60.0	TM083#	<0.2 mg/l
Nitrate as NO3	31.9	<0.3	63.3	7.5	25.9	23.2	38.7	106.0	91.4	TM102#	<0.3 mg/l
Sulphate (soluble)	367	36	33	40	20	30	259	13	15	TM098#	<3 mg/l
Chloride	531	201	47	118	47	64	730	68	84	TM097#	<1 mg/l
Phosphate (Ortho as PO4)	0.21	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	TM100#	<0.08 mg/l
Ammoniacal Nitrogen as N	<0.2	0.3	<0.2	1.0	<0.2	<0.2	<0.2	<0.2	<0.2	TM099#	<0.2 mg/l
Silica	15	1	12	20	13	14	NDP	18	16	TM044	<1 mg/l
Phenols Total Monohydric	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	TM062#	<0.01 mg/l
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	TM153#	<0.05 mg/l
Miscellaneous Analysis*	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached		
pH Value	8.46	8.15	8.43	8.54	8.46	8.46	8.40	8.50	8.36	TM133#	<1.00 pH Units
Total Nitrogen*	<10	<10	12	<10	<10	<10	18	22	21		mg/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**8GW4**	**8SW1**	**10GW1**	**10GW2**	**10GW3**	**10GW4**	**11GW1**	**12GW1**	**12GW2**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05					
Sample Received	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	1	1	1	1	1	2	2	2		
Sample Number(s)	17-18	19-20	21-22	23-24	25-26	27-28	97-98	99-100	101-102		
EPH (DRO) (C10-C40)	456	<10	1226	<10	<10	786	<10	<10	<10	TM061	<10 ug/l
Mineral Oil	231	<10	520	<10	<10	100	<10	<10	<10	TM061	<10 ug/l
EPH C10-16	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM061	<10 ug/l
EPH >C16-24	182	<10	448	<10	<10	338	<10	<10	<10	TM061	<10 ug/l
EPH >C24-40	274	<10	778	<10	<10	448	<10	<10	<10	TM061	<10 ug/l
GRO (C4-C10)	38	<10	<10	33	<10	<10	<10	<10	<10	TM089#	<10 ug/l
GRO (C10-C12)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Toluene	19	<10	<10	14	<10	<10	<10	<10	<10	TM089#	<10 ug/l
Ethyl benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
m & p Xylene	19	<10	<10	19	<10	<10	<10	<10	<10	TM089#	<10 ug/l
o Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l
MTBE	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**8GW4**	**8SW1**	**10GW1**	**10GW2**	**10GW3**	**10GW4**	**11GW1**	**12GW1**	**12GW2**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05					
Sample Received	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	1	1	1	1	1	2	2	2		
Sample Number(s)	17-18	19-20	21-22	23-24	25-26	27-28	97-98	99-100	101-102		
PAH by GCMS											
Naphthalene	439	<10	592	543	421	294	<10	113	<10	TM074	<10 ng/l
Acenaphthylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Acenaphthene	<10	<10	<10	<10	<10	12	<10	<10	<10	TM074	<10 ng/l
Fluorene	29	<10	37	<10	<10	56	<10	<10	<10	TM074	<10 ng/l
Phenanthrene	87	<10	140	<10	<10	264	<10	<10	<10	TM074	<10 ng/l
Anthracene	<10	<10	<10	<10	<10	15	<10	<10	<10	TM074	<10 ng/l
Fluoranthene	21	<10	31	<10	<10	33	<10	<10	<10	TM074	<10 ng/l
Pyrene	33	<10	97	<10	<10	64	<10	<10	<10	TM074	<10 ng/l
Benz(a)anthracene	<10	<10	33	<10	<10	30	<10	<10	<10	TM074	<10 ng/l
Chrysene	50	<10	99	<10	<10	86	<10	<10	<10	TM074	<10 ng/l
Benzo(b) fluoranthene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Benzo(k) fluoranthene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Benzo(a)pyrene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Indeno(123cd) pyrene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Dibenzo(ah) anthracene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
Benzo(ghi) perylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM074	<10 ng/l
PAH 16 Total	659	<10	1029	543	421	854	<10	113	<10	TM074	<10 ng/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	8GW4	8SW1	10GW1	10GW2	10GW3	10GW4	11GW1	12GW1	12GW2	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05					
Sample Received	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	1	1	1	1	1	2	2	2		
Sample Number(s)	17-18	19-20	21-22	23-24	25-26	27-28	97-98	99-100	101-102		
OCP											
Tecnazene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Trifluralin	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Alpha-BHC (Lindane)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Hexachloro-benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Beta-BHC (Lindane)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Gamma-BHC (Lindane)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Quintozene (PCNB)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Triallate	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Chlorothalonil	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Heptachlor	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Aldrin	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Triadimefon	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Telodrin	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Isodrin	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Pendimethalin	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Heptachlor Epoxide	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
trans-Chlordane	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
o,p'-DDE	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Endosulphan I	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
cis-Chlordane	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
p,p'-DDE	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Dieldrin	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
p,p'-TDE (DDD)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Endrin	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Endosulphan II	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
o,p'-TDE (DDD)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
o,p'-DDT	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
p,p'-DDT	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Endosulphan sulphate	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
o,p'-Methoxychlor	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**8GW4**	**8SW1**	**10GW1**	**10GW2**	**10GW3**	**10GW4**	**11GW1**	**12GW1**	**12GW2**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05					
Sample Received	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	1	1	1	1	1	2	2	2		
Sample Number(s)	17-18	19-20	21-22	23-24	25-26	27-28	97-98	99-100	101-102		
OCP											
p,p'-Methoxychlor	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Permethrin I	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l
Permethrin II	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM144	<10 ng/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	8GW4	8SW1	10GW1	10GW2	10GW3	10GW4	11GW1	12GW1	12GW2	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05					
Sample Received	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	1	1	1	1	1	2	2	2		
Sample Number(s)	17-18	19-20	21-22	23-24	25-26	27-28	97-98	99-100	101-102		
Volatile Organic Compounds											
Dichlorodifluorom-ethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Chloromethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Vinyl Chloride	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Bromomethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Chloroethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Trichlorofluoro-methane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
trans-1-2-Dichloro-ethene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Dichloromethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Carbon Disulphide	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.1-Dichloroethene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.1-Dichloroethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Methyl Tertiary Butyl Ether	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
cis-1-2-Dichloro-ethene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Bromochloro-methane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Chloroform	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
2.2-Dichloro-propane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2-Dichloroethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.1.1-Trichloro-ethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.1-Dichloro-propene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Benzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Carbontetra-chloride	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Dibromomethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2-Dichloro-propane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Bromodichloro-methane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Trichloroethene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
cis-1-3-Dichloro-propene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
trans-1-3-Dichloro-propene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.1.2-Trichloro-ethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Toluene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.3-Dichloro-propane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**8GW4**	**8SW1**	**10GW1**	**10GW2**	**10GW3**	**10GW4**	**11GW1**	**12GW1**	**12GW2**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05					
Sample Received	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	1	1	1	1	1	2	2	2		
Sample Number(s)	17-18	19-20	21-22	23-24	25-26	27-28	97-98	99-100	101-102		
Volatile Organic Compounds (cont.)											
Dibromochloromethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2-Dibromoethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Tetrachloroethene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.1.1.2-Tetrachloroethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Chlorobenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Ethylbenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
p/m-Xylene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Bromoform	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Styrene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.1.2.2-Tetrachloroethane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
o-Xylene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2.3-Trichloropropane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Isopropylbenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Bromobenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
2-Chlorotoluene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Propylbenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
4-Chlorotoluene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2.4-Trimethylbenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
4-Isopropyltoluene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.3.5-Trimethylbenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2-Dichlorobenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.4-Dichlorobenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
sec-Butylbenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
tert-Butylbenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.3-Dichlorobenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
n-Butylbenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2-Dibromo-3-chloropropane	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2.4-Trichlorobenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
Naphthalene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l
1.2.3-Trichlorobenzene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**8GW4**	**8SW1**	**10GW1**	**10GW2**	**10GW3**	**10GW4**	**11GW1**	**12GW1**	**12GW2**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05	14.12.05					
Sample Received	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	20.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	1	1	1	1	1	2	2	2		
Sample Number(s)	17-18	19-20	21-22	23-24	25-26	27-28	97-98	99-100	101-102		
Volatile Organic Compounds (cont.)											
Hexachlorobutadi-ene	-	-	-	-	-	-	<1	<1	<1	TM116#	<1 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**15GW1**	**15GW2**	**18GW1**	**18GW2**	**23GW1**	**23STP1**	**23WW1**	**23WW2**	**23WW3**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	12.12.05										
Sample Received	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	2	2	2	2	2	2	2	2		
Sample Number(s)	29-30	103-104	105-106	107-108	109-110	78,111-1-12	113-114	115	116-117		
Arsenic Dissolved (ICP-MS)	2	2	<1	<1	1	<1	11	2	3	TM152#	<1 ug/l
Barium Dissolved (ICP-MS)	293	845	256	1418	555	120	143	22	134	TM152#	<1 ug/l
Beryllium Dissolved (ICP-MS)	<1	<1	<1	<1	<1	<1	<1	<1	<1	TM152#	<1 ug/l
Cadmium Dissolved (ICP-MS)	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	1.1	<0.4	<0.4	TM152#	<0.4 ug/l
Calcium Dissolved (ICP-MS)	23990	33390	77090	159900	109500	74050	210700	91470	62630	TM152#	<5 ug/l
Chromium Dissolved (ICP-MS)	43	20	18	23	15	15	28	23	11	TM152#	<1 ug/l
Copper Dissolved (ICP-MS)	1	4	2	6	2	2	6	11	6	TM152#	<1 ug/l
Lead Dissolved (ICP-MS)	<1	5	1	1	1	1	6	3	13	TM152#	<1 ug/l
Magnesium Dissolved (ICP-MS)	21110	22930	58100	66250	56440	50140	166600	8068	32810	TM152#	<5 ug/l
Molybdenum Dissolved (ICP-MS)	6	2	4	<1	<1	<1	4	<1	6	TM152#	<1 ug/l
Nickel Dissolved (ICP-MS)	3	2	9	7	7	5	44	4	7	TM152#	<1 ug/l
Selenium Dissolved (ICP-MS)	1	<1	<1	<1	<1	<1	31	<1	5	TM152#	<1 ug/l
Zinc Dissolved (ICP-MS)	19	25	28	20	20	18	775	288	80	TM152#	<3 ug/l
Mercury Dissolved (CVAA)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	TM127#	<0.05 ug/l
Carbonate Alkalinity as CaCO3	30	20	60	<2	<2	60	10	70	30	TM043#	<2 mg/l
Bicarbonate Alkalinity as CaCO3	135	160	230	300	355	455	250	250	120	TM043#	<2 mg/l
BOD	1	<1	<1	<1	2	16	96	11	2	TM045#	<1 mg/l
COD	30	<10	<10	<10	10	60	755	175	125	TM107#	<10 mg/l
Potassium Dissolved	2.1	2.6	3.0	2.3	5.7	30.8	66.0	26.3	7.4	TM083#	<0.2 mg/l
Sodium Dissolved	76.5	64.5	187.5	91.5	161.3	206.3	236.3	40.5	24.0	TM083#	<0.2 mg/l
Nitrate as NO3	43.9	35.6	70.7	38.9	34.3	5.6	3.7	4.2	34.0	TM102#	<0.3 mg/l
Sulphate (soluble)	28	10	51	16	32	58	17	119	10	TM098#	<3 mg/l
Chloride	89	53	341	278	280	304	1079	33	40	TM097#	<1 mg/l
Phosphate (Ortho as PO4)	<0.08	0.70	<0.08	<0.08	<0.08	24.32	0.37	3.07	<0.08	TM100#	<0.08 mg/l
Ammoniacal Nitrogen as N	<0.2	0.8	2.3	<0.2	9.2	35.8	0.2	1.2	1.4	TM099#	<0.2 mg/l
Silica	16	15	22	28	19	26	15	21	8	TM044	<1 mg/l
Phenols Total Monohydric	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.04	TM062#	<0.01 mg/l
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	TM153#	<0.05 mg/l
Miscellaneous Analysis*	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached		
pH Value	8.55	8.53	8.69	8.43	8.59	8.37	8.39	8.62	8.48	TM133#	<1.00 pH Units
Total Nitrogen*	<10	<10	14	12	11	30	<10	14	13		mg/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	15GW1	15GW2	18GW1	18GW2	23GW1	23STP1	23WW1	23WW2	23WW3	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	12.12.05										
Sample Received	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	2	2	2	2	2	2	2	2		
Sample Number(s)	29-30	103-104	105-106	107-108	109-110	78,111-1-12	113-114	115	116-117		
EPH (DRO) (C10-C40)	<10	<10	<10	<10	<10	<10	7461	4417	9148	TM061	<10 ug/l
Mineral Oil	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM061	<10 ug/l
EPH C10-16	<10	<10	<10	<10	<10	<10	939	2724	7491	TM061	<10 ug/l
EPH >C16-24	<10	<10	<10	<10	<10	<10	4738	1070	1064	TM061	<10 ug/l
EPH >C24-40	<10	<10	<10	<10	<10	<10	1784	623	593	TM061	<10 ug/l
GRO (C4-C10)	<10	<10	<10	<10	<10	<10	<10	<10	2770	TM089#	<10 ug/l
GRO (C10-C12)	<10	<10	<10	<10	<10	<10	<10	<10	2215	TM089#	<10 ug/l
Benzene	<10	<10	<10	<10	<10	<10	<10	<10	119	TM089#	<10 ug/l
Toluene	<10	<10	<10	<10	<10	<10	<10	<10	305	TM089#	<10 ug/l
Ethyl benzene	<10	<10	<10	<10	<10	<10	<10	<10	29	TM089#	<10 ug/l
m & p Xylene	<10	<10	<10	<10	<10	<10	<10	<10	735	TM089#	<10 ug/l
o Xylene	<10	<10	<10	<10	<10	<10	<10	<10	437	TM089#	<10 ug/l
MTBE	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089#	<10 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**15GW1**	**15GW2**	**18GW1**	**18GW2**	**23GW1**	**23STP1**	**23WW1**	**23WW2**	**23WW3**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**		
Sampled Date	12.12.05										
Sample Received	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	2	2	2	2	2	2	2	2		
Sample Number(s)	29-30	103-104	105-106	107-108	109-110	78,111-1-12	113-114	115	116-117		
PAH by GCMS											
Naphthalene	<10	<10	<10	<10	<10	<10	53	1124	464686	TM074	<10 ng/l
Acenaphthylene	<10	<10	<10	<10	<10	<10	279	<10	411	TM074	<10 ng/l
Acenaphthene	<10	<10	<10	<10	<10	<10	510	<10	509	TM074	<10 ng/l
Fluorene	<10	<10	<10	<10	<10	<10	220	<10	486	TM074	<10 ng/l
Phenanthrene	<10	<10	<10	<10	<10	<10	408	<10	388	TM074	<10 ng/l
Anthracene	<10	<10	<10	<10	<10	<10	499	<10	<100	TM074	<10 ng/l
Fluoranthene	<10	<10	<10	<10	<10	<10	135	<10	<100	TM074	<10 ng/l
Pyrene	<10	<10	<10	<10	<10	<10	659	<10	<100	TM074	<10 ng/l
Benz(a)anthracene	<10	<10	<10	<10	<10	<10	11	<10	<100	TM074	<10 ng/l
Chrysene	<10	<10	<10	<10	<10	<10	121	<10	<100	TM074	<10 ng/l
Benzo(b) fluoranthene	<10	<10	<10	<10	<10	<10	<10	<10	372	TM074	<10 ng/l
Benzo(k) fluoranthene	<10	<10	<10	<10	<10	<10	<10	<10	333	TM074	<10 ng/l
Benzo(a)pyrene	<10	<10	<10	<10	<10	<10	<10	<10	295	TM074	<10 ng/l
Indeno(123cd) pyrene	<10	<10	<10	<10	<10	<10	<10	<10	130	TM074	<10 ng/l
Dibenzo(ah) anthracene	<10	<10	<10	<10	<10	<10	<10	<10	154	TM074	<10 ng/l
Benzo(ghi) perylene	<10	<10	<10	<10	<10	<10	<10	<10	180	TM074	<10 ng/l
PAH 16 Total	<10	<10	<10	<10	<10	<10	2895	1124	467944	TM074	<10 ng/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	15GW1	15GW2	18GW1	18GW2	23GW1	23STP1	23WW1	23WW2	23WW3	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	12.12.05										
Sample Received	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	2	2	2	2	2	2	2	2		
Sample Number(s)	29-30	103-104	105-106	107-108	109-110	78,111-112	113-114	115	116-117		
OCP											
Tecnazene	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Trifluralin	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Alpha-BHC (Lindane)	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Hexachloro-benzene	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Beta-BHC (Lindane)	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Gamma-BHC (Lindane)	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Quintozene (PCNB)	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Triallate	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Chlorothalonil	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Heptachlor	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Aldrin	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Triadimefon	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Telodrin	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Isodrin	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Pendimethalin	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Heptachlor Epoxide	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
trans-Chlordane	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
o,p'-DDE	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Endosulphan I	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
cis-Chlordane	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
p,p'-DDE	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Dieldrin	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
p,p'-TDE (DDD)	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Endrin	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Endosulphan II	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
o,p'-TDE (DDD)	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
o,p'-DDT	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
p,p'-DDT	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Endosulphan sulphate	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
o,p'-Methoxychlor	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**15GW1**	**15GW2**	**18GW1**	**18GW2**	**23GW1**	**23STP1**	**23WW1**	**23WW2**	**23WW3**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	12.12.05										
Sample Received	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	2	2	2	2	2	2	2	2		
Sample Number(s)	29-30	103-104	105-106	107-108	109-110	78,111-112	113-114	115	116-117		
OCP (cont.)											
p,p'-Methoxychlor	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Permethrin I	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l
Permethrin II	<10	<10	<10	<10	<10	<10	<100	<10	<10	TM144	<10 ng/l

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Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	15GW1	15GW2	18GW1	18GW2	23GW1	23STP1	23WW1	23WW2	23WW3	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	12.12.05										
Sample Received	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	2	2	2	2	2	2	2	2		
Sample Number(s)	29-30	103-104	105-106	107-108	109-110	78,111-112	113-114	115	116-117		
Volatile Organic Compounds											
Dichlorodifluoro-methane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Chloromethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Vinyl Chloride	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Bromomethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Chloroethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Trichlorofluoro-methane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
trans-1-2-Dichloro-ethene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Dichloromethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Carbon Disulphide	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.1-Dichloroethene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.1-Dichloroethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Methyl Tertiary Butyl Ether	-	<1	<1	<1	<1	<1	<1	<1	6	TM116#	<1 ug/l
cis-1-2-Dichloro-ethene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Bromochloro-methane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Chloroform	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
2.2-Dichloro-propane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.2-Dichloroethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.1.1-Trichloro-ethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.1-Dichloro-propene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Benzene	-	<1	<1	<1	<1	<1	<1	<1	81	TM116#	<1 ug/l
Carbontetra-chloride	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Dibromomethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.2-Dichloro-propane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Bromodichloro-methane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Trichloroethene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
cis-1-3-Dichloro-propene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
trans-1-3-Dichloro-propene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.1.2-Trichloro-ethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Toluene	-	<1	<1	<1	<1	<1	<1	<1	227	TM116#	<1 ug/l
1.3-Dichloro-propane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	**15GW1**	**15GW2**	**18GW1**	**18GW2**	**23GW1**	**23STP1**	**23WW1**	**23WW2**	**23WW3**	**Method Code**	**LoD / Units**
Depth (m)											
Sample Type	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**	**WATER**		
Sampled Date	12.12.05										
Sample Received	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	2	2	2	2	2	2	2	2		
Sample Number(s)	29-30	103-104	105-106	107-108	109-110	78,111-112	113-114	115	116-117		
Volatile Organic Compounds (cont.)											
Dibromochloro-methane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.2-Dibromoethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Tetrachloroethene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.1.1.2-Tetrachloro-ethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Chlorobenzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Ethylbenzene	-	<1	<1	<1	<1	<1	<1	<1	11	TM116#	<1 ug/l
p/m-Xylene	-	<1	<1	<1	<1	<1	<1	<1	609	TM116#	<1 ug/l
Bromoform	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Styrene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.1.2.2-Tetrachloro-ethane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
o-Xylene	-	<1	<1	<1	<1	<1	<1	<1	411	TM116#	<1 ug/l
1.2.3-Trichloro-propane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Isopropylbenzene	-	<1	<1	<1	<1	<1	<1	<1	2	TM116#	<1 ug/l
Bromobenzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
2-Chlorotoluene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Propylbenzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
4-Chlorotoluene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.2.4-Trimethyl-benzene	-	<1	<1	<1	<1	<1	<1	<1	762	TM116#	<1 ug/l
4-Isopropyltoluene	-	<1	<1	<1	<1	<1	<1	<1	3	TM116#	<1 ug/l
1.3.5-Trimethyl-benzene	-	<1	<1	<1	<1	<1	<1	<1	199	TM116#	<1 ug/l
1.2-Dichloro-benzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.4-Dichloro-benzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
sec-Butylbenzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
tert-Butylbenzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.3-Dichloro-benzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
n-Butylbenzene	-	<1	<1	<1	<1	<1	<1	<1	6	TM116#	<1 ug/l
1.2-Dibromo-3-chloropropane	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
1.2.4-Trichloro-benzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l
Naphthalene	-	<1	<1	<1	<1	<1	<1	<1	400	TM116#	<1 ug/l
1.2.3-Trichloro-benzene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l

ALcontrol Geochem Analytical Services		# ISO 17025 accredited
Table of Results		M MCERTS accredited
Job No.: 05/18857/02/01	Matrix: **LIQUID**	* Subcontracted test
Client: UNEP / PCoB	Location: GAZA	» Shown on prev. report

Sample Identity	15GW1	15GW2	18GW1	18GW2	23GW1	23STP1	23WW1	23WW2	23WW3	Method Code	LoD / Units
Depth (m)											
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Sampled Date	12.12.05										
Sample Received	20.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05	21.12.05		
Batch	1	2	2	2	2	2	2	2	2		
Sample Number(s)	29-30	103-104	105-106	107-108	109-110	78,111-112	113-114	115	116-117		
Volatile Organic Compounds (cont.)											
Hexachlorobutadi-ene	-	<1	<1	<1	<1	<1	<1	<1	<1	TM116#	<1 ug/l

ALcontrol Geochem	
Extractable Petroleum Hydrocarbons (EPH) By GC-FID	
Carbon Range C10 – C40	
Job No.: 05/18857/02/01	Matrix [Units]: **LIQUID [ug/l]**
Client: UNEP / PCoB	Location: GAZA

Sample No.	Sample Identity	Depth	EPH	Interpretation
13	8GW2		49	Possible petroleum naphtha's
15	8GW3		<10	no identification possible
17	8GW4		456	biodegraded diesel
19	8SW1		<10	no identification possible
21	10GW1		1226	biodegraded diesel
23	10GW2		<10	no identification possible
25	10GW3		<10	no identification possible
27	10GW4		786	biodegraded diesel
29	15GW1		<10	no identification possible
88	2GW1		<10	no identification possible
90	2GW2		<10	no identification possible
92	4GW1		<10	no identification possible
94	7WW1		43	possible PAHs
95	8GW1		<10	no identification possible
98	11GW1		<10	no identification possible
100	12GW1		<10	no identification possible
102	12GW2		<10	no identification possible
103	15GW2		<10	no identification possible
106	18GW1		<10	no identification possible
107	18GW2		<10	no identification possible
109	23GW1		<10	no identification possible
111	23STP1		<10	no identification possible
113	23WW1		7461	possible biodegraded diesel/lube oil
115	23WW2		4417	kerosene type residues
116	23WW3		9148	petroleum naphthas / Kerosene

ALcontrol Geochem	
Extractable Petroleum Hydrocarbons (EPH) By GC-FID	
Carbon Range C10 – C40	
Job No.: 05/18857/02/01	Matrix [Units]: **SOLID [mg/kg]**
Client: UNEP / PCoB	Location: GAZA

Sample No.	Sample Identity	Depth	EPH	Interpretation
1	1/SS/BC		800	fuel oil
2	2/SS/AC		87888	diesel
3	2/SS/BC		10284	diesel
4	3/SS/AC		957	phenol isomers
6	5/SS/AC		67	possible biodegraded diesel
7	7/SS/AC		28	humic acids
9	15/SS/AC		77602	used engine oil
10	15/SS/BC		13326	biodegraded diesel
11	15/SS/CC		13	no identification possible
12	15/SS/DC		5050	heavy fuel oil
31	9/SS/AA		65	lube oil/humic acids
40	8/SS/AA		31	humic acids
43	9/SS/CA		989	PAHs/unknown clusters
46	10/SS/AA		964	Possible Bitumen/Tar
49	23/SS//CA		25309	used engine oil
59	17/SS/AA		18639	biodegraded diesel
61	18/SS/LFILL/AA		103	humic acids
62	9/SS/BA		12336	heavy fuel oil
63	23/SS/DA		24244	biodegraded diesel
64	23/SS/AA		28111	Bitumen/Tar
65	23/SS/BA		185	heavy oil

ALcontrol Geochem				
Extractable Petroleum Hydrocarbons (EPH) By GC-FID				
Carbon Range C10 – C40				
Job No.: 05/18857/02/01	Matrix [Units]: **LIQUID [ug/l]**			
Client: UNEP / PCoB	Location: GAZA			
Sample No.	**Sample Identity**	**Depth**	**Mineral Oil**	**Interpretation**
13	8GW2		<10	
15	8GW3		<10	
17	8GW4		231	
19	8SW1		<10	
21	10GW1		520	
23	10GW2		<10	
25	10GW3		<10	
27	10GW4		100	
29	15GW1		<10	
88	2GW1		<10	
90	2GW2		<10	
92	4GW1		<10	
94	7WW1		<10	
95	8GW1		<10	
98	11GW1		<10	
100	12GW1		<10	
102	12GW2		<10	
103	15GW2		<10	
106	18GW1		<10	
107	18GW2		<10	
109	23GW1		<10	
111	23STP1		<10	
113	23WW1		<10	
115	23WW2		<10	
116	23WW3		<10	

ALcontrol Geochem				
Extractable Petroleum Hydrocarbons (EPH) By GC-FID				
Carbon Range C10 – C40				
Job No.: 05/18857/02/01		Matrix [Units]: **SOLID [mg/kg]**		
Client: UNEP / PCoB		Location: GAZA		
Sample No.	**Sample Identity**	**Depth**	**Mineral Oil**	**Interpretation**
1	1/SS/BC		433	
2	2/SS/AC		45234	
3	2/SS/BC		7039	
4	3/SS/AC		104	
6	5/SS/AC		36	
7	7/SS/AC		25	
9	15/SS/AC		21170	
10	15/SS/BC		8144	
11	15/SS/CC		29	
12	15/SS/DC		2410	

ALcontrol Laboratories

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ORG.NR 556152-0916 STYRELSENS SÄTE: LINKÖPING

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SWEDAC ACKREDITERING 1006 ISO/IEC 17025

RAPPORT

Sida 1 (2)

utfärdad av ackrediterat laboratorium
REPORT issued by an Accredited Laboratory

Rapport Nr 06002387

Uppdragsgivare

ALcontrol Laboratories
Units 7-8, Hawarden Busin. Prk

Manor Road, Hawarden
CH53US Deeside, UK

ALcontrol Laboratories
Units 7-8, Hawarden Busin. Prk
A Evans
Manor Road, Hawarden
CH53US Deeside, UK

Avser

Information about the project ***Soil***

Project number : 05/18857

Information about sample and sampling

Project number	: 05/18857	Day of sampling	:
Sample description	: Soil	Day of arrival	: 2006-01-05
Sample name	: 18857-31	Receiving time	: 13:00
		Reference	: A Evans

Results of the analyses

Metodbeteckning	*Analys/Undersökning av*	*Resultat*	*Enhet*	*Mätosäkerhet*
SS-EN-1948-2/3:1996	2378 TCDD	3.9	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	12378 PeCDD	<2	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	123478 HxCDD	2.9	ng/kg DS	+/-25%
SS-EN-1948-2/3:1996	123678 HxCDD	2.7	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	123789 HxCDD	4.2	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	1234678 HpCDD	8.9	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	OCDD	17	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	2378 TCDF	3.9	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	12378 PeCDF	<2	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	23478 PeCDF	2.6	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	123478 HxCDF	2.7	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	123678 HxCDF	2.1	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	123789 HxCDF	3.6	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	234678 HxCDF	<2	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	1234678 HpCDF	5.3	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	1234789 HpCDF	2.5	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	OCDF	11	ng/kg DS	+/-30%
SS-EN-1948-2/3:1996	TCDD I-TEQ Lower Bound	7.6	ng/kg DS	+/-35%
SS-EN-1948-2/3:1996	TCDD I-TEQ Upper Bound	8.9	ng/kg DS	+/-35%
SS-EN-1948-2/3:1996	Rec 2378 TCDD Extr spike	104	%	
SS-EN-1948-2/3:1996	Rec 12378 PeCDD Extr spike	97	%	
SS-EN-1948-2/3:1996	Rec 123478 HxCDD Extr spike	94	%	
SS-EN-1948-2/3:1996	Rec 123678 HxCDD Extr spike	94	%	
SS-EN-1948-2/3:1996	Rec 1234678 HpCDD Extr spike	78	%	
SS-EN-1948-2/3:1996	Rec OCDD Extr spike	93	%	
SS-EN-1948-2/3:1996	Rec 2378 TCDF Extr spike	93	%	
SS-EN-1948-2/3:1996	Rec 12378 PeCDF Extr spike	96	%	
SS-EN-1948-2/3:1996	Rec 23478 PeCDF Extr spike	97	%	
SS-EN-1948-2/3:1996	Rec 123478 HxCDF Extr spike	95	%	
SS-EN-1948-2/3:1996	Rec 123678 HxCDF Extr spike	74	%	

Angiven mätosäkerhet är beräknad med täckningsfaktor k = 2. Vid intervallangivelse avser det högre talet mätosäkerheten vid halter nära rapporteringsgränsen.

/16.0602/

(forts.)

ALcontrol Laboratories

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ORG.NR 556152-0916 STYRELSENS SÄTE: LINKÖPING

Vid frågor kontakta vår kundtjänstavd. Tel: 020-25 49 00

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RAPPORT

utfärdad av ackrediterat laboratorium
REPORT issued by an Accredited Laboratory

Rapport Nr 06002387

Uppdragsgivare

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A Evans
Manor Road, Hawarden
CH53US Deeside, UK

Avser

Information about the project ***Soil***

Project number : 05/18857

Information about sample and sampling

Project number	: 05/18857	Day of sampling	:
Sample description	: Soil	Day of arrival	: 2006-01-05
Sample name	: 18857-31	Receiving time	: 13:00
		Reference	: A Evans

Results of the analyses

Metodbeteckning	*Analys/Undersökning av*	*Resultat*	*Enhet*	*Mätosäkerhet*
SS-EN-1948-2/3:1996	Rec 123789 HxCDF Extr spike	93	%	
SS-EN-1948-2/3:1996	Rec 234678 HxCDF Extr spike	86	%	
SS-EN-1948-2/3:1996	Rec 1234678 HpCDF Extr spike	80	%	
SS-EN-1948-2/3:1996	Rec 1234789 HpCDF Extr spike	88	%	
SS-EN-1948-2/3:1996	Rec OCDF Extr spike	91	%	
SS 028113-1	Dry substance DS	94.3	%	10%

Angiven mätosäkerhet är beräknad med täckningsfaktor k = 2. Vid intervallangivelse avser det högre talet mätosäkerheten vid halter nära rapporteringsgränsen.

Linköping 2006-01-11
Rapporten har granskats och godkänts av

Jan Svensson
Analyst
Kontrollnr 1216 9434 9695 7063

/16.0003/

ALcontrol Geochem	
Radioactivity Screening	
Job No.: 05/18857/02/01	Matrix [Units]: **Solid and Liquid (uSvh-1)**
Client: UNEP / PCoB	Location: GAZA

Sample No.	Sample Identity	Depth	Screening Result
1	1/SS/BC	-	0.1
2	2/SS/AC	-	0.1
3	2/SS/BC	-	0.1
4	3/SS/AC	-	0.1
5	3/HAZ WASTE	-	0.1
6	5/SS/AC	-	0.1
7	7/SS/AC	-	0.1
8	7/HAZ WASTE	-	0.1
9	15/SS/AC	-	0.1
10	15/SS/BC	-	0.1
11	15/SS/CC	-	0.1
12	15/SS/DC	-	0.1
13	8GW2	-	0.1
14	8GW2	-	0.1
15	8GW3	-	0.1
16	8GW3	-	0.1
17	8GW4	-	0.1
18	8GW4	-	0.1
19	8SW1	-	0.1
20	8SW1	-	0.1
21	10GW1	-	0.1
22	10GW1	-	0.1
23	10GW2	-	0.1
24	10GW2	-	0.1
25	10GW3	-	0.1
26	10GW3	-	0.1
27	10GW4	-	0.1
28	10GW4	-	0.1
29	15GW1	-	0.1
30	15GW1	-	0.1
31	9/SS/AA	-	0.1
32	1/ASB/001	-	0.1
33	EREZ/ASB/001	-	0.1
34	2/ASB/001	-	0.1

ALcontrol Geochem			
Radioactivity Screening			
Job No.: 05/18857/02/01	Matrix [Units]: **Solid and Liquid (uSvh-1)**		
Client: UNEP / PCoB	Location: GAZA		
Sample No.	**Sample Identity**	**Depth**	**Screening Result**
35	2/ASB/002	-	0.1
36	2/ASB/003	-	0.1
37	5/ASB/001	-	0.1
38	6/ASB/001	-	0.1
39	8/ASB/001	-	0.1
40	8/SS/AA	-	0.1
41	9/ASB/001	-	0.1
42	9/HAZWASTE	-	0.1
43	9/SS/CA	-	0.1
44	10/ASB/001	-	0.1
45	10/ASB/002	-	0.1
48	12/ASB/001	-	0.1
49	23/SS//CA	-	0.1
50	14/ASB/001	-	0.1
51	14/LFILL/AA	-	0.1
52	14/LFILL/BA	-	0.1
53	14/LFILL/CA	-	0.1
54	15/ASB/001	-	0.1
55	15/ASB/002	-	0.1
56	15/ASB/003	-	0.1
57	15/ASB/004	-	0.1
58	15/ASB/005	-	0.1
59	17/SS/AA	-	0.1
60	18/ASB/001	-	0.1
61	18/SS/LFILL/AA	-	0.1
62	9/SS/BA	-	0.1
63	23/SS/DA	-	0.1
64	23/SS/AA	-	0.1
65	23/SS/BA	-	0.1
66	25/SW/A	-	0.1
67	24/SW/3A	-	0.1
68	3/ASB/001	-	0.1
69	23/OIL	-	0.1
70	NO I.D	-	0.1
71	NO I.D	-	0.1
72	NO I.D	-	0.1

ALcontrol Geochem			
Radioactivity Screening			
Job No.: 05/18857/02/01	Matrix [Units]: **Solid and Liquid (uSvh-1)**		
Client: UNEP / PCoB	Location: GAZA		
Sample No.	**Sample Identity**	**Depth**	**Screening Result**
73	NO I.D	-	0.1
74	NO I.D	-	0.1
75	NO I.D	-	0.1
76	NO I.D	-	0.1
77	NO I.D	-	0.1
78	23STP1	-	0.1
79	NO I.D	-	0.1
80	NO I.D	-	0.1
81	NO I.D	-	0.1
82	NO I.D	-	0.1
83	NO I.D	-	0.1
84	NO I.D	-	0.1
85	NO I.D	-	0.1
86	SOIL TRIP/A	-	0.1
87	WATER TRIP	-	0.1
88	2GW1	-	0.1
89	2GW1	-	0.1
90	2GW2	-	0.1
91	2GW2	-	0.1
92	4GW1	-	0.1
93	4GW1	-	0.1
94	7WW1	-	0.1
95	8GW1	-	0.1
96	8GW1	-	0.1
97	11GW1	-	0.1
98	11GW1	-	0.1
99	12GW1	-	0.1
100	12GW1	-	0.1
101	12GW2	-	0.1
102	12GW2	-	0.1
103	15GW2	-	0.1
104	15GW2	-	0.1
105	18GW1	-	0.1
106	18GW1	-	0.1
107	18GW2	-	0.1
108	18GW2	-	0.1

ALcontrol Geochem			
Radioactivity Screening			
Job No.: 05/18857/02/01	Matrix [Units]: **Solid and Liquid (uSvh-1)**		
Client: UNEP / PCoB	Location: GAZA		
Sample No.	**Sample Identity**	**Depth**	**Screening Result**
109	23GW1	-	0.1
110	23GW1	-	0.1
111	23STP1	-	0.1
112	23STP1	-	0.1
113	23WW1	-	0.1
114	23WW1	-	0.1
115	23WW2	-	0.1
116	23WW3	-	0.1
117	23WW3	-	0.1

ALcontrol Geochem

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15th February 2006

UNEP, Post Conflict Assessment Unit
International Environment House
15 chemin des Anemones
1219 Chatelaine
Geneva
Switzerland

Attention: Muralee Thummarukudy

Dear Sir

Re: Post Dis-engagement Environmental Assessment of the Former Occupied Palestinian Territories

Thank you for your correspondence I can confirm that all samples of water and soil received from UNEP as part of the Gaza Assessment were screened for the presence of radioactivity and no radioactivity levels above the background levels was detected.

Yours faithfully,

Geraint Williams
Environmental Scientist

ALcontrol Technichem								
Total Nitrogen								
Job No.: 06-10946		Project Code: 18857						
Client: Alcontrol Laboratories		Matrix: **Water**						
Sample Reference	05/18857/14	05/18857/16	05/18857/18	05/18857/22	05/18857/24	05/18857/26	Method No.	Units
Client Reference	8GW2	8GW3	8GW4	10GW1	10GW2	10GW3		
Date Scheduled	19/01/06	19/01/06	19/01/06	19/01/06	19/01/06	19/01/06		
Laboratory Reference No.	118478	118479	118480	118481	118482	118483		
Analysis								
Total Nitrogen	12	11	< 10	12	< 10	< 10	BS3882	mg/l

ALcontrol Technichem								
Total Nitrogen								
Job No.: 06-10946		Project Code: 18857						
Client: Alcontrol Laboratories		Matrix: **Water**						
Sample Reference	05/18857/28						Method No.	Units
Client Reference	10GW4							
Date Scheduled	19/01/06							
Laboratory Reference No.	118484							
Analysis								
Total Nitrogen	<10						BS3882	mg/l

ALcontrol Technichem								
Total Nitrogen								
Job No.: 05-10454		Project Code: 05-18857						
Client: Alcontrol Laboratories		Matrix: **Water**						
Sample Reference	05/18857/20	05/18857/30					Method No.	Units
Client Reference	8SW1	15GW1						
Date Scheduled	22/12/05	22/12/05						
Laboratory Reference No.	115182	115183						
Analysis								
Total Nitrogen	<10	<10					BS3882	mg/l

ALcontrol Technichem								
Total Nitrogen								
Job No.: 05-10545		Project Code: 05-18857						
Client: Alcontrol Laboratories		Matrix: **Water**						
Sample Reference	05/18857/89	05/18857/91	05/18857/93	05/18857/94	05/18857/96	05/18857/98	Method No.	Units
Client Reference	2GW1	2GW2	4GW1	7WW1	8GW1	11GW1		
Date Sampled	23/12/05	23/12/05	23/12/05	23/12/05	23/12/05	23/12/05		
Date Scheduled	28/12/05	28/12/05	28/12/05	28/12/05	28/12/05	28/12/05		
Laboratory Reference No.	115898	115899	115900	115901	115902	115903		
Analysis								
Total Nitrogen	< 10	11	< 10	44	< 10	18	BS3882	mg/l

ALcontrol Technichem								
Total Nitrogen								
Job No.: 05-10545		Project Code: 05-18857						
Client: Alcontrol Laboratories		Matrix: **Water**						
Sample Reference	05/18857/100	05/18857/102	05/18857/104	05/18857/106	05/18857/108	05/18857/110	Method No.	Units
Client Reference	12GW1	12GW2	15GW2	18GW1	18GW2	23GW1		
Date Sampled	23/12/05	23/12/05	23/12/05	23/12/05	23/12/05	23/12/05		
Date Scheduled	28/12/05	28/12/05	28/12/05	28/12/05	28/12/05	28/12/05		
Laboratory Reference No.	115904	115905	115906	115907	115908	115909		
Analysis								
Total Nitrogen	22	21	< 10	14	12	11	BS3882	mg/l

ALcontrol Technichem								
Total Nitrogen								
Job No.: 05-10545		Project Code: 05-18857						
Client: Alcontrol Laboratories		Matrix: **Water**						
Sample Reference	05/18857/112	05/18857/114	05/18857/115	05/18857/117			Method No.	Units
Client Reference	23STP1	23WW1	23WW2	23WW3				
Date Sampled	23/12/05	23/12/05	23/12/05	23/12/05				
Date Scheduled	28/12/05	28/12/05	28/12/05	28/12/05				
Laboratory Reference No.	115910	115911	115912	115913				
Analysis								
Total Nitrogen	30	< 10	14	13			BS3882	mg/l

ALcontrol Laboratories

Rotherham Laboratory : Templeborough House, Mill Close, Rotherham. S60 1BZ. (UKAS Lab No. 0995/2300)
Bellshill Laboratory : 2 Mallard Way, Strathclyde Business Park, Bellshill. ML4 3BF. (UKAS Lab No. 0995)
Bradford Laboratory : George Street, Bradford. BD1 5AU. (UKAS Lab No. 0996)
Telephone: 01709 841096 Fax: 01709 841079 E-mail : customer.services@alcontrol.co.uk

Supplementary Report

Sample Received : 22/12/2005
Analysis Completed : 29/12/2005
Site Name : None Supplied

Your PO No : 11243

ALcontrol Laboratories
ALcontrol Chester
Units 7 & 8 Hawarden Business Park
Off Manor Lane
Hawarden
Deeside
CH5 3US

Supplementary Report

This is a supplementary report. It supersedes the report that was issued on 29/12/2005. Please destroy the original.

Our Ref		050126089		050126090		
Your Ref		05/18857/19 8SW1		05/18857/30 15GW1		
Sampled On		**21/12/2005**		**21/12/2005**		
	Method					
Coliforms Total No.	R*	100	No/100 ml	0.00	No/100 ml	
Faecal coliforms	R*	3.00	No/100 ml	0.00	No/100 ml	

SDG Number : SDG05034117
Certificate ID : 161286
Page 1 of 1

Approved by: Andrew Timms (Environmental Laboratory Manager)
Reported : 25/01/2006 16:47

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v2.0.4

ALcontrol Laboratories

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Bradford Laboratory : George Street, Bradford. BD1 5AU. (UKAS Lab No. 0996)
Telephone: 01709 841096 Fax: 01709 841079 E-mail : customer.services@alcontrol.co.uk

Supplementary Report

Sample Received : 19/01/2006
Analysis Completed : 24/01/2006
Site Name : None Supplied

Your PO No : None Supplied

ALcontrol Laboratories
ALcontrol Chester
Units 7 & 8 Hawarden Business Park
Off Manor Lane
Hawarden
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CH5 3US

Supplementary Report

This is a supplementary report. It supersedes the report that was issued on 24/01/2006. Please destroy the original.

Our Ref		060005525		060005526		060005527	
Your Ref		05/18857/ 14 8GW2		05/18857/ 16 8GW3		05/18857/ 18 8GW4	
Sampled On		**18/01/2006**		**18/01/2006**		**18/01/2006**	
	Method						
Coliforms Total No.	R*	<1	No/100 ml	<1	No/100 ml	<1	No/100 ml
Faecal coliforms	R*	<1	No/100 ml	<1	No/100 ml	<1	No/100 ml

Our Ref		060005528		060005529		060005530	
Your Ref		05/18857/ 22 10GW1		05/18857/ 24 10GW2		05/18857/ 26 10GW3	
Sampled On		**18/01/2006**		**18/01/2006**		**18/01/2006**	
	Method						
Coliforms Total No.	R*	<1	No/100 ml	<1	No/100 ml	<1	No/100 ml
Faecal coliforms	R*	<1	No/100 ml	<1	No/100 ml	<1	No/100 ml

Our Ref		060005531					
Your Ref		05/18857/ 28 10GW4					
Sampled On		**18/01/2006**					
	Method						
Coliforms Total No.	R*	<1	No/100 ml				
Faecal coliforms	R*	<1	No/100 ml				

Approved by: Andrew Timms (Environmental Laboratory Manager)
Reported : 25/01/2006 16:50

SDG Number : SDG06001589
Certificate ID : 161287
Page 1 of 1

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Bradford Laboratory : George Street, Bradford. BD1 5AU. (UKAS Lab No. 0996)
Telephone: 01709 841096 Fax: 01709 841079 E-mail : customer.services@alcontrol.co.uk

Supplementary Report

Sample Received : 03/01/2006
Analysis Completed : 06/01/2006
Site Name : None Supplied

Your PO No : None Supplied

ALcontrol Laboratories
ALcontrol Chester
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Hawarden
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CH5 3US

Supplementary Report

This is a supplementary report. It supersedes the report that was issued on 06/01/2006. Please destroy the original.

Our Ref		060000065		060000066		060000067	
Your Ref		18857 - 52 14/LFILL/BA		18857 - 53 14/LFILL/CA		18857 - 66 25/SW/A	
Sampled On		**29/12/2005**		**29/12/2005**		**29/12/2005**	
	Method						
Coliforms Total No.	R*	1990	No/g	<1	No/g	1.00	No/g
E. coli	R*	<1	No/g	<1	No/g	<1	No/g

Our Ref		060000068	
Your Ref		18857 - 67 24/SW/3A	
Sampled On		**29/12/2005**	
	Method		
Coliforms Total No.	R*	1730	No/g
E. coli	R*	37.0	No/g

Approved by: Andrew Timms (Environmental Laboratory Manager)
Reported : 25/01/2006 16:53

SDG Number : SDG06000045
Certificate ID : 161288
Page 1 of 1

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ALcontrol Laboratories

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Bradford Laboratory : George Street, Bradford. BD1 5AU. (UKAS Lab No. 0996)
Telephone: 01709 841096 Fax: 01709 841079 E-mail : customer.services@alcontrol.co.uk

Supplementary Report

Sample Received : 03/01/2006
Analysis Completed : 09/01/2006
Site Name : 18857

Your PO No : 11260

ALcontrol Laboratories
ALcontrol Chester
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Hawarden
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CH5 3US

Supplementary Report

This is a supplementary report. It supersedes the report that was issued on 09/01/2006. Please destroy the original.

Our Ref		060000082		060000083		060000084	
Your Ref		05/18857/89 2GW1		05/18857/91 2GW2		05/18857/93 4GW1	
Sampled On		**29/12/2005**		**29/12/2005**		**29/12/2005**	
	Method						
Coliforms Total No.	R*	<1	No/100 ml	2.00	No/100 ml	<1	No/100 ml
Faecal coliforms	R*	<1	No/100 ml	<1	No/100 ml	<1	No/100 ml

Our Ref		060000085		060000086		060000087	
Your Ref		05/18857/96 8GW1		05/18857/98 11GW1		05/18857/100 12GW1	
Sampled On		**29/12/2005**		**29/12/2005**		**29/12/2005**	
	Method						
Coliforms Total No.	R*	<1	No/100 ml	<1	No/100 ml	<1	No/100 ml
Faecal coliforms	R*	<1	No/100 ml	<1	No/100 ml	<1	No/100 ml

Our Ref		060000088		060000089		060000090	
Your Ref		05/18857/102 12GW2		05/18857/104 15GW2		05/18857/106 18GW1	
Sampled On		**29/12/2005**		**29/12/2005**		**29/12/2005**	
	Method						
Coliforms Total No.	R*	34.0	No/100 ml	1550	No/100 ml	<1	No/100 ml
Faecal coliforms	R*	<1	No/100 ml	26.0	No/100 ml	<1	No/100 ml

Our Ref		060000091		060000092		060000093	
Your Ref		05/18557/108 18GW2		05/18857/110 23GW1		05/18857/112 23STP1	
Sampled On		**29/12/2005**		**29/12/2005**		**29/12/2005**	
	Method						
Coliforms Total No.	R*	<1	No/100 ml	9.00	No/100 ml	2750	No/100 ml
Faecal coliforms	R*	<1	No/100 ml	<1	No/100 ml	24.0	No/100 ml

Approved by: Andrew Timms (Environmental Laboratory Manager)
Reported : 25/01/2006 17:07

SDG Number : SDG06000048
Certificate ID : 161306
Page 1 of 2

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Bradford Laboratory : George Street, Bradford. BD1 5AU. (UKAS Lab No. 0996)
Telephone: 01709 841096 Fax: 01709 841079 E-mail : customer.services@alcontrol.co.uk

Supplementary Report

Sample Received : 03/01/2006
Analysis Completed : 09/01/2006
Site Name : 18857

Your PO No : 11260

ALcontrol Laboratories
ALcontrol Chester
Units 7 & 8 Hawarden Business Park
Off Manor Lane
Hawarden
Deeside
CH5 3US

Supplementary Report

This is a supplementary report. It supersedes the report that was issued on 09/01/2006. Please destroy the original.

Our Ref		060000094		060000095		060000096	
Your Ref		05/18857/114 23WW1		05/18857/115 23WW2		05/18857/117 23WW3	
Sampled On		**29/12/2005**		**29/12/2005**		**29/12/2005**	
	Method						
Coliforms Total No.	R*	520	No/100 ml	108	No/100 ml	3.00	No/100 ml
Faecal coliforms	R*	83.0	No/100 ml	<1	No/100 ml	<1	No/100 ml

SDG Number : SDG06000048
Certificate ID : 161306

Approved by: Andrew Timms (Environmental Laboratory Manager)
Reported : 25/01/2006 17:07

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ALcontrol Shutler

UKAS TESTING
0642

TEST REPORT

Report Number	43471	**Issue Date**	9 January 2006
Page	1	**Issued By**	C Dennis
of	5	**Authorised Signatory**	
		Typist Name	D Tunnicliffe

Fibre Identification

Site Location 05/18857

(Submitted samples)

Client
ALcontrol Geochem
Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
CH5 3US

For the attention of Geraint Williams

Samples of material, referenced within this report, have been examined to determine the presence of asbestos fibres, using ALcontrol Shutler's in-house method of transmitted/polarised light microscopy and centre stop dispersion staining, based on HSE's MDHS 77 (June 1994). If samples have been DELIVERED the site address and actual sample location is as given by the client at the time of delivery. ALcontrol Shutler are not responsible for the accuracy or competence of the sampling by third parties. Under these circumstances ALcontrol Shutler cannot be held responsible for the interpretation of the results shown. Samples COLLECTED have been sampled using ALcontrol Shutler's documented "in-house" method for sampling for which we hold accreditation.

ASBESTOS TYPE	**COMMON NAME**
Amosite	Brown Asbestos
Chrysotile	White Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

MMMF denotes man-made mineral fibre

Visual Estimation of Percentage Fibre Content by Volume		**Code**
Trace:	less than 5	T
Low:	5 to 15	L
Medium:	16 - 30	M
High:	31 - 100	H

The sampling and identification of asbestos containing materials fall within our schedules of tests for which we hold UKAS accreditation, however opinions, interpretations, surveying methods and all other information contained in the report are outside the scope of UKAS Accreditation.

Issue 5 June 2005

UVDB constructionline atac

Unit 5, Loomer Road, Chesterton, Newcastle, Staffordshire ST5 7LB tel: 01782 576590 fax: 01782 576599

ALcontrol Shutler
Environmental Consultants

UKAS TESTING
0642

Report Number	43471
Page	2
Of	5
No. of samples on page	7

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TEST REPORT

Fibre Analysis

ALcontrol Geochem

Sampling by	-
Date	-
Analysis by	P McNulty
Date	03/01/06
Laboratory	L0

Sample Number	Location of Sample	White Asbestos	Brown Asbestos	Blue Asbestos	MMMF	Organic Fibre	Comments
							Samples submitted by the Client
	05/18857						
43471/1	1/ASB/001, 05/18857-32	✓	-	-	-	-	Typical of asbestos cement
43471/2	EREZ/ASB/001, 05/18857-33	✓	-	-	-	-	Typical of asbestos cement
43471/3	2/ASB/001, 05/18857-34	-	-	-	-	✓	No asbestos identified
43471/4	2/ASB/002, 05/18857-35	✓	-	✓	-	-	Typical of asbestos cement
43471/5	2/ASB/003, 05/18857-36	✓	-	-	-	-	Typical of asbestos cement
43471/6	5/ASB/001, 05/18857-37	✓	-	-	-	-	Typical of asbestos cement
43471/7	6/ASB/001, 05/18857-38	-	-	-	-	✓	No asbestos identified

Issue 7 Feb 2005

ALcontrol Shutler
Environmental Consultants

UKAS TESTING
0642

Report Number	43471
Page	3
Of	5
No. of samples on page	8

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TEST REPORT

Fibre Analysis

ALcontrol Geochem

Sampling by	-
Date	-
Analysis by	P McNulty
Date	03/01/06
Laboratory	L0

Sample Number	Location of Sample	White Asbestos	Brown Asbestos	Blue Asbestos	MMMF	Organic Fibre	Comments
43471/8	8/ASB/001, 05/18857-39	✓	-	-	-	-	Typical of asbestos cement
43471/9	9/ASB/001, 05/18857-41	✓	-	-	-	-	Typical of asbestos cement
43471/10	10/ASB/001, 05/18857-44	✓	-	-	-	-	Typical of asbestos cement
43471/11	10/ASB/002, 05/18857-45	-	✓	-	-	-	Typical of asbestos insulating board
43471/12	11/ASB/001, 05/18857-47	✓	-	-	-	-	Typical of asbestos cement
43471/13	12/ASB/001, 05/18857-48	✓	-	-	-	-	Typical of asbestos cement
43471/14	14/ASB/001, 05/18857-50	✓	-	-	-	-	Typical of asbestos cement
43471/15	15/ASB/001, 05/18857-54	✓	-	-	-	-	Typical of asbestos cement

Issue 7 Feb 2005

ALcontrol Shutler
Environmental Consultants

UKAS TESTING
0642

Report Number	43471
Page	4
Of	5
No. of samples on page	6

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TEST REPORT

Fibre Analysis

ALcontrol Geochem

Sampling by	-
Date	-
Analysis by	P McNulty
Date	03/01/06
Laboratory	L0

Sample Number	Location of Sample	White Asbestos	Brown Asbestos	Blue Asbestos	MMMF	Organic Fibre	Comments
43471/16	15/ASB/002, 05/18857-55	-	-	-	-	-	No fibres detected
43471/17	15/ASB/003, 05/18857-56	✓	-	-	-	-	Typical of asbestos cement
43471/18	15/ASB/004, 05/18857-57	-	-	-	-	-	No fibres detected
43471/19	15/ASB/005, 05/18857-58	✓	-	✓	-	-	Typical of asbestos cement
43471/20	18/ASB/001, 05/18857-60	✓	-	-	-	-	Typical of asbestos cement
43471/21	3/ASB/001, 05/18857-68	✓	-	-	-	-	Typical of asbestos cement

Issue 7 Feb 2005

ALCONTROL GEOCHEM Page 5 of 5
05/18857
REPORT NO. 43471

ASBESTOS COATINGS, ASBESTOS INSULATION & ASBESTOS INSULATING BOARD

a) Work with this material is subject to the Control of Asbestos at Work Regulations 2002 and subsequent amendments.

b) Guidance can be obtained within the H.S.C. Approved code of practice - Work with asbestos insulation, asbestos coating and asbestos insulating board, current edition.

c) Work must only be undertaken by a contractor licensed under the Asbestos (Licensing) Regulations 1983 and subsequent amendments. (Subject to limited exceptions).

d) 14 days prior notification of work with this material must be given to the enforcing authority.

e) Air monitoring during removal and clearance certification upon completion should be undertaken using a UKAS accredited laboratory.

f) This material is classified as a 'special waste' and requires pre-notification of movement to the Environment Agency and disposed of in accordance with the Special Waste Regulations 1996.

ASBESTOS CEMENT/OTHER ASBESTOS MATERIALS

a) Work with this material is subject to the Control of Asbestos at Work Regulations 2002 and subsequent amendments.

b) Guidance can be obtained within the HSE publication HSG 189/2, 1999 – Working with asbestos cement or HSE publication HSG 213 Asbestos Essentials.

c) It is assumed that this material is classified as a 'special waste' for the purposes of disposal.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 05/18857/02/01
Client: UNEP, Post Conflict Assessment Unit
Client Ref. No.:

Report Key :

			Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}
NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓		DRY	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓		NA	
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser	✓		NA	
TM100	BS 2690: Part 105:1983	Determination of Phosphate using the Kone Analyser	✓		NA	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		DRY	
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit	✓		NA	
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	✓		NA	
TM127	Method 3112B, AWWA/APHA, 20th Ed., 1999	The Determination of Trace Level Mercury in Aqueous Media and Soil Extracts by Atomic Absorption Spectroscopy	✓		NA	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓		DRY	
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer	✓	✓	DRY	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓		NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓	✓	WET	
TM144	Modified: US EPA Method 8081A	Organochlorine pesticides by GC-MS			DRY	
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser	✓		WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALcontrol Geochem Analytical Services
Table Of Results - Appendix

Job Number: 05/18857/02/01
Client: UNEP, Post Conflict Assessment Unit
Client Ref. No.:

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS	✓		NA	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓		NA	
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	✓	✓	WET	

[1] Applies to Solid samples only. **DRY** indicates samples have been dried at 35°C. **NA** = not applicable.

ALCONTROL GEOCHEM - MCERTS UPDATE (19th October 2005)

Annex A (normative)

Table 1 - Performance characteristics (metals and organometallics)	UKAS	MCERTS
Antimony	yes	p
Arsenic	yes	yes
Barium	yes	yes
Beryllium	yes	yes
Boron (water soluble)	yes	yes
Cadmium	yes	yes
Cobalt	yes	yes
Copper	yes	yes
Chromium	yes	yes
Iron	yes	yes
Lead	yes	yes
Manganese	yes	yes
Mercury	yes	p
Molybdenum	yes	yes
Nickel	yes	yes
Organolead compounds	no	no
Organotin compounds	no	no
Selenium	yes	yes
Thallium	yes	p
Vanadium	yes	yes
Zinc	yes	yes

Table 2 - Performance characteristics (inorganics)	UKAS	MCERTS
Easily liberated cyanide	yes	yes
Complex cyanide	yes	yes
pH	yes	yes
LOI	yes	yes
Sulphide	yes	p
Sulphate	yes	yes
Sulphur	yes	yes
Thiocyanate	yes	yes

Tabel 3 - Performance characteristics (organics)	UKAS	MCERTS
Benzene	yes	yes
Benzo[a]pyrene	yes	yes
Chlorobenzene	yes	yes
Chloromethane	yes	yes
Chlorophenol (2-chlorophenol)	yes	yes
Chlorotoluene(2-chlorotoluene, 4-chlorotoluene)	yes	yes
1,2-dichloroethane	yes	yes
Dichloromethane	yes	yes
"Dioxins"	no	no
Ethylbenzene	yes	yes
"Furans"	no	no
Hexachloro-1,3-butadiene	yes	yes
"Hydrocarbons"	yes	yes
"Nitroaromatics"	yes	no
Loss on Ignition	yes	yes
Pentachlorophenol	p	p
"Phenols"	yes	yes
"Phthalate esters"	p	p
"Polyaromatic hydrocarbons" - 16	yes	yes - 16
"Polychlorinated biphenyls"	yes	p
Tetrachloroethane	yes	no
Tetrachloroethene	yes	yes
Tetrachloromethane (carbon tetrachloride)	yes	yes
Toluene	yes	yes
Trichloroethane	yes	yes
Trichloroethene	yes	yes
Trichloromethane (chloroform)	yes	yes
Vinyl chloride	yes	yes
Xylene	yes	yes

yes - accreditation awarded
p = pending - data meeting MCERTS criteria submitted to UKAS - awaiting certification
no = not being submitted in the near future

ALcontrol Geochem

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email: mkt@alcontrol.co.uk
website: www.alcontrol.co.uk

UNEP, Post Conflict Branch
International Environment House
15 chemin des Anemones
1219 Chatelaine
Geneva
Switzerland

ATTN: Muralee Thummarukudy

CERTIFICATE OF ANALYSIS

Date:	13 January, 2006
Our Reference:	05/18857/02/01
Your Reference:	Post Dis-engagement Environmental Assessment
Location:	Former Occupied Palestinian Territories

A total of 117 samples was received for analysis between Tuesday, 20 December 2005 and Wednesday, 21 December 2005 and completed on Thursday, 12 January 2006. Accredited laboratory tests are defined in the log sheet, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation. We are pleased to enclose our final report, it was a pleasure to be of service to you, and we look forward to our continuing association.

This report only contains analysis data, but supporting information which may affect the intrepretation of the results can be found at http://gazareport.unep.ch

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials- whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Signed

Diane Whittlestone
Environmental Chemist
Analytical Services

Compiled By

Geraint Williams

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UKAS TESTING
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Appendix IV
Screening values for soil and ground water

Summary of Data from the Tier 1 Screening Process for Soils	Dutch Integrated SRC Tier 1 Screening Criteria for Soils	CLEA derived Tier 1 Screening Criteria for Soils
Metals (all results in mg/kg)		
Arsenic	85	20
Cadmium	890	1
Chromium		
Barium	13	1
Beryllium	220	130
Lead	96	
Mercury	580	450
Molybdenum	36	8
Selenium	190	
Copper	96	50
Nickel	100	35
Zinc	350	
Hydrocarbons and VOCs (all results in µg/kg unless stated)		
Benzene	1100	
Toluene	32000	
Ethyl benzene	110000	
Naphthalene	17000000	10000
Acenaphthylene	26000000	5000
Acenaphthene	315000000	35000
Fluorene	23000000	50000
Phenanthrene	31000	90000
Anthracene	1600	115000
Fluoranthene	260000	15000
Pyrene	320000000	130000
Benz(a)anthracene	2500	3000
Chrysene	35000	15000
Benzo(b)fluoranthene	2800000	1000
Benzo(k)fluoranthene	38000	3000
Benzo(a)pyrene	7000	500
Indeno(123cd)pyrene	1900	5000
Dibenzo(ah)anthracene	70000	
Benzo(ghi)perylene	33000	250000
Petroleum Range Organics C_4 - C_{10} (mg/kg)	5001	
Petroleum Range Organics C_{10} - C_{12} (mg/kg)	5001	
Diesel Range Organic (mg/kg)	5000*	
Mineral Oil	5000*	
Phenols	150[3]	
Other Parameters (all results in mg/kg)		
PH	>4, <10[2]	
OC/OP Pesticides (all results in µg /kg)		
DDT		
p,p'-DDE	1300	
Dieldrin	9100	
p,p'-TDE(DDD)	34000	
Endrin	95	
o,p'-TDE(DDD)	34000	
p,p'-DDT	1000	
Aldrin	320	
Endrin	95	
Polychlorinated bi-phenyls	1000*	

* No Integrated SRC value, VROM 2000 value used.
[1] No published value; assessors 'trigger' value for further assessment.
[2] No published value; assessors 'trigger' value denoting acid or alkaline conditions.
[3] No published value; assessors 'trigger' value for further assessment.

Summary of Data from the Tier 1 Screening Process for Water	Unit	Dutch Screening Values
Arsenic	ug/l	33
Cadmium	ug/l	10
Chromium	ug/l	166
Copper	ug/l	19
Lead	ug/l	17
Molybdenum	ug/l	333
Nickel	ug/l	500
Zinc	ug/l	91
Mercury	ug/l	36
Total Cyanide	ug/l	29
Mineral Oil	ug/l	600
Diesel Range Organics	ug/l	600
Petroluem Range Organics	ug/l	600
Benzene	ug/l	110
Toluene	ug/l	4360
Ethyl Benzene	ug/l	3329
m&p xylene	ug/l	1200
o xylene	ug/l	1000
PAH 16 Total	ug/l	
Napthalene	ug/l	290
Aldrin	ug/l	6
p,p'-DDE	ug/l	10
Dieldrin	ug/l	6
Endrin	ug/l	3
o,p'-DDT	ug/l	43
p,p'-DDT	ug/l	43
Volatile Organic Compounds (VOC)		
Vinyl Chloride	ug/l	40
Dichloromethane	ug/l	1997
cis-1-2-Dichloroethene	ug/l	466
1.2-Dichloroethane	ug/l	466
Trichloroethene	ug/l	1500
Tetrachloroethene	ug/l	533
1.2-Dichlorobenzene	ug/l	740
1.4-Dichlorobenzene	ug/l	460
1.2.4-Trichlorobenzene	ug/l	46
1.2.3-Trichlorobenzene	ug/l	100

Appendix V
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UNEP

In June 2004, Israel initiated the plan for disengagement from the Gaza Strip. In April 2005, UNEP was requested by the Palestinian Authority to assist with an environmental assessment of the disengaged settlements. The Israeli disengagement from the Gaza Strip was finalized by 12 September 2005.

To conduct the environmental assessment UNEP developed its own methods, focusing on four objectives: Firstly, to gather a baseline data set of the environment in the disengaged settlements. Secondly, to identify areas posing immediate risk to people. Thirdly, to create an information base, including satellite images and maps, for future planning. Fourthly, to provide training on environmental assessments to Palestinian experts.

Using satellite imagery, reports and comments from Israeli, Palestinian, and international sources, UNEP experts, prior to commencement of the field work identified approximately 100 areas of interest, including industrial buildings, waste disposal sites, agricultural plants and storage tanks.

The fieldwork was carried out in Gaza from 9-18 December 2005 by a UNEP-team of 8 experts with expertise in the fields of hazardous waste including asbestos, marine and coastal issues, soil contamination and water quality. The UNEP-team could consequently cover all 21 disengaged settlements and the Erez industrial site.

This report presents the findings of the environmental assessment in the Gaza Strip.

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