Environmental Due Diligence Program - Phase 2

Special Purpose & Industrial Estate
Australian Quarantine Inspection Service
Wallgrove Rd Eastern Creek, NSW
(SAP No 19556)

for

Department of Finance & Administration
Divestment Program 2000/2001

Prepared by:

Senior Environmental Engineer/Scientist

Reviewed by:

Director

Copy Number	Location
1 and 2	Property Group
3	DASCEM Melbourne Library Copy

Report No CL529 / 06 - February 2001

Table of Contents

Appendices

1. Executive Summary

DASCEM Holdings Pty Ltd (DASCEM) was engaged by Knight Frank Australia to conduct a Phase 2 environmental investigation of the Australian Quarantine and Inspection Service (AQIS) Eastern Creek NSW site, on behalf of the Department of Finance and Administration Property Group (PG). This investigation is an essential part of the due diligence program for the divestment of nominated Commonwealth properties throughout Australia.

The objectives of the investigation were to identify and assess potential environmental issues, remediate the fuel storage tanks and develop Environmental Management Plans to assist AQIS Eastern Creek NSW in the management of these issues.

1.1 Site Contamination

Unexploded Ordnance (UXO) contamination may exist on the part of the site used by the Army during World War II as a grenade range. There is no evidence of a detailed UXO survey having been conducted of the site.

The 1999 DASCEM Report (CL420-24 November 1999) identified hydrocarbon contamination beneath the filling point of a diesel aboveground storage tank (AST). The AST has been relocated into a bunded area and the contaminated soil disposed off-site at a licensed landfill. Validation sampling has been conducted.

The abandoned underground storage tank (UST) has been removed and the excavation validated in accordance with NSW EPA (1994) criteria.

Effluent from the kennels and surface waters are directed to a settling pond. No contamination was identified in or down stream of the settling ponds.

The incinerator is used for destroying quarantine waste such as floor paper from the dog kennels. Discussions with AQIS staff identified that approximately 18 tonnes of waste are incinerated annually. This is less than the 25 tonne limit required for licensing under the NSW Protection of the Environment Operations Legislation.

Pesticides are used throughout the plant quarantine area. This presents the potential for soil contamination but a near surface soil sample taken in the area did not detect any residual Organochlorine or Organophosphate Pesticides.

No activities on adjoining properties were identified which may have an adverse environmental impact on the site. Cemeteries, such as the one situated to the north and west, are documented source of groundwater pollution but as the cemetery is situated down hydraulic gradient from the AQIS site this is unlikely to be a significant issue.

1.2 Hazardous Materials & Dangerous Goods

1.2.1 Asbestos

Asbestos was identified in the eaves lining material of the Animal Quarantine area. The materials are generally painted and in good condition. No asbestos was identified in the Plant Quarantine area.

1.2.2 Lead Based Paints

No lead based paints were identified.

1.2.3 PCBs

No PCB containing capacitors were identified on the site, however some capacitors could not be confirmed as not containing PCB therefore they are assumed to contain PCB until proven otherwise.

1.2.4 Nickel Cadmium Batteries

NiCd batteries are used in emergency light fittings and EXIT signs in the Plant Quarantine area. There is no AQIS policy for the disposal of spent NiCd batteries.

1.2.5 Dangerous Goods

Dangerous goods are stored on the site, and a Work Cover *License to Keep Dangerous Goods* may be required, particularly for the LPG cylinders and the unleaded fuel.

1.3 Recommendations

Based on the results of the Phase 2 Environmental due diligence investigation of the AQIS site at Eastern Creek NSW, DASCEM recommends the following:

1. No excavations be permitted in the area of the grenade range pending a detailed UXO assessment of the site.
2. Asbestos, PCB and NiCd batteries be managed and/or removed. Reference should be made to the DOFA Draft Asbestos, PCB and NiCd Risk Management Policies (June 2000) prepared by DASCEM.
3. AQIS to make an application to WorkCover NSW for a License to Keep Dangerous Goods with respect to the LPG and unleaded fuel held on the site.
4. All Dangerous Goods to be stored in accordance with Dangerous Goods Storage and Handling Regulations, and the requirements of AS1940 for the minor storage of flammable liquids;
5. The former UST should have been licensed with WorkCover NSW. Assuming the UST was licensed with WorkCover NSW, the licensee of the UST (presumably AQIS) should notify WorkCover that it has been removed.
6. A re-assessment against the EPBC Act be undertaken should the site be redeveloped, with particular emphasis on the potential impact on the threatened and protected species.

2. Introduction

DASCEM was engaged by Knight Frank Australia to undertake a Phase 2 environmental assessment of the Australian Quarantine and Inspection Service (AQIS) Quarantine Station Wallgrove NSW. The objectives of the investigation were to identify and assess potential environmental issues, remediate the fuel storage tanks and develop Environmental Management Plans to assist AQIS in the management of these issues.

2.1 Scope of Works

DASCEM was engaged to conduct a Phase 2 environmental assessment of the AQIS site and update the previous DASCEM Report (CL420-24 *Environmental Audit and Management Plan: Australian Quarantine and Inspection Service Eastern Creek NSW* November 1999).

This was achieved by DASCEM undertaking a review of available information including the following:

- DOFA Reports and Files.
- Environment Protection Authority (EPA) Registers of Contaminated Sites.
- WorkCover Registers for bulk storage of Dangerous Goods.
- Environment Australia (EA) Registers.
- Title information to identify site uses that may have resulted in contamination.
- A chronology of aerial photographs to identify site or adjoining site uses which may have impacted on the property.
- Review of Council records.
- Site plans to identify potential contamination sources such as fuel storage tanks, Dangerous Goods stores and landfills.
- Review of available tenant files to identify previous hazardous materials or environmental audits, records of chemical spills, remedial works.
- Telephone interviews with current and former staff that have a detailed knowledge of the property.
- Site inspections and sampling.

3. Site Information

3.1 Property Description

The Australian Quarantine Inspection Service (AQIS) site is located at 60 Wallgrove Road, Eastern Creek. The site is divided into the following quarantine groups;

- Animal Quarantine; and
- Plant Quarantine.

The site is owned by the Commonwealth of Australia and is described as Lot 3 on Deposited Plan 262259 in the City of Blacktown, Parish of Melville, County of Cumberland. According to the deposited plan the site covers an area of 22.10 hectares.

The site is currently zoned as Special Uses 5(a) "Commonwealth Purposes" pursuant to Blacktown Council's Local Environment Plan (LEP) 1988.

Surrounding land use includes the Pine Grove Lawn Cemetery to the north and west, a Motorway and Australia's Wonderland Theme park to the south, and open farmland and native bushland to the east of the site.

3.2 Site History

Historical title information reveals that the site was formerly part of a larger holding of land acquired by the Commonwealth of Australia in 1941.

Former land use is not well documented, however it was used as an army base in the 1940s. The site was used by the Army during WWII as a grenade range which supported the large Army camp at Wallgrove. The main camp was located South of the grenade range. Information regarding the location of this range is provided in Appendix G. There is no record of a detailed UXO or environmental assessment being undertaken on the site prior to occupation by AQIS.

A review of aerial photographs indicates that the site was undeveloped open grassland with a few trees prior to 1978. The site appears to have been developed between 1978 and 1986, and the 1986 aerial photograph shows the site largely as it is today, with the exception of the Plants Quarantine buildings. Site preparations for the Plants Quarantine

buildings were observed in the September 1998 aerial photograph suggesting construction soon after this time. The Plant Quarantine was opened in early 1999.

3.3 Site Improvements

The AQIS site includes administration offices, staff accommodation, stables, catteries, kennels, an apiary, incinerator, glasshouses, a washbay, workshop and stores for supplies, equipment and feed. The Animals Quarantine was constructed in 1980 while the Plants Quarantine was completed in 1999.

The buildings and improvements were inspected and are summarised in Table 1. Building numbers are identified in Appendix A Figure 2.

Table 1: Visual inspection of site improvements

Building No	Building
Animals Quarantine	
1 – 15	Kennels
16	Small Animal Surgery and Laundry
17 – 18	Catteries
19 – 25	Stables
26	Grooms quarters
27	Staff amenities
28	Compost Heaps
29	Incinerator and recycling centre
30	Tank (for fire purposes)
31	Machinery
32	Store/Workshop
33	Pump House
34	Feed Store
35	Administration
37	Chemical Store
38 – 40	Residential Dwellings
44	Apiary
58	Above ground tank
-	Horse Surgery
Plants Quarantine	
Admin/Lab building	Administration, laboratory, staff amenities
Workshed	Includes garage, stores and potting room
Glasshouses	Four glasshouses

3.3.1 *Surrounding Land-use*

Surrounding land uses include the Pine Grove Lawn Cemetery to the north and west, a Motorway and Australia's Wonderland (theme park) to the south, and open farm land and native bushland to the east of the site.

3.4 Site Function

The site is used by AQIS as a plant and animal quarantine station. The Animal Quarantine Section comprises 36 single storey buildings including kennels, catteries, stables, workshops, stores, staff accommodation and an administration building. The Plant Quarantine Section consists of seven single storey buildings including an administration and laboratory building, a workshed and glasshouses.

4. Desk Study - Potential Environmental Issues

4.1 Review of Available Site Information

Potential environmental issues were assessed using the following sources:

- Review of Department of Finances and Administration (DOFA) files.
- Review of EPA Records.
- Review of Land Title data.
- Local Council
- Review of aerial photography.
- Previous Environmental Reports.

4.2 DOFA Records

The following reports were provided by DOFA and reviewed for relevant environmental information:

- DASCEM Report CL420-24, November 1999. *Environmental Audit and Management Plan, AQIS Eastern Creek, NSW*, produced for the Department of Finance and Administration Domestic Property Operations Group.

The aim of the CL420-24 report was to identify potential environmental issues and develop Environmental Management Plans for these issues. The report included a hazardous materials audit (asbestos, lead based paints, PCB, NiCd batteries and Dangerous Goods), Building Risk and Fire Protection Survey, an Ozone Depleting Substances and Energy Management Plan.

4.3 Environment Protection Authority

A review of records held by the NSW Environmental Protection Authority (EPA) under the Unhealthy Building Land Act confirmed that no statutory notices relating to contamination have currently served by the EPA for the AQIS site. This indicates that the EPA possesses no conclusive evidence that contamination causing a significant risk to human health or to the environment exists on the site. However, as the site was used by the Army as a grenade range this does not absolutely rule out the possibility of contamination at the site and should not be interpreted as a guarantee that there is no contamination.

The EPA Contaminated Sites Register advice is presented as Appendix E.

4.4 *Environment Australia*

A site review was conducted against EPBC Act triggers and heritage listings as currently described on the Environment Australia database (http://www.environment.gov.au/epbc/).

A review was also conducted against Section 30 of the Australian Heritage Commission Act 1975 for listings of indigenous, natural and historical significance as currently described on the EA database (http://www.environment.gov.au/heritage/register/). Although these listings are not directly related to the EPBC Act, the database states that the '*Commonwealth Government is prohibited from taking any action that would adversely affect these listings, unless there are no other prudent alternatives*'.

4.5 *Land Titles Information*

A review of Land Title information held by the Land and Property Information Department was conducted for the site. The records reveal that the Commonwealth of Australia became the registered owner of the land upon which the AQIS site is located in 1941. No land title information was available prior to 1941 to provide indication of previous landuse.

4.6 *Local Council*

Blacktown Council confirmed that there are no environmental issues, notices or orders pertaining to the site.

4.7 *Aerial Photographs*

A review of aerial photographs over the period 1951 to 1998 did not indicate land use of environmental concern however the Department of Defence notes that a 1949 aerial photograph indicates the location of a grenade range on the AQIs site and the adjoining property to the south. Copies of the aerial photographs provided by the Land and Property Information Centre (post 1950) are presented in Appendix B. The Aerial Photograph from Defence records (1949) in provided in Appendix G.

4.8 *Previous Environmental Reports*

The Defence Centre Sydney Report *UXO Site Assessment Wallgrove NSW* (DCS 95/02452/DCS) was reviewed to identify the location of the two grenade ranges.

In addition to the reports cited in the DOFA records, DASCEM conducted a Phase 1 due diligence environmental assessment of the AQIS site with particular reference to the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DASCEM Report CL516-52 January 2001). No activities were identified which may have a significant impact in respect of Part 3 Division 1 of the EPBC Act.

4.9 *Other Sources*

There are no further readily available sources containing environmental information regarding the subject site.

5. Contaminated Land

The 1999 DASCEM Report CL420-24 identified an Aboveground Storage Tank (AST) and an Underground Storage Tank (UST) as significant sources of potential contamination on the AQIS site. Other identified areas of potential contamination and/or environmental significance were the:

- Previous Army Use of the Site;
- Settling pond;
- Pesticide use within the Plant Quarantine;
- Incinerator;
- Cemetery located to the north and west; and

5.1 AST and UST

Aboveground Storage Tank

The AST is currently operational and stores diesel for on-site use of plant and equipment. At the time of the DASCEM CL420-24 report (1999), the AST was not bunded and located adjacent to a kerb and gutter approximately 5 metres up gradient from a stormwater drain. Any leak or spillage from the AST would cause soil, groundwater and/or stormwater contamination.

Brown staining of the soil directly beneath the filling point indicates past spillages have already impacted the soil. Sampling of the soil beneath the AST fill point in November 1999 identified Total Petroleum Hydrocarbon (TPH) contamination[1] extending to a depth of 0.3m. The laboratory report for the 1999 investigation is provided in Appendix D.

Underground Storage Tank

The UST was installed during the initial construction period circa 1980, for the storage of leaded fuel. The UST was decommissioned in 1987 by emptying the fuel and backfilling with water, which according to WorkCover NSW, is an unacceptable means of decommissioning a UST.

[1] TPH was detected in excess of the threshold concentrations for sensitive landuse as described in the NSW EPA (1994) Guidelines for Assessing Service Station Sites.

Investigative sampling of the soil around UST was undertaken as part of the DASCEM Report CL420-24 (November 1999) and revealed no widespread hydrocarbon contamination (Refer to the laboratory report provided in Appendix D). As part of the Phase 2 investigation, the redundant UST was removed in accordance with Australian Standard 1940 - 1993 and the Australian Institute of Petroleum Code of Practice No. 22 and the tankpit validated.

5.1.1 Fieldwork

Aboveground Storage Tank

The AST has been relocated to a bunded area approximately 10m to the south (refer to photograph 2, Appendix B). The contaminated soil at its former location was excavated and disposed off-site at a licensed landfill. The resulting excavation was backfilled with clean imported fill.

Underground Storage Tank

The UST was removed in February 2001 and transported off-site for degassing and disposal. The disposal certificate is provided in Appendix F. Details of the removed tank are presented in Table 2.

Table 2: **Summary of Tank Details**

Product	Type	Condition
Formerly leaded fuel	T10 (~10,000L)	The tank was in good condition with the welding intact and no visible holes.

5.1.2 Sampling Program

Sampling was undertaken in accordance with NSW EPA (1994) 'Guidelines for Assessing Service Station Sites' and comprised:

(i) One sample from the base and four walls of the excavation beneath the former location of the AST;

(ii) One sample from the base and four walls of the UST excavation pit;

(iii) Two samples from the UST tankpit 'backfill soils' (1 sample per 25m^3);

(iv) One sample from beneath the bowser associated with the UST;

(v) A sample of the Imported Fill used to reinstate each excavation; and,

(vi) One Quality Assurance / Quality Control duplicate sample (1 sample per 10).

All soil samples were screened in the field using a portable Photoionisation detector (PID) to measure the indicative concentrations of total volatile organic compounds (VOCs) in the headspace above the sample. The PID results provide semi-quantitative field data which can be used to direct excavations. The field data is then supported by laboratory analysis.

A summary of the samples collected and their respective PID results is provided in Table 3. The location of each of the samples is shown on Figure 2 in Appendix A.

Table 3: Summary of PID Results - Tankpit excavation

Sample ID	Sample Location	VOC Isobutylene Equivalent Concentration (ppm)
Excavation Beneath AST		
AST/N	North wall of excavation	2
AST/S	South wall of excavation	3.2
AST/E	East wall of excavation	0.2
AST/W	West wall of excavation	16
AST/B	Base of excavation	3.3
AST/IF	Imported Fill	0.0
UST Tankpit Excavation		
N	North wall of excavation	0
S	South wall of excavation	0.3
E	East wall of excavation	0.2
W	West wall of excavation	0.2
U	Base of excavation	0.5
BF	Backfill Sands (surrounding UST)	0.1
B	Beneath Bowser	0.0
IF	Imported Fill	0.2

Note: ppm = parts per million

5.1.3 *Analytical Program*

All samples were stored in ice filled containers on site and transported to AGAL, Victoria, a NATA accredited laboratory, for testing.

The soil samples collected from the beneath the AST were analysed for TPH and Benzene, Toluene, Ethylbenzene and Xylene (BTEX) while the samples collected from within the UST tankpit were analysed for TPH, BTEX and Lead. The imported fill sample was analysed for contaminants specified by the NSW EPA in 'Guidelines for Assessing Service Station Sites' (1994):

- TPH;
- BTEX;
- Organochlorine (OC) Pesticides;
- Polychlorinated Biphenyls (PCB); and,
- Heavy Metals (As, Cd, Cr, Zn, Cu, Pb, Hg).

5.1.4 Soil Assessment Criteria

To determine the significance of any contaminants detected in the soil samples, it is necessary to define suitable criteria for assessment.

The soil validation results were compared to the threshold concentrations as provided in NSW EPA 'Guidelines for Assessing Service Station Sites', (1994) and/or the ANZECC/NHMRC (1992) Environmental Investigation Threshold Criteria. These guidelines are considered to be conservative as the criteria are applicable to sensitive land-use sites such as residential. Where no criteria, such as some pesticides, are available in the above guidelines DASCEM adopted the Health Based Soil Investigation Levels for residential properties as published in the NSW EPA (1998) Guidelines for the NSW Site Auditor Scheme. A summary of the adopted assessment criteria is provided in Table 4.

Table 4: Adopted Assessment Criteria for Soils

Contaminant	Adopted Assessment Criteria (mg/kg)
Heavy Metals	
Arsenic	20[2]
Cadmium	3[2]
Chromium	50[2]
Copper	60[2]
Zinc	200[2]
Mercury	1[2]
Lead	300[2]

PolyChlorinated Biphenyls	
Total PCB	1[2]
OC Pesticides	
Dieldrin	0.2[2]
Aldrin + Dieldrin	10[3]
Heptachlor	10[3]
DDT	200[3]
Petroleum Hydrocarbons:	
C_6-C_9	65[1]
C_{10}-C_{40}	1000[1]
Benzene	1[1]
Toluene	1.4[1]
Ethyl benzene	3.1[1]
Total Xylene	14[1]

Notes:
1. NSW EPA (1994) Guidelines for Assessing Service Station Sites
2. ANZECC and NNHMRC (1992) Health & Environmental Investigation Level
3. NSW EPA (1998) SIL for 'Residential properties with gardens (Column 1)'

5.1.5 *Analytical Results*

A summary of the analytical results is presented in Table 5 to Table 9 and the laboratory reports and Chain of Custody forms are presented in Appendix D.

Table 5: Analytical Results - Excavation beneath the AST

mple ID.	Sample Location	Total Petroleum Hydrocarbons (TPH)				Monocyclic Aromatic Hydrocarbons (BTEX)			
		C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Benzene	Toluene	Ethyl benzene	Xylene
AST/N	North wall of excavation	ND	ND	ND	ND	ND	ND	ND	ND
AST/S	South wall of excavation	ND	ND	ND	ND	ND	ND	ND	ND
AST/E	East wall of excavation	ND	ND	ND	ND	ND	ND	ND	ND
AST/W	West wall of excavation	ND	560	2900	ND	ND	ND	ND	ND
AST/B	Base of excavation	ND	ND	ND	ND	ND	ND	ND	ND
ctical Quantitation Limit (PQL)		20	50	100	100	0.01	0.01	0.01	0.01
essment Criteria [1]		65	1000			1	1.4	3.1	14

Notes:

All results expressed as mg/kg
[1] NSW EPA normally accepted criteria for Sensitive Land-use (*Guidelines for Assessing Service Station Sites*)
ND = Not Detected above the Laboratory Practical Quantitation Limits
BOLD Sample concentrations exceeding the Adopted Assessment Criteria

Table 6: **Analytical Results - UST Tankpit**

mple ID.	Sample Location	Total Petroleum Hydrocarbons (TPH)				Monocyclic Aromatic Hydrocarbons (BTEX)				Lead
		C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Benzene	Toluene	Ethyl benzene	Xylene	
N	North wall of excavation	ND	ND	ND	ND	ND	ND	ND	ND	11
S	South wall of excavation	ND	ND	ND	ND	ND	ND	ND	ND	18
QA1	Duplicate of Sample 'S'	ND	ND	ND	ND	ND	ND	ND	ND	21
E	East wall of excavation	ND	ND	ND	ND	ND	ND	ND	ND	18
W	West wall of excavation	ND	ND	ND	ND	ND	ND	ND	ND	16
U	Base of excavation	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF	Backfill Sands	ND	ND	ND	ND	ND	ND	ND	ND	7.6
B	Beneath the Bowser	ND	ND	ND	ND	ND	ND	ND	ND	12
actical Quantitation Limit (PQL)		25	50	100	100	0.5	0.5	0.5	1	5
sessment Criteria [1]		65		1000		1	1.4	3.1	14	300

Notes:

All results expressed as mg/kg
[1] NSW EPA normally accepted criteria for Sensitive Land-use (*Guidelines for Assessing Service Station Sites*)
ND = Not Detected above the Laboratory Practical Quantitation Limits
BOLD Sample concentrations exceeds the Adopted Assessment Criteria

Table 7: Analytical Results - Imported Fill (TPH & BTEX)

Sample ID.	Sample Location	Total Petroleum Hydrocarbons (TPH)				Monocyclic Aromatic Hydrocarbons (BTEX)			
		C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Benzene	Toluene	Ethyl benzene	Xylene
IF	Imported fill (UST Tankpit)	ND	ND	ND	ND	ND	ND	ND	ND
AST/IF	Imported fill (beneath AST)	ND	ND	70	ND	ND	ND	ND	ND
Practical Quantitation Limit (PQL)		10	10	50	50	0.2	1	1	3
Primary Assessment Criteria [1]		65		1000		1	1.4	3.1	14

Notes:

All results expressed as mg/kg
[1] NSW EPA normally accepted criteria for Sensitive Land-use (*Guidelines for Assessing Service Station Sites*)
ND = Not Detected above the Laboratory Practical Quantitation Limits
BOLD Sample concentrations exceeds the Adopted Assessment Criteria

Table 8: Analytical Results - Imported Fill (Heavy Metals)

Sample ID.	Location	Arsenic	Cadmium	Chromium	Copper	Lead	Zinc	Mercury
IF	Imported fill (UST Tankpit)	ND	ND	22	41	22	100	ND
AST/IF	Imported fill (beneath AST)	8	ND	5	35	15	78	0.14
Practical Quantitation Limit (PQL)		5	1	5	5	5	5	0.05
Primary Assessment Criteria [1]		20	3	50	60	300	200	1

Notes:

All results expressed as mg/kg

[1] ANZECC/NHMRC 1992 Environmental Soil Quality Guidelines

ND = Not Detected above the Laboratory Practical Quantitation Limits

BOLD Sample concentrations exceeds the Adopted Assessment Criteria

Table 9: Analytical Results – Imported Fill (OC Pesticides and PCB)

Sample ID.	Sample Location	Total PCB	OC Pesticides				
			DDT	Aldrin	Dieldrin	Heptachlor	Other Pesticides
IF	Imported fill (UST Tankpit)	ND	ND	ND	ND	ND	ND
AST/IF	Imported fill (beneath AST)	ND	ND	ND	ND	ND	ND
Practical Quantitation Limit (PQL)		1	0.1	0.1	0.1	0.1	0.1
Primary Assessment Criteria		1[1]	200[2]	10[2]	**0.2**[1]	10[2]	-

Notes:

All results expressed as mg/kg

[1] Adopted Acceptance Criteria from ANZECC/NHMRC 1992 Environmental Soil Quality Guidelines

[2] Adopted Acceptance Criteria from NSW EPA (1998) SIL for Residential with gardens (Column 1)

ND = Not Detected above the Laboratory Practical Quantitation Limits

BOLD Sample concentrations exceeds the Adopted Assessment Criteria

The results of the validation sampling of the UST tankpit confirm that no residual soil contamination in excess of the assessment criteria is present.

Analytical results for the validation sampling beneath the AST reveal that TPH contamination in the range of C10 – C36 has extended to the west beneath the adjacent kerb and gutter. The contamination is expected to be limited to a 0.3m deep layer of high permeable roadbase material on which the kerb and gutter has been constructed (refer to photograph 1, Appendix B). While the site remains an animal and plant quarantine and the road remains in tact, no further investigation is warranted. However, should the site be developed for a more sensitive land use or the road removed, then the contamination should be delineated and remediated.

5.2 Settling Pond

The AQIS Site has a settling pond which receives effluent drained from the kennels and the cattery. The pond is located on a rise in the south west corner of the site. Any overflow is directed towards a small stormwater dam to the north. Overflow from this small dam results in the water migrating off-site and discharging into a pond located on the adjoining Cemetery site. DASCEM assessed the quality of the water within the settling pond and the stormwater dam.

5.2.1 Sampling and Analysis Program

Sampling was undertaken in February 2001 and comprised the collection of:

- Two water samples from the settling pond; and,
- One water sample from stormwater dam.

Samples were collected using a plastic bucket swept through the water in a slow steady arc being careful not to cause aeration and the water transferred to appropriate laboratory supplied containers.

Each sample was stored and transported in an ice filled cooler to AMDEL Laboratory Pty Ltd (AMDEL) for NATA certified analysis.

A list of the samples collected, the number of containers used and the required analyses are shown on the Chain of Custody documentation, which accompanies the samples to the

laboratory. A copy of the Chain of Custody form is provided along with the laboratory reports in Appendix D. Care was taken to ensure all samples were received by the laboratory and analysed within the maximum recommended sample holding times.

Each of the water samples were analysed for following analytes:

Metals:	Arsenic; Cadmium; Chromium; Copper; Nickel; Lead; Mercury; and Zinc.
Nutrients:	Ammonia; Nitrate; Nitrite; Total Kjeldahl Nitrogen (TKN), and Total Phosphorous.
Microbial indicators:	Faecal Coliforms; Faecal Streptococci and Enterococci

5.2.2 Adopted Investigation Criteria

To determine the significance of any contaminants detected in the water samples, it is necessary to define suitable investigation criteria to assess the potential impact to human health and the environment.

As the water within the pond on the cemetery site is used to irrigate the lawns DASCEM adopted the following investigation criteria:

Protection of Human Health:

- Australian Water Quality Guidelines for Fresh and Marine Waters. Criteria for Recreational Water Quality and Aesthetics (secondary contact) ANZECC (1992).

The Investigation Criteria is designed to protect people who have 'secondary contact' with water such as boating or fishing and is considered the most applicable to our site.

Protection of the Environment:

- Australian Water Guidelines for Fresh and Marine Waters, Criteria for Irrigation Water Quality. ANZECC (1992)
- Australian Water Guidelines for Fresh and Marine Waters, Criteria for Protection of fresh water ecosystems. ANZECC (1992)

The irrigation water quality guidelines are used where possible as they represent the most appropriate criteria.

A summary of the adopted Investigation Criteria is provided in Table 10 below:

Table 10: Adopted Investigation Criteria (mg/L)

Analyte	Protection of Human Health Investigation Criteria[1]	Protection of the Environment Investigation Criteria
Metals		
Arsenic	0.05	0.1[2]
Cadmium	0.005	0.01[2]
Chromium	0.05	1[2]
Copper	-	0.2[2]
Nickel	0.1	0.2[2]
Lead	0.05	0.2[2]
Zinc	-	2[2]
Mercury	0.001	0.002[2]
Nutrients		
Ammonia	-	0.08 – 2.5[3%]
Nitrite	1	-
Nitrate	10	0.01 - 0.06[3#]
Total Phosphorous	-	0.001 – 0.01[3#]
Biological		
Faecal Coliforms	1000/100ml	1000/100ml[2]
Enterococci	230/100ml	-
Others Parameters		
pH	-	6.5 – 9.0[3]

Notes:

All units are listed as mg/L unless otherwise noted

1 This is the criterion specified for investigating the ambient water quality in the ANZECC (1992) Criteria for Recreational Water Quality and Aesthetics (secondary contact).

2 This is the criterion specified for investigating the ambient water quality in the ANZECC (1992) Protection of Fresh Water Ecosystems.

#The exact guidelines value depends upon may factors. This is an indicative concentration range

% Value depends upon pH and Temperature

The above Investigation Criteria are concentrations that, if exceeded, may indicate a potential environmental problem or health risk, and so further investigation or risk assessment is required. This further investigation would refine the guideline value by accounting for environmental factors that can modify the effect of the chemical.

5.2.3 Analytical Results

The laboratory certificate and report is provided in Appendix D. A summary of the results is presented Table 11 to Table 12 below:

Table 11: Heavy Metals (mg/L)

Analyte	Sample Number			Investigation Criteria	
	Settling Pond		Stormwater Dam		
	SP1	SP2	Dam	Protection of Environment[1]	Protection of Human Health[2]
Arsenic	*<0.01	*<0.01	*<0.005	0.1	0.05
Cadmium	<0.0005	<0.0005	<0.0005	0.01	0.005
Chromium	<0.005	<0.005	<0.005	1	0.05
Copper	0.013	0.007	<0.005	0.2	-
Nickel	<0.005	<0.005	<0.005	0.2	0.1
Lead	0.006	0.003	0.007	0.2	0.05
Zinc	0.19	0.09	0.02	2	-
Mercury	<0.00005	<0.00005	<0.00005	0.002	0.001

Notes:

* The laboratory detection limit was raised due to matrix interference

- No relevant guidelines are currently available

[1] This is the criterion specified for investigating the ambient water quality in the ANZECC (1992) Protection of Irrigation Water Quality.

[2] This is the criterion specified for investigating the ambient water quality in the ANZECC (1992) Criteria for Recreational Water Quality and Aesthetics (secondary contact).

Bold	Value higher than the recommended 'Protection of the Environment' Criteria
Shaded	Value higher than the recommended 'Protection of Human Health' Criteria

Table 12: Nutrients, Microbial Indicators, PCB and Phenols

Analyte	Analytical Results			Investigation Criteria	
	Settling Pond		Dam	Protection of Environment	Protection of Human Health
	SP1	SP2	Dam1		
Nutrients					
Nitrate	0.02	0.02	<0.01	**0.01 - 0.06**[1]	**10**[3]
Nitrite	0.01	<0.01	<0.01	-	**1**[3]
Ammonia	7.91	8.15	<0.01	**0.8 - 2.5**[2]	-
Kjeldahl Nitrogen (TKN)	28	27	1.6	-	-
Total Phosphorous	4.32	4.21	0.15	**0.001 - 0.01**[1]	-
Microbial Indicators					
Faecal coliforms	20	7	40	**1000/100ml**	**1000/100mls**[3]
Faecal streptococci	1800	2100	30	-	-
Enterococci	0	0	20	-	**230/100mls**[3]
pH	7.3	7.2	6.8	**6.8 – 9.0**	

Notes:

All results are recorded in mg/L except Microbial Indicators which are 'Counts per 100mls'

- No guidelines currently available

[1] This is the criterion specified for investigating the ambient water quality in the ANZECC (1992) Protection of Aquatic Ecosystems (Fresh Waters).

[2] This is the criterion specified for investigating the ambient water quality in the ANZECC (1992) Criteria for Recreational Water Quality and Aesthetics (secondary contact).

Bold	Value higher than the recommended 'Protection of the Environment' Criteria
Shaded	Value higher than the recommended 'Protection of Human Health' Criteria

The results of the sampling of the settling pond and secondary dam revealed no microbiological or heavy metal contamination. Ammonia and Total Phosphorous exceeded the fresh water quality criteria within the settling pond however, these concentrations reduced significantly by the secondary dam. Based on the conservative nature of the fresh water quality criteria and the lack of algae in the secondary dam, no further investigation is considered necessary.

There are no guideline values available for TKN or faecal streptococci, therefore the results obtained from the holding pond and dam are only comparative. The concentration of TKN and faecal streptococci in the holding pond was significantly greater than the concentration in the secondary dam. This suggests that the holding pond and secondary dam are being effective in reducing the risk of off-site contamination migration.

5.3 *Pesticide use in the Plant quarantine*

Pesticides are used throughout the plant quarantine area and therefore there is a potential for soil contamination. A near surface soil sample taken in the potentially affected area did not detect any residual Organochlorine or Organophosphate Pesticides.

5.4 *Incinerator*

The incinerator is used for destroying quarantine waste such as floor paper from the dog kennels. Discussions with AQIS staff identified that approximately 18 tonnes of waste are incinerated annually. This is less than the 25 tonne limit required for licensing under the NSW Protection of the Environment Operations Legislation.

5.5 *Cemetery*

Cemeteries are documented source of potential groundwater pollution, however, the cemetery is situated down hydraulic gradient from the AQIS site and is therefore this is unlikely to be an issue. No further investigation is warranted unless the site is rezoned and redeveloped for a more sensitive land-use.

5.6 *Former Army Land-use*

Unexploded Ordnance (UXO) contamination may exist on the part of the site used by the Army during World War II as a grenade range.

Former land use is not well documented, however the AQIS site was used by the Army during the 1940s as a grenade range which supported the large Army camp at Wallgrove. The main camp was located south of the grenade range. The other grenade range is located beneath the carpark of Australia's Wonderland Fun Park to the south. Information regarding the location of the ranges is provided in Appendix G.

There is no record of a detailed UXO or environmental assessment being undertaken on the site prior to occupation by AQIS.

6. Hazardous Materials and Dangerous Goods

The site was surveyed for hazardous materials and Dangerous Goods such as:

- Asbestos;
- Lead based paints;
- Polychlorinated Biphenyl (PCB) capacitors in light fittings;
- Nickel Cadmium batteries; and
- Fuels and various chemicals.

Accessible areas were inspected and representative samples of material possibly containing asbestos or lead based paint were taken for laboratory analysis. Equipment such as fluorescent light fittings and emergency lighting was inspected for the presence of PCB capacitors and nickel cadmium (NiCd) batteries. The presence of fuels and dangerous goods were noted and Registers of Material Safety Data Sheets (MSDS) inspected for currency and completeness.

6.1 Environmental Management Plan

In addition to the environmental audit DASCEM was requested to develop an Environmental Management Plan (EMP) for the AQIS Wallgrove NSW site.

The aims of the EMP are to develop:

- procedures to ensure that the activities carried out at the site are managed in a way as to minimise the Occupational Health and Safety risk to personnel and Contractors;
- procedures to ensure that the site activities are managed in a way as to minimise the risk of adverse effect to the environment; and,
- Registers to record the results of inspections and/or remedial actions.

Management information for hazardous materials and dangerous goods is included where appropriate. In addition, to record changes in the condition and presence of material at the site, Management Registers, a Site Access Sheet and a section for 'Hazardous Materials Clearance Certificates and Abatement Documentation' have been included in Appendix C.

6.1.1 *Use of the Environment Management Plans*

The Environmental Management Plans are based on the application of the following Codes, Regulations and Standards:

- Worksafe Australia 1988 – Code of Practice (Asbestos);
- Australian Standard (AS) 4361.2 Guide to Lead Paint Management Part: Residential and Commercial Building;
- Australian and New Zealand Environment Conservation Council (ANZECC) 1997 Polychlorinated Biphenyls Management Plan.

The Property Officer for AQIS Wallgrove shall be responsible for monitoring, implementing and recording actions under the requirements of the EMP. The Officer will ensure all parties including employees, contractors and others comply with the requirements of this Plan.

Contractors must be advised of the presence of hazardous materials prior to any works commencing. A site access sheet is included in Appendix C which contractors should sign to acknowledge they understand the requirements of the EMP.

6.1.2 *Updates*

The Property Officer should update the EMP whenever:

- significant work occurs in areas containing hazardous materials;
- deterioration of hazardous materials is noted and reassessed;
- sampling is conducted on the site; or,
- hazardous material is removed from the site.

6.2 *Asbestos Audit and Management Plan*

The asbestos survey involved the sampling and analysis of building products suspected of containing asbestos. It should be noted however that asbestos not identified in this report may be present in inaccessible areas or behind fixtures that could not be inspected without some degree of demolition. Representative materials which have the appearance of asbestos and/or that potentially contain asbestos were sampled. Generally samples were taken to either verify the presence, or confirm the absence of asbestos in suspect materials.

6.2.1 *Asbestos Register*

The Asbestos Register for this site is presented in Table 13 below. The register outlines the type and location of suspect materials sampled and shows whether or not these materials were found to contain asbestos. Priorities and recommendations for treatment of asbestos containing materials are also given in the Register.

Table 13: Summary of Asbestos Locations

Building No.	Sample No.	Location	Material	Asbestos present	Asbestos type	Condition	Priority	#Recomm-endation
44	1	Bee House Floor covering	Vinyl sheeting	No	-	-	-	-
44	5	Apiary Under eaves board	Sheeting	Yes	Chrysotile	Generally good, one section has been broken	3	SR10
46	6	Surgery Floor covering	Vinyl sheeting	No	-	-	-	-
Glasshouse	14	Plants Section Glasshouse cladding	Sheeting	No	-	-	-	-
Animal Quarantine buildings	Not sampled	Under eaves board	Sheeting	Assumed Yes	Assumed Chrysotile	Generally good	3	SR10

#Specific recommendations (SR) listed here relate to a series of asbestos management recommendations that DASCEM has created for the range of PG sites. The Specific Recommendations given in this table are only those relevant to this site.

Priority 1 Requires immediate attention (within 3 months). Access to area should be restricted to suitably informed and protected individuals. Refer to specific recommendations for instructions.

Priority 2 Material has the potential to liberate asbestos fibres but is not in a location or condition that poses an immediate health risk.

Priority 3 Material in good condition or completely isolated. Periodic inspections are required to monitor any deterioration in condition. Inspections should initially be conducted annually and reviewed depending on the rate of deterioration.

	Specific Recommendation
SR 10	This material should be either sealed (and labelled) or removed by a registered removalist.

Asbestos containing materials were identified in the eaves board sample from the Apiary. The material is generally in good condition but one section is broken. As the buildings in Animals Quarantine are of similar construction and were constructed at the same time, all under eaves boards should be assumed to contain asbestos until proven otherwise.

The potential exists for airborne asbestos fibres to be generated should the sheeting be disturbed for example through weathering or mechanical damage.

The under-eaves boards are not currently labelled as containing asbestos.

6.2.2 Environmental Management Plan - Asbestos

Maintenance of Asbestos Materials

The asbestos containing materials should be repaired where damaged. Exposed edges of damaged sheeting should be painted with an acrylic paint to seal the fibres into the matrix. Power tools must not be used to drill or cut asbestos containing materials. Abrasion or mechanical action likely to generate airborne asbestos fibres must be prevented. Large areas of damaged sheeting should be removed by qualified asbestos removalists in accordance with the Worksafe Australia Asbestos Code of Practice.

Asbestos Labelling

All asbestos materials should be maintained in good condition and labelled in accordance with the Worksafe Australia Asbestos Code of Practice, for example:

CAUTION

CONTAINS ASBESTOS FIBRE

AVOID CREATING DUST

SERIOUS INHALATION HEALTH HAZARD

Asbestos abatement and documentation

The details of any asbestos removal, air monitoring results and visual observations should be recorded in the Asbestos Register. Airborne fibre monitoring should be undertaken during removal of asbestos materials. Sampling should be conducted by a qualified hygienist in accordance with the Asbestos Code of Practice. Results should be made available to all staff and personnel employed in the immediate removal area. Exposure to airborne asbestos fibres should be maintained as low as reasonable achievable, and no greater than the asbestos exposure standard listed in the Worksafe Australia Exposure Standards for Atmospheric Contaminants. Following completion of the asbestos removal work a Clearance Certificate should be issued by a qualified Hygienist to verify the removal of the asbestos has been undertaken in a satisfactory manner.

Minor Asbestos Works

There may at times be requirements for minor works on materials containing asbestos. Works not involving power tools such as attaching screws or nails for small items are unlikely to generate asbestos fibres. Care should be taken to ensure that the hammer does not puncture or damage the asbestos sheeting. Larger minor works such as drilling for the installation of a fire detector should be conducted with the aid of a glove bag. A clear plastic bag of no less than 300um thickness should be taped over the area to be drilled. The power drill should be contained in the plastic bag, and the drill operated through the bag. All drilling debris is retained in the plastic bag and the drill decontaminated before being removed from the bag. The bag and contents should be labelled and disposed of as asbestos waste.

Any works other than occasional minor asbestos works should be undertaken by registered asbestos removal contractors.

Asbestos Register

The Asbestos Register detailing the locations of materials containing asbestos is presented in Table 13. DASCEM recommends an annual review of the Register to maintain the integrity of the information.

The areas where asbestos has been removed should be clearly marked on any site plans, and the Asbestos Register updated to reflect the current location and condition of remaining asbestos containing materials.

In accordance with the requirements of the Asbestos Regulations, documentation relating to the removal, monitoring and clearance certification must be retained.

6.3 Lead Based Paint Audit and Management Plan

Representative samples of paint were taken from various areas at the site. The samples were analysed for lead content and the results assessed against Australian Standard 4361.2 Guide to Lead Paint Management, Part 2: Residential and Commercial Buildings 1998.

6.3.1 Lead Based Paint Register

The Lead Based Paint Register for this site is presented in Table 14 below. The Register outlines the type and location of suspect materials sampled, and the concentration of lead in the sample expressed at mg/kg which is equivalent to parts per million (ppm).

Table 14: Lead Paint Analysis

Sample No.	Location/ comments	Condition	Lead (mg/kg)
2	Building 44 – Bee House, Internal Wall	Good.	1,100
3	Building 44 - Bee House, Internal Timber Door	Good	260
4	Building 44 - Bee House, Internal Metal Door Architrave	Good	720
7	Building 2 - Kennel, External Door Panel	Fair (some paint coat removed by abrasion)	1,300
8	Building 16 - Surgery, Porch Steel Support	Poor (paint peeling)	2,100
9	Building 16 – Surgery Internal Wall	Good	1,300
10	Building 18 – Cattery Internal Wall	Fair (Peeled in some small sections)	700
11	Plants Quarantine - Admin/Lab Building, Conference Room, Door Panel	Good	210
12	Plants Quarantine - Admin/Lab Building, Door Architrave of Female Toilets	Good	180
13	Plants Quarantine - Admin/Lab Building, Kitchen Wall	Good	63
Australian Standard 4361.2			10,000

The Laboratory Test Certificates and the associated Chain of Custody forms are contained in Appendix D. The laboratory reports the concentration of lead in paint coat samples in milligrams of lead per kilogram dry weight of sample (mg/kg).

The Hazardous Materials Audit of the site identified lead paint concentrations ranging from 63 to 2,100 mg/kg. Australian Standard (AS) 4361.2 Guide to Lead Paint Management Part 2: Residential and Commercial Building defines lead based paints as those containing more than 10,000 parts per million (ppm) lead. Based upon this definition no lead based paint was identified at the site.

No significant use of lead based paints was identified in the buildings at AQIS, Wallgrove. Therefore, no lead based paint management plan is required.

6.4 PCB Audit and Management Plan

Polychlorinated Biphenyls (PCB) are dense non aqueous liquids used as dielectric fluids in older style electrical installations such as power transformers and capacitors in fluorescent lights. PCB are unlikely to be present in capacitors of modern fluorescent fittings such as those likely to be found in the AQIS buildings.

A representative number of light fittings were inspected and the manufacturers details for capacitors recorded. It was assumed that similar light fittings contain the same type of capacitors. Manufacturer and serial number identification on the capacitors was compared to listings of capacitors which do or do not contain PCB as stated in the 1997 ANZECC publication 'Identification of PCB containing Capacitors'. Manufacturers were also contacted directly for information regarding their capacitors. Where the capacitors could not be confirmed as not containing PCB, they are recorded as 'Assumed Yes' and should be handled and disposed of accordingly.

6.4.1 PCB Register

The PCB Register is presented in Table 15 below. This table outlines the type and location of capacitors identified.

Table 15: PCB Register

Location & category	Make	Type	PCB Present	Comments
Building 44 - Bee House, Office with Pathogen Cabinet	RIFA	PHN 453	No	Capacitor in good condition (plastic capacitor)
Building 16 - Surgery	Plessey	CS764	Assume Yes	Capacitor in good condition (white plastic)
Building 18 - Cattery	Plessey	381	Assume Yes	Capacitor in good condition (grey plastic)
Plants Section - Admin/Lab Building, Conference Room	ATCO	CS 3.2 - 0.6	No	Capacitor in good condition (plastic capacitor)
Plants Section – Workshed, Potting Room	ATCO	CS 3.2 - 0.6	No	Capacitor in good condition (plastic capacitor)

No PCB containing capacitors were identified on the site, however some capacitors could not be confirmed as not containing PCB, therefore they are assumed to contain PCB until proven otherwise.

6.4.2 *Environmental Management Plan - Polychlorinated Biphenyls (PCB)*

The Hazardous Materials Audit of the site identified a number of fluorescent light fittings assumed to contain PCB capacitors. PCB pose a significant risk to the environment and therefore capacitors confirmed as containing PCBs should not be disposed to landfill.

PCB Management Register

The PCB Register is presented in Table 15. The PCB Management Register, which is included in Appendix C, should be updated annually to indicate:

- any deterioration to the capacitors;
- additional inspections or assessments; and,
- removal of PCB containing capacitors.

Abatement and disposal documentation should be retained. Copies should be included in the Hazardous Materials Abatement Documentation section also in Appendix C.

Management of PCB Capacitors

The Property Officer for AQIS Wallgrove should refer to the Australian and New Zealand Environment and Conservation Council (ANZECC) Polychlorinated Biphenyls Management Plan November 1997 for more detailed procedures for management of PCB capacitors.

A summary of the requirements of the ANZECC Plan as it applies to the site are presented below:

Removal

PCB containing capacitors should be removed:

- when leaking capacitors are detected in one or more devices. The area should be secured to prevent contact with PCB and the leaking devices removed immediately by trained personnel.
- at the next substantial refurbishment period; or
- prior to any demolition works.

Handling procedure

Only trained personnel should remove PCB equipment or damaged capacitors, and in accordance with the following procedures:

- wear personal protective equipment and clothing;
- wear disposable gloves that are made of materials that are resistant to PCBs, such as Viton, butyl rubber, nitrile rubber, or neoprene. Do not use gloves made of polyvinyl chloride (PVC) or natural rubber (latex);
- wear disposable overalls made of Tyvek or materials with similar chemical resistant properties;
- wear a full face shield and appropriate hair protection when working with overhead fluorescent light fittings,
- wash any non-disposable contaminated equipment with kerosene and collect the kerosene effluent for disposal as a PCB contaminated solvent;
- wear a respirator with an organic vapour filter if PCB vapours are suspected. Always ensure adequate ventilation; and,

- wash hands well in warm, soapy water before eating, drinking, smoking, handling food or drink, or using toilet facilities after handling PCBs, even if gloves were worn.

First-aid Procedure

Should PCB contact the eyes, immediately wash the affected area with copious amounts of running water for at least 10 minutes. Occasionally lift the upper and lower eyelids to ensure complete irrigation of the eye. Obtain medical attention immediately.

If PCB contacts the skin, immediately remove all contaminated clothing. Wash the affected areas with warm, soapy water. Do not use kerosene to remove PCB from skin or clothing. Obtain medical attention as soon as possible.

Clean-up of PCB leaks

The procedure detailed below should be followed by trained personnel when handling damaged PCB capacitors, or if PCB contaminated material, such as kerosene, is accidentally spilt:

1. use an absorbent material (eg, kitty litter or a diatomaceous earth) to form a barrier to prevent PCB from entering the drainage systems;
2. soak up the PCB with the absorbent material used to form the barrier;
3. non-porous surfaces should be cleaned with an organic solvent, for example, kerosene, and the solvent collected and disposed of as a PCB-contaminated solvent;
4. all porous material (including protective clothing and the damaged capacitor) which have been contaminated should be placed in a strong, sealed polyethylene bag, which is then to be placed in a sound, sealable metal drum. The drum should then be sealed and labelled;
5. any PCB contaminated solvents from the clean up must be stored in separate drums; and,
6. all drums must be adequately labelled 'PCB Waste' together with the name of the equipment or material contained within each drum.

Disposal of PCB Waste

Capacitors from redundant or refurbished fluorescent light fittings, and materials used for cleaning damaged capacitors, should be stored in a dedicated leak proof PCB waste container that is clearly identified as PCB waste. The container should be stored in a

bunded area pending disposal. PCB waste should be removed from the site for disposal as soon as is practicable. Licensed waste contractors should be engaged to dispose of the waste. PCB materials must not be disposed at municipal landfills.

The following companies are registered for PCB destruction:

BCD Technologies
PO Box 257
Darra QLD 4076
Phone: (07) 3279 3922

ELI Eco Logic
Lot 4 Mason Road
Kwinana WA 6167
Phone: (08) 9439 2362

Haz-Waste Services
101 Ordish Road
Dandenong Victoria
Phone: (03) 9706 7966

The NSW EPA should be contacted for the most current information concerning PCB disposal facilities.

6.5 Nickel Cadmium Batteries

NiCd batteries contain nickel and cadmium. Cadmium is a toxic compound that bio-accumulates in nature and the food chain. A major source of cadmium contamination is the disposal of spent NiCd batteries to municipal landfills.

NiCd batteries are likely to be found in emergency lighting, EXIT signs and possibly in Uninterrupted Power Supplies (UPS) in commercial installations.

6.5.1 Results of NiCd battery survey

No sources of NiCd batteries were identified in the Animals Quarantine area.

Seven emergency EXIT signs and ten emergency fluorescent lights with individual battery packs were identified in the Plants Quarantine area. Some of the EXIT signs were labelled as containing a NiCd battery. The other emergency lighting fittings are assumed to contain NiCd batteries.

6.5.2 *Discussion*

The audit identified 17 fittings in Plants Quarantine which contain NiCd batteries. There is no evidence of an AQIS policy for disposal of spent batteries, and often the lack of manufacturer or supplier details prevents their return to the supplier. NiCd batteries must not be disposed at a municipal landfill because of the contamination caused by the leaching of cadmium into the environment. One option is to encapsulate the spent batteries in concrete prior to disposal although this practice is currently being reviewed by the various Environment Protection Agencies.

6.6 *Dangerous Goods*

6.6.1 *Observations*

A number of dangerous goods varying in quantity and type were observed on the site for general, laboratory and quarantine purposes. A summary of these dangerous goods is provided in Table 16.

Table 16: Dangerous Goods

Location	Description
Animals Quarantine	
Building 16 – Surgery	2 x E size O_2 gas cylinders 1 x E size, 1 x D size Nitrous Oxide gas cylinders Drugs cabinet (locked) X-Ray development chemicals and antibacterial solutions
Building 16 - Laundry	2 x LPG tanks (for dryers)
Horse Surgery	1 x E size Compressed Air gas cylinder 1 x E size O_2 gas cylinder
Building 58	Diesel AST
Building 37	Chemical Store, 'Hazchem' and 'Flammable Liquid 3' labelling on building exterior. 20L drums of Acetone, Roundup, oils and herbicide. 200L drums of Unleaded Petrol. Various container sizes of different chemicals

	1L tins of fungicide. Note: Building is bunded and has good ventilation. Concrete floor has black and brown stains.
Building 34	3 x 18kg Compressed Propane Cylinders (Flammable Gas 2) Store room with metal rack shelving has 3kg cans of Fly Bait, Brasso, Methylated Spirits (1 x 2.5L) 6 x 2.5L Formaldehyde Solution (Flammable Gas 3) 6 x 900g cans of caustic soda (corrosive), a number of jars of Potassium Permanganate Boxes of 350g tins of insecticide (for disinfecting aircraft).
Building 29	2.5kL capacity LPG Tank - fuels incinerator
Plants Quarantine	
Car Park to Workshed	4 x LPG Cylinders (connected - used for boilers to heat glasshouses)
Laboratory Cabinets (unlabelled)	Small quantities of chemicals are stored for laboratory use in a cupboard in the laboratory

The Plant Quarantine is operated independently from the Animals Quarantine. Plant Quarantine representatives reported using Building 37, the Animal Quarantine Chemical Store, for bulk storage of solvents.

Plant Quarantine maintains two Registers of Material Safety Data Sheets (MSDS). One MSDS Register is held in the laboratory for laboratory chemicals and cleaning products. The Register was inspected. It was current, having last been reviewed in 1999. A technical officer reported obtaining the MSDS from the Internet if they were not supplied with the product. The other register maintained by Plants Quarantine is for pesticides used for the treatment of plants.

Animal Quarantine maintain a Register of MSDS for chemicals. The Register is located in the administration office. A staff representative reported MSDS were requested as standard practice when new chemicals were being ordered. There are no procedures for review and update of the register. Inspection of the register revealed MSDS dated 1990, 1991 and 1993. In accordance with Worksafe Australia National Code of Practice for the

Preparation of Material Safety Data Sheets, MSDS should be reviewed and/or updated at no greater than five (5) yearly intervals.

Animal and Plant Quarantine staff were not aware of any permits or licenses held for dangerous goods held on the site.

6.6.2 Discussion

The Dangerous Goods appear to be well managed and Registers of current Material Safety Data Sheets are available in the Plant Quarantine area. A Register of Material Safety Data Sheets are also available in the Animal Quarantine area but many of these are out of date and current information should be obtained from the supplier.

AQIS may require a License to keep the following Dangerous Goods:

1. LPG cylinders at the Laundry and Incinerator of Animals Quarantine, and behind the Laboratory at Plants Quarantine,
2. Unleaded fuel stored in drums at the chemical store (Building 37, Animal Quarantine),
3. Toxic (Poisonous) Substances of Packing Group I, if greater than 10kg or 10litres are held,
4. Toxic (Poisonous) Substances of Packing Group II if greater than 100kg or 100litres are held,
5. Corrosive Substances of Packing Group I, if greater than 50kg or 50litres are held,
6. Corrosive Substances of Packing Group II, if greater than 500kg or 500litres are held.

Conclusion

Based on the results of the Phase 2 Environmental Due Diligence Assessment of the AQIS Eastern Creek site, DASCEM concludes the following:

- No activities on adjoining properties were identified which may have an adverse environmental impact on the site.
- UXO contamination may exist on part of the site used during World War II as a grenade range.
- There is no evidence of a detailed UXO survey having been conducted to determine the extent of contamination.
- Validation sampling around the redundant UST confirmed that no contamination in excess of the adopted assessment criteria is present.
- Where possible, contamination beneath the filling point of the AST has been excavated and disposed off-site at an appropriately licensed landfill. An isolated area of TPH contamination remains beneath the adjacent kerb and gutter to the west of where the AST was located.
- The AST has been relocated within a bunded area to contain any spills and leaks.
- The settling pond combined with the secondary dam appears to be operating effectively in minimising the off-site migration of contaminants.
- Asbestos, polychlorinated biphenyls and Nickel Cadmium (NiCd) batteries were identified on the site. These materials are in good condition.

8. Recommendations

Based on the results of the Phase 2 Environmental Due Diligence investigation of the AQIS Eastern Creek site, DASCEM recommends the following:

1. No excavations be permitted in the area of the grenade range pending a detailed UXO assessment of the site.
2. Asbestos, PCB and NiCd batteries be managed and/or removed. Reference should be made to the DOFA Draft Asbestos, PCB and NiCd Risk Management Policies (June 2000) prepared by DASCEM.
3. AQIS to make an application to WorkCover NSW for a License to Keep Dangerous Goods with respect to the LPG and unleaded fuel held on the site.
4. All Dangerous Goods to be stored in accordance with Dangerous Goods Storage and Handling Regulations, and the requirements of AS1940 for the minor storage of flammable liquids;
5. The former UST should have been licensed with WorkCover NSW. Assuming the UST was licensed, the licensee of the UST (presumably AQIS) should notify WorkCover that it has been removed.
6. A re-assessment against the EPBC Act be undertaken should the site be redeveloped, with particular emphasis on the potential impact on the threatened and protected species.

9. Limitations of this Report

DASCEM Holdings Pty Ltd has performed the services of the project in accordance with our current professional standards for Contaminated Sites and Hazardous Materials Assessments. The focus of this investigation has been the major issues of risk to human health and the environment.

This Report has been prepared based upon a visual inspection, site assessment and data from the indicated sources.

There is no investigation that is thorough enough to preclude the presence of materials that presently, or in the future, may be considered hazardous. As Regulatory evaluation criteria are constantly under review, concentrations of contaminants presently considered acceptable, may in the future be incorporated into Regulatory Standards.

10. Glossaries

ANZECC	Australian and New Zealand Environment and Conservation Council
BTEX	Benzene, Toluene, Ethyl benzene and Xylene
NEHF	National Environmental Health Forum
OCPs	Organochlorine pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCBs	PolyChlorinated Biphenyls
ppm	parts per million
RPD	Relative Percent Difference
TPH	Total Petroleum Hydrocarbons
UST	Underground Storage Tank

11. Bibliography

Contaminated Land

1. DASCEM Report CL420-24, November 1999. *Environmental Audit and Management Plan: Australian Quarantine and Inspection Service Eastern Creek NSW*
2. Defence Centre Sydney *UXO Site Assessment Walgrove [sic] NSW* (DCS 95/02452/DCS) 1995
3. Australian and New Zealand Environment and Conservation Council, 1997. *Identification of PCB-Containing Capacitors*
4. Australian Institute of Petroleum CP22-1994. *Code of Practice - The Removal and Disposal of Underground Petroleum Storage Tanks*
5. Australian Standard AS1940: 1993. *The Storage and Handling of Flammable and Combustible Liquids*
6. Australian Standard 4361.2:1998 - *Guide to Lead Paint Management, Part 2: Residential and Commercial Buildings*
7. National Environmental Health Forum, 1996. *Health-Based Soil Investigation Levels*
8. NSW EPA (1994) *Guidelines for Assessing Service Station Sites.*

Hazardous Material and Dangerous Goods

1. Worksafe Australia 1988 – Code of Practice (Asbestos).
2. Australian Standard 4361.2 - Guide to Lead Paint Management, Part 2: Residential and Commercial Buildings 1998.
3. Identification of PCB-Containing Capacitors, 1997. Australian and New Zealand Environment and Conservation Council.
4. Polychlorinated Biphenyls Management Plan [Australia]: Australian and New Zealand Environment and Conservation Council, Victoria: July 1996.
5. DASCEM, June 2000. *Draft NiCd Battery Management Policy* prepared for DOFA
6. DASCEM, June 2000. *Draft PCB Management Policy* prepared for DOFA

61 3 9682 2259

amdel

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION
ACN 009 076 555

508 City Road
SOUTH MELBOURNE VIC 3205
Telephone: (03) 9699 9333
Facsimile: (03) 9699 9695

FACSIMILE TRANSMISSION

FAXED

TO: Mr. Steve McCormack
COMPANY: DASCEM
FAX: (02) 9315 6811 ~~4455~~
FROM: SCOTT

DATE: 27/03/01
PAGE: 1 of 7

Please advise if you do not receive all pages or if any are unclear.

AMDEL REFERENCE: 1E00826
YOUR ORDER No.: CL529 (AQIS)
YOUR PROJECT CODE: CL529 (AQIS)

[ ] This fax contains final results (partial report only)

[✓] This fax contains final results (complete report). A signed endorsed Report, with associated QA/QC, will be posted within 2 days.

[ ] This job has been e-mailed to you today.

[ ] _____

_____

_____

RESULTS

All samples were analysed as received. This report relates specifically to the samples received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any partial results issued. Three significant figures (or 2 for <10PQL) are reported for statistical purposes only.

PLEASE SEE ATTACHED PAGES FOR RESULTS

Regards,

amdel

Job Number : 1E00826
Client : DASCEM
Reference : CL529 (AQIS)
Project : CL529 (AQIS)

	Lab No	E04418	E04419	E04420	E04421	E04422
		AQIS/AST	AQIS/AST	AQIS/AST	AQIS/AST	AQIS/AST
	Sample Id	/N	/S	/W	/E	/E
Analyte	PQL					
Moisture Content	1	20%	21%	9%	18%	19%
E1230 TPH in Soil by Purge & Trap						
C6-C9 Fraction	5	nd	nd	nd	nd	nd
E1221 TPH in Soil						
C10-C14 Fraction	10	nd	nd	560	nd	nd
C15-C28 Fraction	50	nd	nd	2900	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd	nd
E1010 BTEX (P&T) in Soil						
Benzene	0.2	nd	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd	nd
Total Xylenes	3	nd	nd	nd	nd	nd
4-Bromofluorobenzene-SURROGATE	1	103%	88%	103%	106%	107%

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = <PQL
-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

amdel

Job Number : 1E00826
Client : DASCEM
Reference : CL529 (AQIS)
Project : CL529 (AQIS)

Analyte	Lab No	E04423				
		AQIS/AST				
	Sample Id	/1F				
	PQL					
Moisture Content	1	6%				
E1230 TPH in Soil by Purge & Trap						
C6-C9 Fraction	5	nd				
E1221 TPH in Soil						
C10-C14 Fraction	10	nd				
C15-C28 Fraction	50	70				
C29-C36 Fraction	50	nd				
E1810 BTEX (P&T) in Soil						
Benzene	0.2	nd				
Toluene	1	nd				
Ethylbenzene	1	nd				
Total Xylenes	3	nd				
4-Bromofluorobenzene-SURROGATE	1	104%				

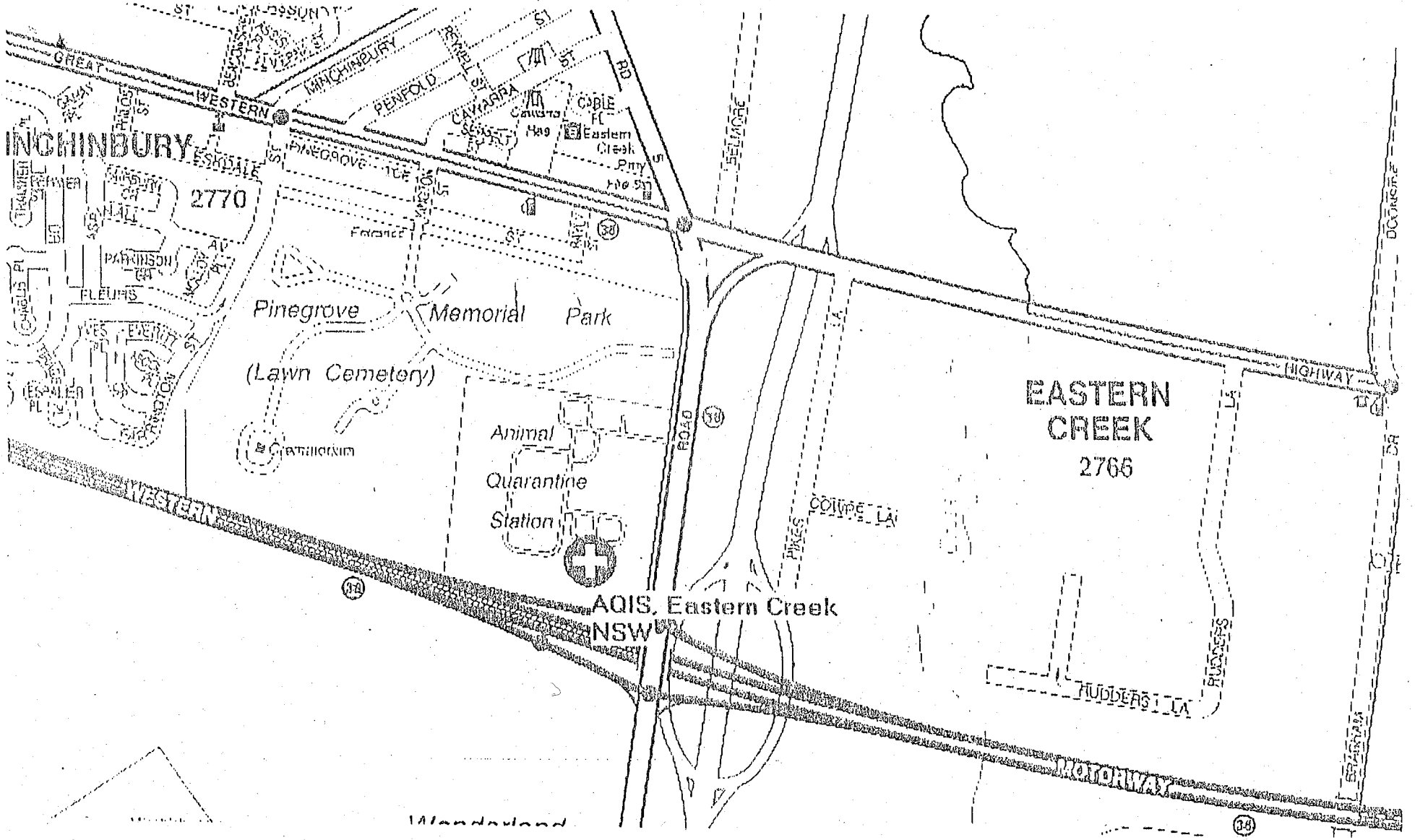
PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = <PQL
– = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

APPENDICES

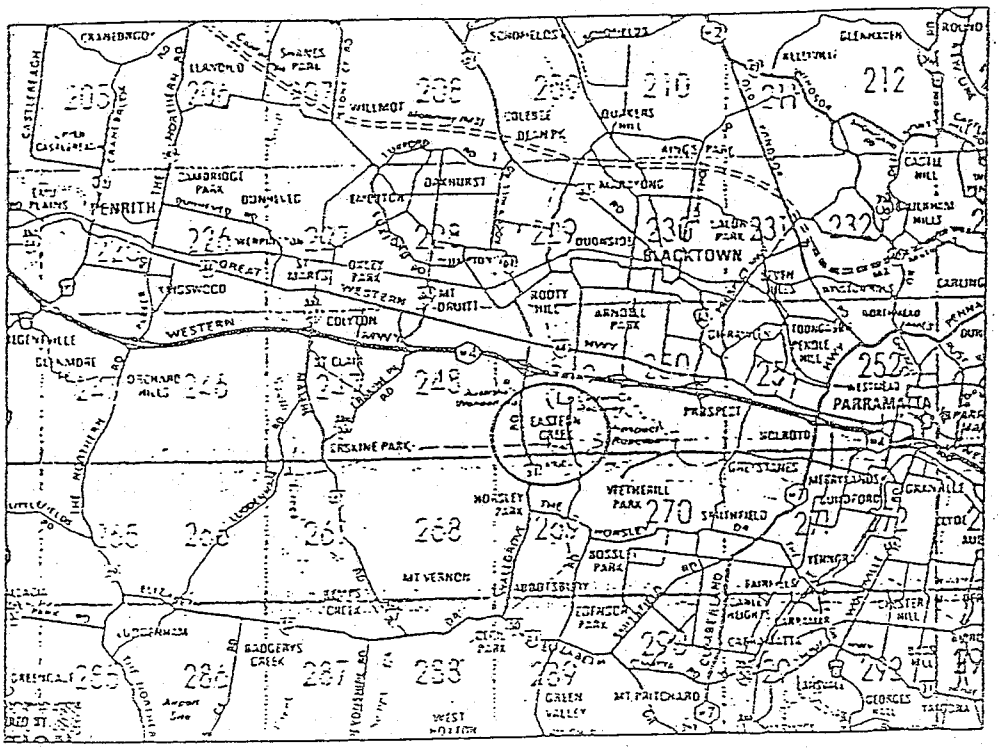
Appendix A

Maps and Site Titles

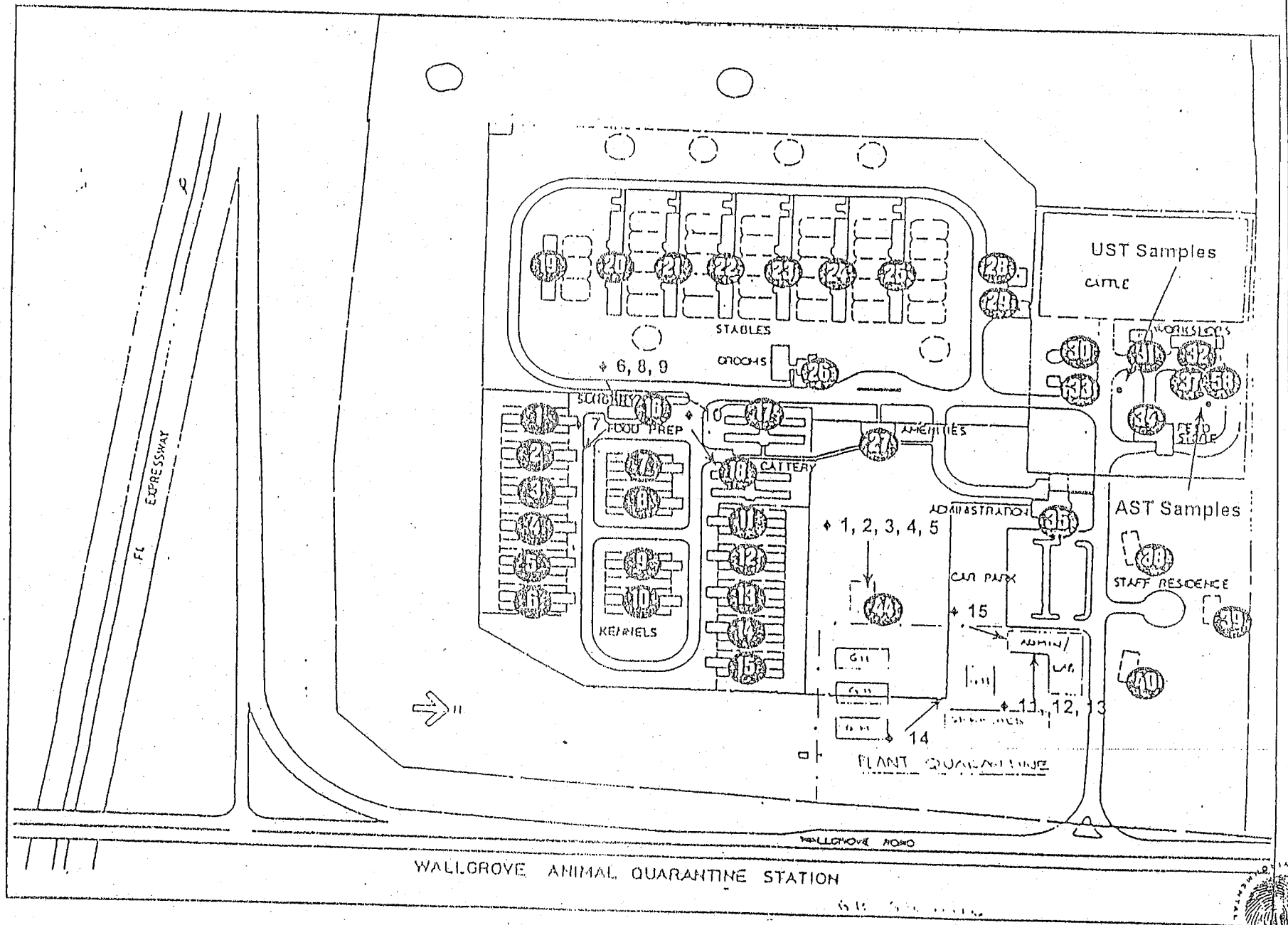


Site Location Map

Figure 1
Not to Scale



Location of AQIS, Wallgrove Road, Eastern Creek NSW.



Site Plan of AQIS, Wallgrove NSW. (♦ Location of asbestos/lead samples)

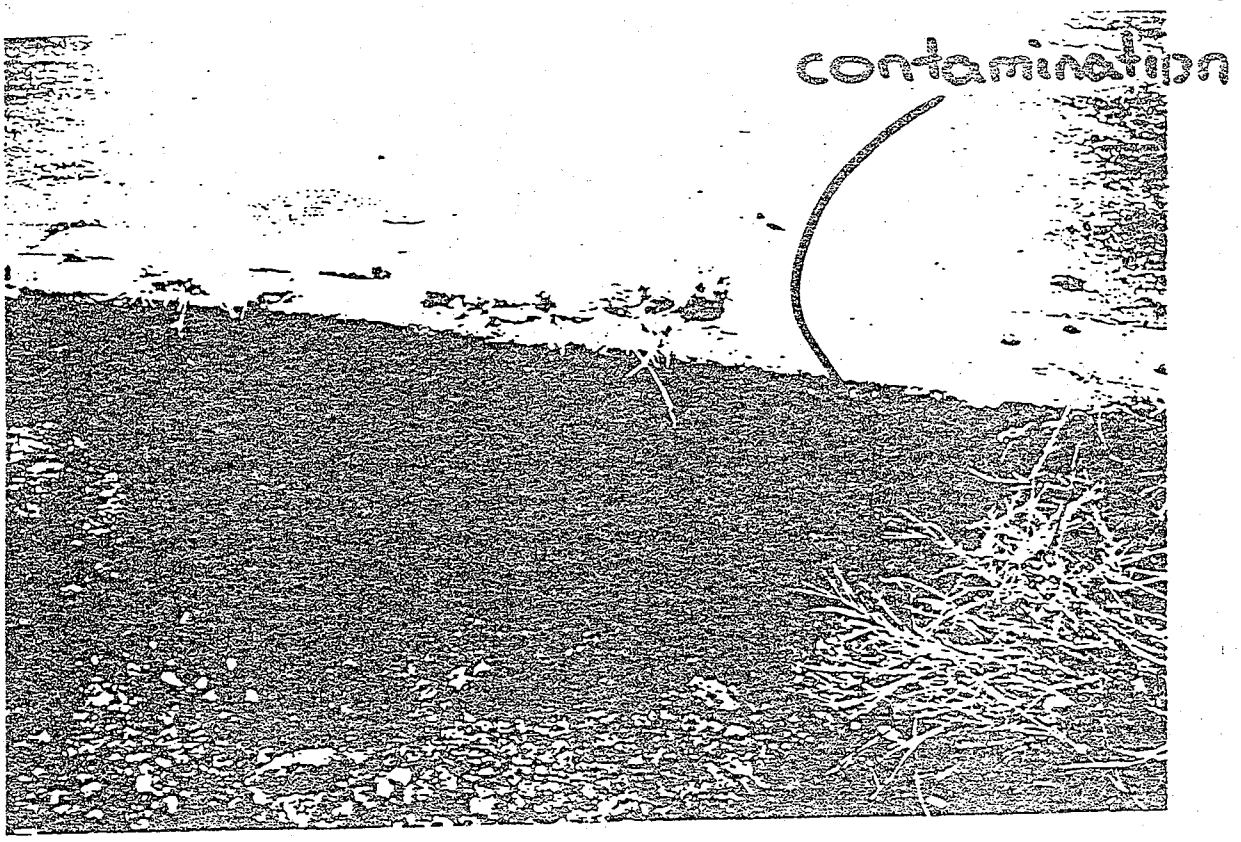
Appendix B

Photographs

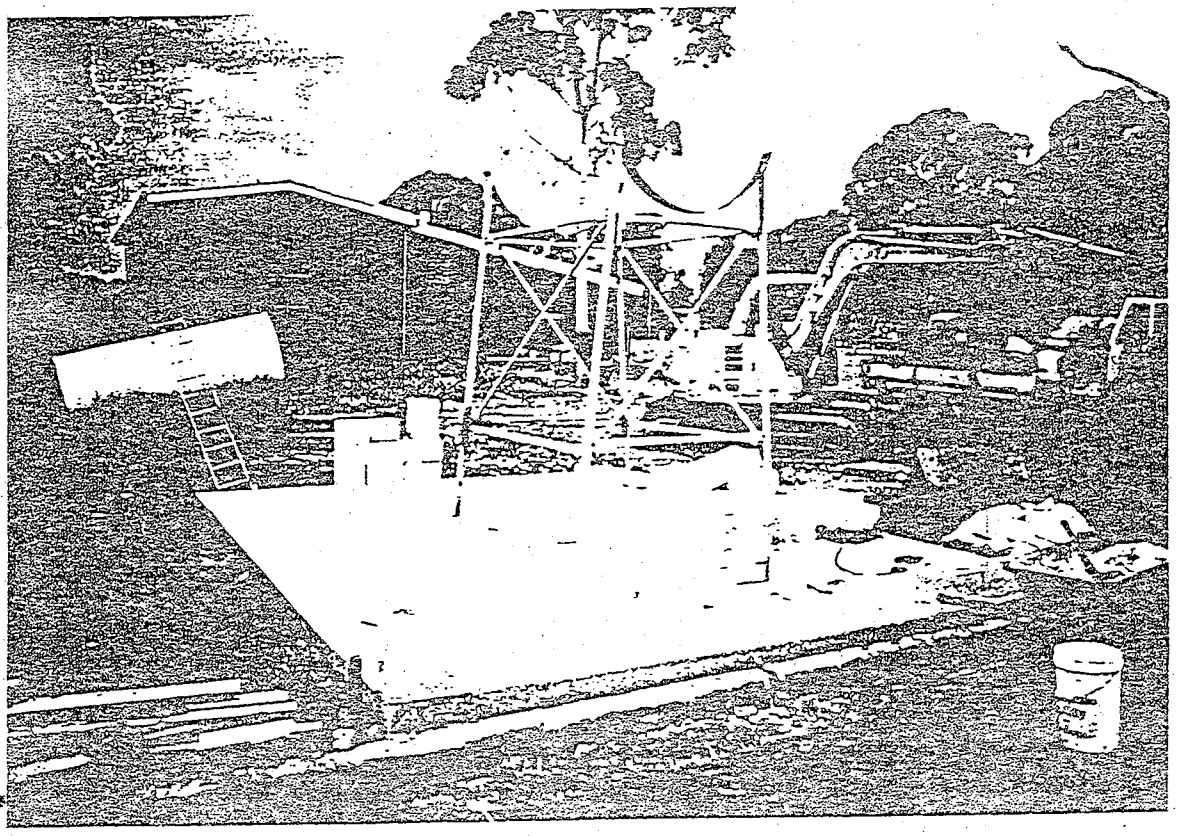
(Including Aerial Photographs)

AQIS, WALLGROVE 1978

AQIS, Wallgrove 1998



Photograph 1: Contaminated soil extending beneath the kerb (dark material) from beneath the former location of the AST.



Photograph 2: Construction of the bunding around the AST.

Appendix C

Management Registers, Site Access Sheet

Asbestos Management Register

Building/ Room	Location	Material	Condition	Area	Date & Signature	Comments	Results

PolyChlorinated Biphenyls (PCB) Management Register

Location	Fluorescent Light Fitting Capacitor type	Action	Date

Site Access Sheet

I declare that I have inspected and understood the Hazardous Materials Management Plan prior to commencing any work on this site potentially involving the disturbance of hazardous materials. I will comply with this Plan, all applicable codes, legislation and standards for all work carried out may impact upon hazardous materials. I will inform the Property Officer of any impact that my work has on the condition of the hazardous materials nominated in this Plan.

NAME	SIGNATURE	COMPANY	DATE

Hazardous Materials Clearance Certificates and Abatement Documentation

(Record results and records of all abatement of hazardous materials, air monitoring and Clearance Certificates overleaf)

Appendix D

Analytical Results

&

Chain of Custody Forms

ANALYTICAL REPORT

LABORATORY:	ENV SYDNEY
BATCH NUMBER:	ES18930
SUB BATCH:	0
No. OF SAMPLES:	9
DATE RECEIVED:	24/09/99
DATE COMPLETED:	06/10/99

CONTACT: MR STEPHEN MCCORMACK
CLIENT: DEPT OF ADMIN SERVICES
ADDRESS: 1D/9 BURWOOD ROAD
BURWOOD NSW 2134

ORDER No.: CL420/24 SAMPLE TYPE: SOIL PROJECT:

d	Analysis description	Units	LOR	AQIS/BE4/. 1.0 24/09/99
-S5	Moisture Content (dried @ 103°C)	%	0.1	17.8
1-S5	TOTAL PETROLEUM HYDROCARBONS			
	C6 - C9 Fraction	mg/kg	2	<2
	C10 - C14 Fraction	mg/kg	50	<50
	C15 - C28 Fraction	mg/kg	100	<100
	C29 - C36 Fraction	mg/kg	100	<100
-S5	BTEX			
	Benzene	mg/kg	0.2	<0.2
	Toluene	mg/kg	0.2	<0.2
	Chlorobenzene	mg/kg	0.2	<0.2
	Ethylbenzene	mg/kg	0.2	<0.2
	meta- & para-Xylene	mg/kg	0.2	<0.2
	ortho-Xylene	mg/kg	0.2	<0.2
S-S5	VOLATILE TPH/BTEX COMPOUND SURROGATES			
	1,2-Dichloroethane-D4	%	1	96
	Toluene-D8	%	1	86
	4-Bromofluorobenzene	%	1	90

ENTS:

the Final Report which supersedes any preliminary reports with this batch number. * Results apply to sample(s) as submitted by client.

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

ANALYTICAL REPORT

LABORATORY:	ENV SYDNEY
BATCH NUMBER:	ES18930
SUB BATCH:	0
No. OF SAMPLES:	9
DATE RECEIVED:	24/09/99
DATE COMPLETED:	06/10/99

CONTACT: MR STEPHEN MCCORMACK
CLIENT: DEPT OF ADMIN SERVICES
ADDRESS: 1D/9 BURWOOD ROAD
BURWOOD NSW 2134

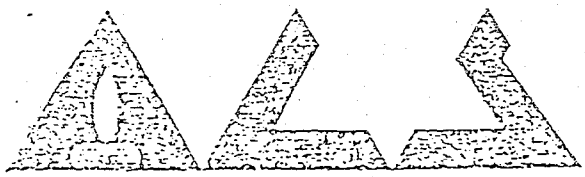
:DER No.: CL420/24 SAMPLE TYPE: QUALITY CONTROL PROJECT:

J	Analysis description	Units	LOR	NTPHT1747 SCS 24/09/99	NTPHT1747 DCS 24/09/99
.5	Moisture Content (dried @ 103°C)	%	0.1	----	----
71-SS	TOTAL PETROLEUM HYDROCARBONS				
	C6 - C9 Fraction	mg/kg	2	98.0 %	96.0 %
	C10 - C14 Fraction	mg/kg	50	95.0 %	106 %
	C15 - C28 Fraction	mg/kg	100	95.0 %	104 %
	C29 - C36 Fraction	mg/kg	100	106 %	117 %
3-SS	BTEX				
	Benzene	mg/kg	0.2	105 %	96.0 %
	Toluene	mg/kg	0.2	96.0 %	93.1 %
	Chlorobenzene	mg/kg	0.2	101 %	97.3 %
	Ethylbenzene	mg/kg	0.2	95.8 %	95.0 %
	meta- & para-Xylene	mg/kg	0.2	97.7 %	96.0 %
	ortho-Xylene	mg/kg	0.2	98.9 %	96.6 %
S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES				
	1,2-Dichloroethane-D4	%	1	108	95
	Toluene-D8	%	1	102	96
	4-Bromofluorobenzene	%	1	105	99

ENTS:

Results which appear on this report are for laboratory QUALITY CONTROL purposes.

the Final Report which supersedes any preliminary reports with this batch number. * Results apply to sample(s) as submitted by client.



AUSTRALIAN LABORATORY SERVICES P/L
A.C.N. 009 936 029

ORGANICS QUALITY CONTROL REPORT

ATCH NO : ES18930

DATE BATCH RECEIVED : 24/09/99

CLIENT : Dept of Admin Services

DATE BATCH COMPLETED : 07/10/99

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	NVOCS1747	28/09/99	29/09/99
	-Semivolatile	Soil	Tumbler	USEPA 8015A	NTPHT1747	29/09/99	01/10/99
EP-080	BTEX	Soil	USEPA 5030 A	USEPA 8260A	NVOCS1747	28/09/99	29/09/99

here applicable, internal standards are added to sample extracts prior to instrumental analysis.
Absolute peak areas and retention times fall within the criteria specified in the individual methods.

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

Vol QC Lot : NVOCS1747
Semivol QC Lot : NTPHT1747

MATRIX : Soil

COMPOUND	BATCH ADJ. (MDL)	Blank Conc.	Spike Conc.	Spike Results				Control Limits		
				SCS Conc.	DCS Conc.	Av. Rec.	RPD	Recovery %		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	20	20	19	97	2	88	115	20
C10-C14	25	<LOR	201	190	212	100	11	74	121	20
C15-C28	50	<LOR	199	190	208	100	9	73	122	20
C29-C36	50	<LOR	200	214	236	113	10	60	134	20

COMMENTS:

1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
2) * : Recovery or RPD fails outside the recommended control limit.
3) MDL = Method Detection Limit
4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : NVOCS1747

MATRIX : Soil

COMPOUND	BATCH ADJ. (MDL)	Blank Conc.	Spike Conc.	Spike Results				Control Limits		
				SCS Conc.	DCS Conc.	Av. Rec.	RPD	Recovery %		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
Benzene	0.1	<LOR	1.0	1.05	0.96	101	8	91	110	20
Toluene	0.1	<LOR	1.0	0.96	0.93	95	3	89	113	20
Chlorobenzene	0.1	<LOR	1.0	1.01	0.97	99	3	89	112	20
Ethylbenzene	0.1	<LOR	1.0	0.96	0.95	95	1	86	116	20
m- & p-Xylene	0.1	<LOR	1.0	0.98	0.96	97	2	88	114	20
o-Xylene	0.1	<LOR	1.0	0.99	0.97	98	2	89	112	20

COMMENTS :

1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
2) * : Recovery or RPD falls outside the recommended control limit.
3) MDL = Method Detection Limit
4) LOR = Level Of Reporting

Laboratory Name:	ALS
Address:	28/38-48 South Street RYDALMERE NSW
Fax Number:	(02) 9841 8530
Phone Number:	(02) 9841 9500
Contact Name:	Marc Centner

FAXED

DASCEM Job No. CL 420/24

Page of

Results Expected By/On:	1-Oct-99
Fax Results To:	S.McCormack
Fax Number:	9715 0811
Phone Number:	9715 0197

Invoice To: Burwood Office

Date Sampled	Time	Sample I.D	Container Size	Sample Location	Medium *	Preservative Type	Filtered (x)	No. of Containers	TPH	BTEX	Sampled By	Company	Signature	Remarks
24-Sep-99		~~AQIS/BH1/0.5~~	~~250mls~~		S			1						
24-Sep-99		~~AQIS/BH1/0.6~~	~~250mls~~		S			1			S.McCormack	DASCEM		
24-Sep-99		AQIS/BH1/1.0	250mls		S			1			S.McCormack	DASCEM		
24-Sep-99		(1) AQIS/BH1/2.0	250mls		S			1	/	/	S.McCormack	DASCEM		
24-Sep-99		(2) AQIS/BH1/2.7 2.8	— ID no per 250mls		S S	McCormack		1	/	/	S.McCormack	DASCEM		
24-Sep-99		AQIS/BH2/1.0	250mls		S			1			S.McCormack	DASCEM		
24-Sep-99		AQIS/BH2/1.5	250mls		S			1	HOLD		S.McCormack	DASCEM		
24-Sep-99		(3) AQIS/BH2/2.0	250mls		S			1	/	/	S.McCormack	DASCEM		
24-Sep-99		(4) AQIS/BH1/3.0	250mls		S			1	/	/	S.McCormack	DASCEM		
24-Sep-99		AQIS/BH3/1.0	250mls		S			1			S.McCormack	DASCEM		
24-Sep-99		AQIS/BH3/2.0	250mls		S			1	HOLD		S.McCormack	DASCEM		
											S.McCormack	DASCEM		

delete as per S. McCormack CL 24/9/99
HOLD
CL 24/9/99

Batch No.: ☐ ORG ES18930
Batched date: 24/9/99
☒ Soil ☐ Ambient
☐ Water ☐ Chilled
☐ Other ___ °C
☐ Subcontract Work
☐ ~~Bottle Return~~
☐ Imm. Anal. Actioned
16 x 250ml soil

Relinquished By (Name):	S. McCormack	Received By (Name):	C. Losurdo	Relinquished By (Name):		Received By (Name):	
Date:	24-Sep-99	Date:	24/9/99	Date:		Date:	
Company:	DASCEM	Company:	ALS - Sydney	Company:		Company:	
Time:		Time:	2pm	Time:		Time:	
Signature:	[signature]	Signature:	[signature]	Signature:		Signature:	

DASCEM
Holdings Pty Ltd
Suite 1D
9 Burwood Road
BURWOOD, NSW 2134

Comments:

Legend: S = Soil, W = Water, F = Filter, T = Tube

* Required Metal Analyses (Please Circle)
As Cd Co Cr Cu Fe Hg K Mg Mn
Mo Ni Pb Sb Se Sn Sr Tl V Zn

Filtered in the field: Yes No

PQL's: High level Low Level

	20/38-40 South Street RYDLAMERE NSW
[illegible]ber:	(02) 9841 9530
[illegible]one Number:	(02) 9841 9500
Contact Name:	Marc Centner

DASCEM Job No.

CL420 / 24

Page 01

Results [illegible]pected By/On:	1-Oct-99
Fax Results To:	S.McCormack
Fax Number:	9715 6911
Phone Number:	9715 6497
Invoice To:	Burwood Office

FAXED 1/4.

Date Sampled	Time	Sample I.D	Container Size	Sample Location	Medium *	Preservative Type	Filtered (x)	No. of Containers	Analysis Required: TPH	Analysis Required: BTEX	Sampled By	Company	Signature	Remarks
24-Sep-99		AQIS/BH1/0.5	250mls		S			1	Hold					
24-Sep-99		AQIS/BH3/3.0	250mls		S			1			S.McCormack	DASCEM		
24-Sep-99		AQIS/BHC/3.0	250mls		S			1			S.McCormack	DASCEM		
24-Sep-99		AQIS/BH4/0.1	250mls		S			1	Hold		S.McCormack	DASCEM		
24-Sep-99		AQIS/BH4/0.25 0.3	250mls		S			1			S.McCormack	DASCEM		
24-Sep-99		AQIS/BH4/0.5	250mls		S			1			S.McCormack	DASCEM		
24-Sep-99		AQIS/BH4/1.0	250mls		S			1			S.McCormack	DASCEM		
											S.McCormack	DASCEM		

Relinquished By (Name):	S. McCormack	Received By (Name):	
Date:	24-Sep-99	Date:	
Company:	DASCEM	Company:	
Time:		Time:	
Signature:		Signature:	

Relinquished By (Name):		Received By (Name):	
Date:		Date:	
Company:		Company:	
Time:		Time:	
Signature:		Signature:	

DASCEM
Holdings Pty Ltd
Suite 1D
9 Burwood Road
BURWOOD, NSW 2134

Comments:

Legend: S = Soil, W = Water, F = Filter, T = Tube

Required Metal Analyses (Please Circle)

As Cd Co Cr Cu Fe Hg K Mg Mn
Mo Ni Pb Sb Se Sn Sr Tl V Zn

Filtered in the field: Yes No

PQLs: High level Low Level

a420-24

AGAL

REPORT OF ANALYSIS

CLIENT (2500): DASCEM HOLDINGS PTY LTD
GPO BOX 285
WORLD TRADE CENTRE
MELBOURNE VIC 3000

DATE RECEIVED: 14/10/99

ATTENTION : Mr Zyg Adamczyk

ORDER NUMBER: N/a

Site: Australian Quarantine Inspection Service, Wallgrove

The samples as received in the laboratory were tested by method AGAL-SA-1 using Polarised Light Microscopy, including Dispersion Staining Techniques. Sampling is not covered by terms of NATA registration and the test results relate to the samples as received in the laboratory. The following results were obtained. This report shall not be reproduced other than in full.

Sample No.:	S99/2002
Client Sample #:	1
Client Label:	Building 44 (Bee House) Vinyl floor covering
Description:	Vinyl sheet 5.9grams
Result:	No asbestos detected

Sample No.:	S99/2003
Client Sample #:	5
Client Label:	Building 44 (Bee House) under eaves board
Description:	Fibrous sheeting 5.4grams
Result:	Chrysotile asbestos detected

Sample No.:	S99/2004
Client Sample #:	6
Client Label:	Building 16 (Surgery), Vinyl floor covering
Description:	Vinyl sheet 5.1grams
Result:	No asbestos detected

Signed:
Mr. Mark Seater
Approved Analyst
Date: 20/10/99

Signed:
Mr Eric Kokoschko
Operations Manager
Date:

AGAL

REPORT OF ANALYSIS

CLIENT (2600):	DASCEM HOLDINGS PTY LTD GPO BOX 285 WORLD TRADE CENTRE MELBOURNE VIC 3000	DATE RECEIVED:	26/10/99
ATTENTION :	Mr Zyg Adamczyk	ORDER NUMBER:	N/a

SITE: AQIS, 60 Wallgrove Road, Wallgrove

The sample as received in the laboratory was tested by method AGAL-SA-1 using Polarised Light Microscopy, including Dispersion Staining Techniques. Sampling is not covered by terms of NATA registration and the test result relates to the sample as received in the laboratory. The following result was obtained. This report shall not be reproduced other than in full.

Sample No.:	S99/2089
Client Sample #:	14
Client Label:	Glasshouse cladding
Description:	Fibrous cement sheeting 2.4grams
Result:	No asbestos detected

Signed:
Mr. Ken Quarrell
Approved Analyst
Date: 8/11/99

Signed:
Mr Eric Kokoschko
Operations Manager
Date: 8/11/99

...N O. CUST...FC....:

CENTRE FOR ENVIRONMENTAL MANAGEMENT

From : DASCEM Holdings Pty Ltd
PO Box 285
WORLD TRADE CENTRE
MELBOURNE 3005
ACN: 080 220 480

Contact: Zygmunt Adamczyk

DASCEM CLIENT

Contact:
Phone:
Fax:

To : AGAL
8 Butler Drive
HENDON SA 5014
«PostalCode»
Contact :
Phone :
Fax : «WorkFax»

e (03) 9649 7402 , (0418 53 1154)
(03) 9649 7410

Job Location :
AUSTRALIAN QUARANTINE INSPECTION SERVICE, WALLGROVE.

o: CL420/24 | Order No: | TAT required 24hr/48hr/72hr/5-7days

ampled | SiteID: CL420/24 | Site address: 60 WALLGROVE ROAD, WALLGROVE

No	Sample Identification	Sample location	Sample Type	Preservation	Analyses Requested: ASBESTOS			Comments
	1	BUILDING 44 (BEE HOUSE) VINYL FLOOR COVERING			✓			
	5	BUILDING 44 (BEE HOUSE) UNDER EAVES BOARD			✓			
	6	BUILDING 16 (SURGERY) VINYL FLOOR COVERING			✓			

uished by : Date : 13.10.99
Time : 10am

Received by : Date :
Time :

Signature :

N:\Consultancy Group\Science\Chain of Custody\COCMERGE.DOC

From : DASCEM Holdings Pty Ltd
PO Box 285
WORLD TRADE CENTRE
MELBOURNE 3005
ACN: 080 220 480

Contact: Zygmunt Adamczyk

Phone (03) 9649 7402 , (0418 53 1154)
Fax (03) 9649 7410

DASCEM CLIENT

Contact:
Phone:
Fax:

To : AGAL

«PostalCode»
Contact :
Phone :
Fax : «WorkFax»

Job Location : AQIS, Wallgrove

Job No : CL420/24

Order No:

TAT required 24hr/48hr/72hr/5-7days

Date sampled 13.10.99

SiteID: CL420/24

Site address: 60 Wallgrove Road, Wallgrove

Lab No	Sample Identification	Sample location	Sample Type	Preservation	Analyses Requested: Asbestos			Comments
	14	Glasshouse cladding.			✓			

Relinquished by: [signature] Date : 22.10.99 Time : 5pm

Received by : Date : Time :

Signature :

N:\Consulting Group\Science\Chain of Custody\COCMERGE.DOC

Job Number : 1E00826
Client : DASCEM
Reference : CL529 (AQIS)
Project : CL529 (AQIS)

Analyte	Lab No	E04423				
		AQIS/AST				
	Sample Id	/1F				
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	0.7				
Acenaphthylene	0.5	nd				
Acenaphthene	0.5	nd				
Fluorene	0.5	nd				
Phenanthrene	0.5	1.2				
Anthracene	0.5	nd				
Fluoranthene	0.5	nd				
Pyrene	0.5	nd				
Benz(a)anthracene	0.5	nd				
Chrysene	0.5	nd				
Benzo(b) & (k)fluoranthene	1	nd				
Benzo(a)pyrene	0.5	nd				
Indeno(1.2.3-cd)pyrene	0.5	nd				
Dibenz(a.h)anthracene	0.5	nd				
Benzo(g.h.i)perylene	0.5	nd				
Total PAH	0.5	1.8				
2-Fluorobiphenyl-SURROGATE	1	112%				
Anthracene-d10-SURROGATE	1	107%				
p-Terphenyl-D14-SURROGATE	1	116%				

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = <PQL
-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

amdel

Job Number : 1E00826
Client : DASCEM
Reference : CL529 (AQIS)
Project : CL529 (AQIS)

Analyte	Lab No	E04423				
		AQIS/AST				
	Sample Id	/1F				
	PQL					
E5910 Metals in Soil						
Arsenic	5	8				
Cadmium	0.5	nd				
Chromium	5	5				
Copper	5	35				
Nickel	2	20				
Lead	5	15				
Zinc	5	78				
E5950 Mercury in Soil						
Mercury	0.05	0.14				

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = <PQL
- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

amdel

Job Number : 1E00826
Client : DASCEM
Reference : CL529 (AQIS)
Project : CL529 (AQIS)

Analyte	Lab No	E04423				
		AQIS/AST				
	Sample Id	/1F				
	PQL					
E1081 OC's & Total PCB's in Soil						
Analysed in AMDEL NSW						
NATA Accreditation No. 1464						
HCB	0.1	nd				
a-BHC	0.1	nd				
g-BHC	0.1	nd				
Heptachlor	0.1	nd				
Aldrin	0.1	nd				
b-BHC	0.1	nd				
d-BHC	0.1	nd				
Oxychlordane	0.1	nd				
Heptachlor epoxide	0.1	nd				
Endosulfan 1	0.1	nd				
Chlordane-Trans	0.1	nd				
Chlordane-Cis	0.1	nd				
trans-Nonachlor	0.1	nd				
DDE	0.1	nd				
Dieldrin	0.1	nd				
Endrin	0.1	nd				
DDD	0.1	nd				
Endosulfan 2	0.1	nd				
DDT	0.1	nd				
Endosulfan sulfate	0.1	nd				
Methoxychlor	0.1	nd				
Total Polychlorinated biphenyl	1	nd				

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = <PQL
– = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

amdel

Job Number : 1E00826
Client : DASCEM
Reference : CL529 (AQIS)
Project : CL529 (AQIS)

Analyte	Lab No	E04423				
		AQIS/AST				
	Sample Id	/1F				
	PQL					
2,4,5,6-TCMX-SURROGATE	1	91%				

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = <PQL
– = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

AGAL

REPORT OF ANALYSIS

Report No. RN207485

Client	: DASCEM HOLDINGS P/L PO BOX 285 WORLD TRADE CENTRE MELBOURNE VIC 3005	Job No.	: DAS12/010220
		Quote No.	: QT-00884
		Order No.	:
		Date Sampled	: 16-FEB-2001
		Date Received	: 20-FEB-2001
Attention	: S. McCormack	Sampled By	: CLIENT
Project Name	:		
Your Client Services Manager	: Kathy Kozaris	Phone	: (03) 9685 1758

Lab Reg No.	Sample Ref	Sample Description
V01/003625	AQIS/N	Soil - CL529-6
V01/003626	AQIS/S	Soil - CL529-6
V01/003627	AQIS/E	Soil - CL529-6

Lab Reg No. / Sample Reference	Units	LOR	V01/003625 AQIS/N	V01/003626 AQIS/S	V01/003627 AQIS/E	Method
Trace Elements						
Lead	mg/kg	5.0	11	18	18	VL239

Signed:

Roger Cromie, Trace Elements - Vic

Date: 22-FEB-2001

Lab Reg No. / Sample Reference	Units	LOR	V01/003625 AQIS/N	V01/003626 AQIS/S	V01/003627 AQIS/E	Method
BTEX						
Benzene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Ethylbenzene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Total Xylenes	mg/kg	1	<1	<1	<1	VL234
Total BTEX	mg/kg	2.5	<2.5	<2.5	<2.5	VL234
Total Petroleum Hydrocarbons						
TPH C6 - C9	mg/kg	25	<25	<25	<25	VL234
TPH C10 - C14	mg/kg	50	<50	<50	<50	VL228
TPH C15 - C28	mg/kg	100	<100	<100	<100	VL228
TPH C29 - C36	mg/kg	100	<100	<100	<100	VL228
Total Hydrocarbons (as above)	mg/kg	275	<275	<275	<275	

Signed:

Sebastian Barone, Env. GC/MS - Vic

Date: 22-FEB-2001

REPORT OF ANALYSIS

Lab Reg No.	Units	LOR	V01/003625	V01/003626	V01/003627	Method
Sample Reference			AQIS/N	AQIS/S	AQIS/E	
Moisture Content						
Moisture	%		18.0	16.7	12.7	VL237

Signed:

Sample Preparation - Vic

Date: 22-FEB-2001

REPORT OF ANALYSIS

Client	: DASCEM HOLDINGS P/L PO BOX 285 WORLD TRADE CENTRE MELBOURNE VIC 3005	Job No.	: DAS12/010220
		Quote No.	: QT-00884
		Order No.	:
		Date Sampled	: 16-FEB-2001
		Date Received	: 20-FEB-2001
		Sampled By	: CLIENT
Attention	: S. McCormack		
Project Name	:		
Your Client Services Manager	: Kathy Kozaris	Phone	: (03) 9685 1758

Lab Reg No.	Sample Ref	Sample Description
V01/003628	AQIS/W	Soil - CL529-6
V01/003629	AQIS/B	Soil - CL529-6
V01/003630	AQIS/U	Soil - CL529-6

Lab Reg No. Sample Reference	Units	LOR	V01/003628 AQIS/W	V01/003629 AQIS/B	V01/003630 AQIS/U	Method
Trace Elements						
Lead	mg/kg	5.0	16	12	<5.0	VL239

Signed:

Roger Cromie, Trace Elements - Vic

Date: 22-FEB-2001

Lab Reg No. Sample Reference	Units	LOR	V01/003628 AQIS/W	V01/003629 AQIS/B	V01/003630 AQIS/U	Method
BTEX						
Benzene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Ethylbenzene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Total Xylenes	mg/kg	1	<1	<1	<1	VL234
Total BTEX	mg/kg	2.5	<2.5	<2.5	<2.5	VL234
Total Petroleum Hydrocarbons						
TPH C6 - C9	mg/kg	25	<25	<25	<25	VL234
TPH C10 - C14	mg/kg	50	<50	<50	<50	VL228
TPH C15 - C28	mg/kg	100	<100	<100	<100	VL228
TPH C29 - C36	mg/kg	100	<100	<100	<100	VL228
Total Hydrocarbons (as above)	mg/kg	275	<275	<275	<275	

Signed:

Sebastian Barone, Env. GC/MS - Vic

Date: 22-FEB-2001

REPORT OF ANALYSIS

Report No. RN207485

Lab Reg No.			V01/003628	V01/003629	V01/003630	
Sample Reference	Units	LOR	AQIS/W	AQIS/B	AQIS/U	Method
Moisture Content						
Moisture	%		17.1	3.1	20.7	VL237

Signed: Sample Preparation - Vic

Date: 22-FEB-2001

REPORT OF ANALYSIS

Client	: DASCEM HOLDINGS P/L PO BOX 285 WORLD TRADE CENTRE MELBOURNE VIC 3005	Job No. Quote No. Order No. Date Sampled Date Received	: DAS12/010220 : QT-00884 : : 16-FEB-2001 : 20-FEB-2001
Attention	: S. McCormack	Sampled By	: CLIENT
Project Name	:		
Your Client Services Manager	: Kathy Kozaris	Phone	: (03) 9685 1758

Lab Reg No.	Sample Ref	Sample Description
V01/003631	AQIS/BF	Soil - CL529-6
V01/003632	AQIS/IF	Soil - CL529-6
V01/003633	AQIS/QA1	Soil - CL529-6

Lab Reg No. Sample Reference	Units	LOR	V01/003631 AQIS/BF	V01/003632 AQIS/IF	V01/003633 AQIS/QA1	Method
Trace Elements						
Lead	mg/kg	5.0	7.6	22	21	VL239

Signed:

Roger Cromie, Trace Elements - Vic

Date: 22-FEB-2001

Lab Reg No. Sample Reference	Units	LOR	V01/003631 AQIS/BF	V01/003632 AQIS/IF	V01/003633 AQIS/QA1	Method
BTEX						
Benzene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Ethylbenzene	mg/kg	0.5	<0.5	<0.5	<0.5	VL234
Total Xylenes	mg/kg	1	<1	<1	<1	VL234
Total BTEX	mg/kg	2.5	<2.5	<2.5	<2.5	VL234
Total Petroleum Hydrocarbons						
TPH C6 - C9	mg/kg	25	<25	<25	<25	VL234
TPH C10 - C14	mg/kg	50	<50	<50	<50	VL228
TPH C15 - C28	mg/kg	100	<100	<100	<100	VL228
TPH C29 - C36	mg/kg	100	<100	<100	<100	VL228
Total Hydrocarbons (as above)	mg/kg	275	<275	<275	<275	

Signed:

Sebastian Barone, Env. GC/MS - Vic

Date: 22-FEB-2001

REPORT OF ANALYSIS

Report No. RN207485

Lab Reg No. / Sample Reference	Units	LOR	V01/003631 AQIS/BF	V01/003632 AQIS/IF	V01/003633 AQIS/QA1	Method
Moisture Content						
Moisture	%		12.5	10.0	2.9	VL237

Signed: Sample Preparation - Vic

Date: 22-FEB-2001

All Results are Expressed on a Dry Weight Basis. See Attached Quality Assurance Report of Analysis.

This Laboratory is accredited by the National Association of Testing Authorities, Australia. [Accreditation No 89].
The tests reported herein have been performed in accordance with its terms of accreditation.

Sample/s analysed as received.
This Report supersedes reports: *RN207477* *RN207479*
This Report shall not be reproduced except in full.

QUALITY ASSURANCE REPORT

Client: DASCEM HOLDINGS P/L

Sample Matrix: Soil (V01/003625 - 3633)

Units: mg/kg

Analyte	LOR	Blank	QC recovery % of expected	Blank Spike % Recovery
Lead	5.0	<5.0	114	92

Acceptable spike recovery is 80-120%.
LOR: Limit of Reporting.

Signed:

Roger Cromie
Senior Chemist, Inorganics

Date: 21-Feb-2001

20FEB'01 17:02

...IN-OF-CUSTODY

Page of

...atory Name:	AGAL
...s:	51-65 Clarke St Sth Melbourne VIC. 3205
...mber:	(03) 9685 1788
...Number:	(03) 9685 1777
...t Name:	

DASCEM Job No.

CL529 - 6

Results Expected By/On:	Priority 24hrs
Fax Results To:	S.McCormack
Fax Number:	9715 6811
Phone Number:	9715 6699

Invoice To:	Burwood Office

Sampled	Time	Sample I.D	Container Size	Sample Location	Medium *	Preservative Type	Filtered (x)	No. of Containers	Analysis Required: TPH	B-TEX	lead									
16/2		AQIS/ N	250		S			1	X	X	X									
16/2		AQIS/ S	250		S			1	X	X	X									
16/2		AQIS/ E	250		S			1	X	X	X									
16/2		AQIS/ W	250		S			1	X	X	X									
16/2		AQIS/ B	250		S			1	X	X	X									
16/2		AQIS/ U	250		S			1	X	X	X									
16/2		AQIS/ BF	250		S			1	X	X	X									
16/2		AQIS/ IF	250		S			1	X	X	X									
16/2		AQIS/ QA1	250		S			1	X	X	X									

Sampled By	Company	Signature	Remarks
J.Glover	DASCEM		
J.Glover	DASCEM		
J.Glover	DASCEM		
J.Glover	DASCEM		
J.Glover	DASCEM		
J.Glover	DASCEM		
J.Glover	DASCEM		
J.Glover	DASCEM		
J.Glover	DASCEM		

...shed By (Name):	S. McCormack	Received By (Name):		Relinquished By (Name):		Received By (Name):	
		Date:		Date:		Date:	
...y:	DASCEM	Company:		Company:		Company:	
		Time:		Time:		Time:	
...e:		Signature:		Signature:		Signature:	

DASCEM
Holdings Pty Ltd
Suite 1D
9 Burwood Road

Comments:

Legend: S = Soil, W = Water, F = Filter, T = Tube

* Required Metal Analyses (Please Circle)

As Cd Co Cr Cu Fe Hg K Mg Mn
Mo Ni Pb Sb Se Sn Sr Tl V Zn

Filtered in the field: Yes No

MULTIPLE SAMPLE RECEIPT LOG

Client: DASCEM Job No.: CL529-6 Receipt Date: _____

Sample Date	Sample Description	Customer ID	LRN
6/2	Soil	AQIS/N	V01/003625
		AQIS/S	V01/003626
		AQIS/E	V01/003627
		AQIS/W	V01/003628
		AQIS/B	V01/003629
		AQIS/V	V01/003630
		AQIS/BF	V01/003631
		AQIS/IF	V01/003632
		AQIS/QA1	V01/003633

Page: ____ of _____

AUSTRALIAN LABORATORY SERVICES P/L
A.C.N. 009 936 029

ANALYTICAL REPORT

LABORATORY:	ENV SYDNEY
BATCH NUMBER:	ES18930
SUB BATCH:	0
No. OF SAMPLES:	9
DATE RECEIVED:	24/09/99
DATE COMPLETED:	06/10/99

CONTACT: MR STEPHEN MCCORMACK
CLIENT: DEPT OF ADMIN SERVICES
ADDRESS: 1D/9 BURWOOD ROAD
BURWOOD NSW 2134

ORDER No.: CL420/24 SAMPLE TYPE: SOIL PROJECT:

Cod	Analysis description	Units	LOR	AQIS/3H1/ 2.0 24/09/99	AQIS/BE1/ 2.8 24/09/99	AQIS/BE2/ 2.0 24/09/99	AQIS/3E2/ 3.0 24/09/99
	Moisture Content (dried @ 103°C)	%	0.1	11.2	7.1	11.5	9.5
271-SS	TOTAL PETROLEUM HYDROCARBONS						
	C6 - C9 Fraction	mg/kg	2	<2	<2	<2	<2
	C10 - C14 Fraction	mg/kg	50	<50	<50	<50	<50
	C15 - C28 Fraction	mg/kg	100	<100	<100	<100	<100
	C29 - C36 Fraction	mg/kg	100	<100	<100	<100	<100
80-SS	BTEX						
	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Chlorobenzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	meta- & para-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	ortho-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
805-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES						
	1,2-Dichloroethane-D4	%	1	107	104	89	95
	Toluene-D8	%	1	94	90	84	87
	4-Bromofluorobenzene	%	1	100	91	86	90

COMMENTS:

Samples analysed on an as received basis. Results reported on a dry weight basis. All analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

Report which supersedes any preliminary reports with this batch number. • Results apply to sample(s) as submitted by client.

ANALYTICAL REPORT

CONTACT: MR STEPHEN MCCORMACK
CLIENT: DEPT OF ADMIN SERVICES
ADDRESS:
1D/9 BURWOOD ROAD
BURWOOD NSW 2134

LABORATORY: ENV SYDNEY
BATCH NUMBER: ES18930
SUB BATCH: 0
No. OF SAMPLES: 9
DATE RECEIVED: 24/09/99
DATE COMPLETED: 06/10/99

RDER No.: CL420/24 SAMPLE TYPE: SOIL PROJECT:

.cd	Analysis description	Units	LOR	AQIS/BE3/ 3.0 24/09/99	AQIS/BEC/ 3.0 24/09/99	AQIS/BE4/ 0.3 24/09/99	AQIS/BE4/ 0.5 24/09/99
	Moisture Content (dried @ 103°C)	%	0.1	8.6	9.4	14.2	19.5
E-007-SS	TOTAL PETROLEUM HYDROCARBONS						
	C6 - C9 Fraction	mg/kg	2	<2	<2	<2	<2
	C10 - C14 Fraction	mg/kg	50	<50	<50	503	<50
	C15 - C28 Fraction	mg/kg	100	<100	<100	3960	<100
	C29 - C36 Fraction	mg/kg	100	<100	<100	<100	<100
080-SS	BTEX						
	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Chlorobenzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	meta- & para-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	ortho-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
E 005-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES						
	1,2-Dichloroethane-D4	%	1	108	93	83	85
	Toluene-D8	%	1	106	91	82	82
	4-Bromofluorobenzene	%	1	104	92	81	81

ENTS:

eport which supersedes any preliminary reports with this batch number. • Results apply to sample(s) as submitted by client.

Environmental Consulting Pty. Ltd.
3 Kingston Town Close, Oakleigh, Victoria 3166, Australia
Postal Address: P.O. Box 276, Oakleigh, Victoria, 3166, Australia
Telephone: (03) 9564 7055
Fax (03) 9564 7190
Email: mgl@majestic.com.au

MGT ANALYSIS REPORT 135996

CLIENT :- Dascem
PO Box 285 World Trade Centre
Melbourne
Victoria 3005

SITE :- WALLGROVE RD WALLGROVE CL120/24

DATE RECEIVED :- 14/10/99

DATE EXTRACTED OR PREPARED :- 14/10/99 - 15/10/99

DATE REPORTED :- 20/10/99

QA/QC DETAILS :- The QA/QC for these samples is detailed in this report no : 135996
A total of 1 duplicate, 1 matrix spike % recovery and 1 method blank analyses or sets of analyses were carried out on this batch of samples.
All QA/QC results for duplicates, matrix spike % recovery, method blank and known QC standards were within the set acceptable criteria.

FINAL REPORT :- The results in this report supersede any previously corresponded results.

Gary Black
Operations Manager

Environmental Consulting Pty. Ltd.
3 Kingston Town Close, Oakleigh, Victoria 3166, Australia
Postal Address: P.O. Box 276, Oakleigh, Victoria, 3166, Australia
Telephone: (03) 9564 7055
Fax (03) 9564 7190
Email: mgl@majestic.com.au

Dascem
PO Box 285 World Trade Centre
Melbourne
Victoria 3005

Site : WALLGROVE RD WALLGROVE CL420/24

HEAVY METALS-US EPA SW846 METHODS 7000(AA) & 6010B(ICP), VIC EPA METHODS 13&16.

mple	2	2 Dup	3	4	7	8
b. No.	OC1619	OC1619D	OC1620	OC1621	OC1622	OC1623
ad	1100	1200	260	720	1300	2100

xtraction with (1+3) HNO3 & HCl. Results in ppm as received.

Date received 14/10/99 Date Reported 20/10/99

Environmental Consulting P.y. Ltd.
3 Kingston Town Close, Oakleigh, Victoria 3166, Australia
Postal Address: P.O. Box 276, Oakleigh, Victoria, 3166, Australia
Telephone: (03) 9564 7055
Fax (03) 9564 7190
Email: mgt@majestic.com.au

Dascem
PO Box 285 World Trade Centre
Melbourne
Victoria 3005

Site : WALLGROVE RD WALLGROVE CL420/24

HEAVY METALS-US EPA SW846 METHODS 7000(AA) & 6010B(ICP), VIC EPA METHODS 13&16.

mple	9	10	Spike % Recov	Meth.Bl.(mg/l)		
b. No.	OC1624	OC1625	OC1625S			
ad	1300	700	91%	<0.05		

xtraction with (1+3) HNO3 & HCl. Results in ppm as received.

Date received 14/10/99 Date Reported 20/10/99

mgt Environmental Consulting P/L Ltd.
3 Kingston Town Close, Oakleigh, Victoria, 3166, Australia
Postal Address: P.O. Box 276, Oakleigh, Victoria, 3166, Australia
Telephone: (03) 9564 7055
Fax: (03) 9564 7190

CRITERIA USED TO ASSESS QUALITY CONTROL RESULTS VALIDITY AND RELIABILITY OF TEST RESULTS

The continuing validity and reliability of results is accomplished by monitoring a number of factors:

1. Analysis of duplicates. Duplicates run at a minimum of 5%
2. Recovery of known additions. Spikes run at a minimum of 5% with each batch of samples.
3. Analysis of reagent blanks run with each batch of samples.

1. Analysis of Duplicates

Duplicates are analysed as a matter of course and the data analysed by means of a range chart type system. The range for each duplicate pair is determined and 'normalised' by dividing by the average of the duplicate results.
Once enough data has been gathered control data for each method can be developed. The mean range(R) is determined as:

$$R = \frac{(\Sigma R_i)}{n}$$

Where n = number of observations
and R_i = normalised range

and the variance (square of the standard deviation) is determined as:

$$s_r^2 = \frac{(\Sigma R_i^2 - nR^2)}{n - 1}$$

The control criteria thus become:

Average range	R
Warning Limit	$R + 2s_r$
Control Limit	$R + 3s_r$

The normalised range for each duplicate pair is calculated and compared with the above criteria. (This can be achieve either graphically or by visual comparison of the data).
Since the limits are based on 95% and 90% confidence levels respectively, the following actions are taken, based on these statistical parameters.

Control Limit

If one measurement exceeds the C.L. repeat the analysis. If the repeat is within the C.L. continue analyses. If it exceeds the C.L. discontinue analyses and correct the problem.

Warning Limit

If two out of three successive points exceed the W.L. analyse another sample. If the next point is less than the W.L. continue analyses, if the next point exceeds the W.L. discontinue analyses and correct the problem.

*** Particular care needs to be taken with some soil samples with regard to sample homogeneity, especially with regard to 'organics' analyses. Statistical analysis may indicate a problem exists when in fact the problem is really only sample homogeneity.

2. Recovery of known additions.

The recovery of known additions is used to verify the absence of matrix effects and absence of interferences. Recovery from standards is used to verify method performance. Recovery data is compared against acceptance criteria published in Standards Methods for Examination of Water and Waste water, or appropriate U.S. EPA Methods.

If recoveries fall outside acceptance criteria, analyses should be discontinued and the problem rectified.

3. Analysis of Reagent Blanks

Reagent blanks are used to monitor purity of reagents and the overall procedural blank. Reagent blanks are run as a matter of course with each batch for analysis. Unusual or out of the 'norm' results for blanks are investigated and corrective action taken before analysis of any batch is completed.

G. Black
Operations Manager

CHAIN OF CUSTODY FORM:

From : DASCEM Holdings Pty Ltd
PO Box 285
WORLD TRADE CENTRE
MELBOURNE 3005
ACN: 080 220 480

Contact: Zygmunt Adamczyk

DASCEM CLIENT

Contact:
Phone:
Fax:

To : MGT
3 Kingston Town Close
OAKLEIGH 3166
«PostalCode»
Contact :
Phone :
Fax : «WorkFax»

(03) 9649 7402 , (0418 53 1154)
(03) 9649 7410

Job Location :
AUSTRALIAN QUARANTINE INSPECTION SERVICE, WALLGROVE

No : CL420/24

Order No:

TAT required 24hr/48hr/72hr/5-7days

sampled

SiteID: CL420/24

Site address: 60 WALLGROVE ROAD, WALLGROVE

Lab No	Sample Identification	Sample location	Sample Type	Preservation	Analyses Requested: LEAD			Comments
	2	BUILDING 44 (BEE HOUSE) INTERNAL WALL	Point		✓			
	3	BUILDING 44 (BEE HOUSE) INTERNAL TIMBER DOOR			✓			
	4	BUILDING 44 (BEE HOUSE) INTERNAL METAL DOOR ARCHITRAVE			✓			
	7	BUILDING 2 (KENNEL) EXTERNAL DOOR PANEL			✓			
	8	BUILDING 16 (SURGERY) PORCH STEEL SUPPORT			✓			
	9	BUILDING 16 (SURGERY) INTERNAL WALL			✓			
	10	BUILDING 18 (CATTERY) INTERNAL WALL			✓			

Relinquished by : [signature]
Date : 13.10.99
Time : 10am

Received by : Samantha Smith MGT
Date : 14/10/99
Time :

Signature : [signature]

Environmental Consulting Pty. Ltd.

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia
Postal Address: P.O. Box 276, Oakleigh, Victoria, 3166, Australia
Telephone: (03) 9564 7055
Fax (03) 9564 7190
Email: mgt@majestic.com.au

MGT ANALYSIS REPORT 136189

CLIENT :- Dascem
PO Box 285 World Trade Centre
Melbourne
Victoria 3005

SITE :- WALLGROVE RD WALLGROVE CL420/24

DATE RECEIVED :- 25/10/99

DATE EXTRACTED OR PREPARED :- 25/10/99 - 26/10/99

DATE REPORTED :- 28/10/99

QA/QC DETAILS :- The QA/QC for these samples is detailed in this report no : 136189
A total of 1 duplicate, 1 matrix spike % recovery and 1 method blank analyses or sets of analyses were carried out on this batch of samples.
All QA/QC results for duplicates, matrix spike % recovery, method blank and known QC standards were within the set acceptable criteria.

FINAL REPORT :- The results in this report supersede any previously corresponded results.

Michael Wright
Laboratory Manager

Environmental Consulting Pty. Ltd.

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia
Postal Address: P.O. Box 276, Oakleigh, Victoria, 3166, Australia
Telephone: (03) 9564 7055
Fax (03) 9564 7190
Email: mgt@majestic.com.au

Dascem
PO Box 285 World Trade Centre
Melbourne
Victoria 3005

Site : WALLGROVE RD WALLGROVE CL420/24

HEAVY METALS-US EPA SW846 METHODS 7000(AA) & 6010B(ICP), VIC EPA METHODS 13&16.

e	11	11 Dup	12	13	Spike % Recov	Meth.Bl.(mg/l)
No.	OC2464	OC2464D	OC2465	OC2466	OC2466S	
	210	210	180	63	93%	<0.05

action with (1+3) HNO3 & HCl. Results in ppm as received.

Date received 25/10/99 Date Reported 28/10/99

Environmental Consulting Pty. Ltd.
3 Kingston Town Close, Oakleigh, Victoria, 3166, Australia
Postal Address: P.O. Box 276, Oakleigh, Victoria, 3166, Australia
Telephone: (03) 9564 7055
Fax: (03) 9564 7190

CRITERIA USED TO ASSESS QUALITY CONTROL RESULTS
VALIDITY AND RELIABILITY OF TEST RESULTS

The continuing validity and reliability of results is accomplished by monitoring a number of factors:

1. Analysis of duplicates. Duplicates run at a minimum of 5%
2. Recovery of known additions. Spikes run at a minimum of 5% with each batch of samples.
3. Analysis of reagent blanks run with each batch of samples.

1. Analysis of Duplicates

Duplicates are analysed as a matter of course and the data analysed by means of a range chart type system. The range for each duplicate pair is determined and 'normalised' by dividing by the average of the duplicate results.
Once enough data has been gathered control data for each method can be developed. The mean range(R) is determined as:

$$R = \frac{(\Sigma R_i)}{n}$$

Where n = number of observations
and R_i = normalised range

and the variance (square of the standard deviation) is determined as:

$$s_r^2 = \frac{(\Sigma R_i^2 - nR^2)}{n-1}$$

The control criteria thus become:

Average range	R
Warning Limit	$R + 2s_r$
Control Limit	$R + 3s_r$

The normalised range for each duplicate pair is calculated and compared with the above criteria. (This can be achieve either graphically or by visual comparison of the data).
Since the limits are based on 95% and 90% confidence levels respectively, the following actions are taken, based on these statistical parameters.

Control Limit

If one measurement exceeds the C.L. repeat the analysis. If the repeat is within the C.L. continue analyses. If it exceeds the C.L. discontinue analyses and correct the problem.

Warning Limit

If two out of three successive points exceed the W.L. analyse another sample. If the next point is less than the W.L. continue analyses, if the next point exceeds the W.L. discontinue analyses and correct the problem.

*** Particular care needs to be taken with some soil samples with regard to sample homogeneity, especially with regard to 'organics' analyses. Statistical analysis may indicate a problem exists when in fact the problem is really only sample homogeneity.

2. Recovery of known additions.

The recovery of known additions is used to verify the absence of matrix effects and absence of interferences. Recovery from standards is used to verify method performance. Recovery data is compared against acceptance criteria published in Standards Methods for Examination of Water and Waste water, or appropriate U.S. EPA Methods.

If recoveries fall outside acceptance criteria, analyses should be discontinued and the problem rectified.

3. Analysis of Reagent Blanks

Reagent blanks are used to monitor purity of reagents and the overall procedural blank. Reagent blanks are run as a matter of course with each batch for analysis. Unusual or out of the 'norm' results for blanks are investigated and corrective action taken before analysis of any batch is completed.

G. Black
Operations Manager

CENTRE FOR ENVIRONMENTAL MANAGEMENT

From : DASCEM Holdings Pty Ltd PO Box 285 WORLD TRADE CENTRE MELBOURNE 3005 ACN: 080 220 480 Contact: Zygmunt Adamczyk	DASCEM CLIENT Contact: Phone: Fax:	To : MGT «PostalCode» Contact : Phone : Fax : «WorkFax»
Phone (03) 9649 7402 , (0418 53 1154) Fax (03) 9649 7410	Job Location : AQIS , Wallgrove	

Lab No : CL420/24 | Order No: | TAT required 24hr/48hr/72hr/5-7days

Site sampled 13/10/99 | SiteID: CL420/24 | Site address: 60 Wallgrove Road, Wallgrove

Lab No	Sample Identification	Sample location	Sample Type	Preservation	Analyses Requested: LEAD			Comments
	11	Door Panel. Conference Room. Administration Building.			✓			
	12	Door Architrave. Female Toilet. Administration Building			✓			
	13	Wall. Kitchen. Administration Building.			✓			

Relinquished by : [signature] Date : 22.10.99 Time : 5pm

Received by : Samantha Smith Date : 25/10/99 Time :

Signature : [signature]

N:\Consultancy Group\Science\Chain of Custody\COCMERGE.DOC

Australian
Environmental
Laboratories

22 October 1999

Dascem
Suite 1D
9 Burwood Road
Burwood
NSW 2134

Your Reference: CL420/24 AQIS - PLANTS
Report Number: 12029

Attention: Arminda Ryan

Dear Arminda
The following samples were received from you on the date indicated.

Samples: Qty.	1 Soil
Date of Registration	18/10/99
Date of Receipt of Samples:	15/10/99
Date of Receipt of Instructions :	15/10/99

These samples were analysed in accordance with your written instructions.
A copy of the instructions is attached with the analytical report.

The results and associated quality control are contained in the following pages of this report.
Unless otherwise stated, solid samples are expressed on a dry weight basis, air and liquid samples as received.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully
AUSTRALIAN ENVIRONMENTAL LABORATORIES

Tania Notaras
Laboratory Manager

Yvonne Dickson
Operations Manager

OC Pesticides in Soil Our Reference: Your Reference	UNITS	12029-1 CL420/24
HCB	mg/kg	<0.10
alpha-BHC	mg/kg	<0.10
gamma-BHC(Lindane)	mg/kg	<0.10
Heptachlor	mg/kg	<0.10
Aldrin	mg/kg	<0.10
beta-BHC	mg/kg	<0.10
Oxychlordane	mg/kg	<0.10
delta-BHC	mg/kg	<0.10
Heptachlor Epoxide	mg/kg	<0.10
o,p'-DDE	mg/kg	<0.10
alpha-Endosulfan	mg/kg	<0.10
trans-Chlordane	mg/kg	<0.10
cis-Chlordane	mg/kg	<0.10
trans-Nonachlor	mg/kg	<0.10
p,p'-DDE	mg/kg	<0.10
Dieldrin	mg/kg	<0.10
Endrin	mg/kg	<0.10
o,p'-DDD	mg/kg	<0.10
o,p'-DDT	mg/kg	<0.10
beta-Endosulfan	mg/kg	<0.10
p,p'-DDD	mg/kg	<0.10
p,p'-DDT	mg/kg	<0.10
Endosulfan Sulphate	mg/kg	<0.10
Endrin Aldehyde	mg/kg	<0.10
Methoxychlor	mg/kg	<0.10
Endrin Ketone	mg/kg	<0.10
2,4,5,6-Tetrachloro-*m*-xylene *Surrogat*	% Recovery	120

OP ...licides in Soil Our Reference: Your Reference	UNITS	12029-1 CL420/24
Chlorpyrifos	mg/kg	<0.10
Fenitrothion	mg/kg	<0.10
Bromofos Ethyl	mg/kg	<0.10
Ethion	mg/kg	<0.10
2,4,5,6-Tetrachloro-*m*-xylene *Surrogat*	% Recovery	120

LITY CONTROL Pesticides In Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base Sample:Duplicate	Spike Sm#	Matrix Spike Duplicate + RPD % Recovery
HCB	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
alpha-BHC	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
ha-BHC(Lindane)	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
Heptachlor	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	99 || 102 || RPD: 3
Aldrin	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	100 || 103 || RPD: 3
beta-BHC	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
xychlordane	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
delta-BHC	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	103 || 105 || RPD: 2
lachlor Epoxide	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	102 || 103 || RPD: 1
o,p'-DDE	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
ha-Endosulfan	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
ns-Chlordane	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
is-Chlordane	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
ns-Nonachlor	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
p,p'-DDE	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
Dieldrin	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	101 || 103 || RPD: 2
Endrin	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
o,p'-DDD	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
o,p'-DDT	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
ta-Endosulfan	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
p,p'-DDD	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
p,p'-DDT	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	114 || 112 || RPD: 2
osulfan Sulphate	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike

LITY CONTROL esticides In Soil	UNITS	PQL	METHOL	Blank	Duplicate Sm#	Duplic Base Sample:Duplicate	Spike Sm#	Matrix Spike Duplicate + RPD % Recovery
drin Aldehyde	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
Methoxychlor	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
ndrin Ketone	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
Tetrachloro-*m*-xylen e *Surrogat*	% Recovery	60	SEO-005	<60	Nil Replicate	Nil Replicate	Batch	101 || 96 || RPD: 5

LITY CONTROL Pesticides In Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base Sample:Duplicate	Spike Sm#	Matrix Spike Duplicate + RPD % Recovery
Chlorpyrifos	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	100 || 102 || RPD: 2
Fenitrothion	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
romofos Ethyl	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
Ethion	mg/kg	0.1	SEO-005	<0.10	Nil Replicate	Nil Replicate	Batch	Nil Spike
-Tetrachloro-*m*-xylen e *Surrogat*	% Recovery	60	SEO-005	[NT]	Nil Replicate	Nil Replicate	Batch	101 || 96 || RPD: 5

Result Codes

[INS] : Insufficient Sample for this test
[NR] : Not Requested
[NT] : Not tested
[HBG] : Results not Reported due to High Background Interference
* : Not part of NATA Registration

Results Comments

(Signature)

LAB SAMPLE NUMBER	COLLECTORS SAMPLE NUMBER	DATE	TIME	TYPE OF SAMPLE	ANALYSES TO BE PERFORMED: OC PESTICIDES	ANALYSES TO BE PERFORMED: OP PESTICIDES	NUMBER OF CONTAINERS	REMARKS
12024 -- L	15	13/10/99	12:45	SOIL	✓	✓	1	

Australian Environmental Laboratories

ACQUISITED BY (Name & Signature)	ORGANISATION	DATE/TIME	RECEIVED BY (Name & Signature)	ORGANISATION	DATE/TIME	REMARKS
RYAN	DASCEM	15/10/99		AEL Sydney	18/10/99	Received 15/10/99 Time 5 am/pm By YVONNE
ACQUISITED BY (Name & Signature)	ORGANISATION	DATE/TIME	RECEIVED BY (Name & Signature)	ORGANISATION	DATE/TIME	REMARKS Ice/cooler pack yes/no Samples intact yes/no Results Expected By: 22/10/99
ACQUISITED BY (Name & Signature)	ORGANISATION	DATE/TIME	RECEIVED FOR LABORATORY BY (Name & Signature)		DATE/TIME	REMARKS Contact Name: Comments:

Appendix E

EPA Contaminated Sites Register Advice

Foster, & Foster Pty Ltd
GPO Box 4229
Sydney NSW 2001

NSW EPA

PO Box 4232, Sydney South 1232
Phone [illegible] FAX [illegible]

Our Reference: UB 5209.59446
Your Reference: F49803

Re: Street: Wallgrove Road, Wallgrove
Folio Identifier: 3/DP 262289

The Environment Protection Authority currently has no statutory notices issued under the provisions of the Unhealthy Building Land Act 1990 for the subject land.

The Department of Defence has informed the EPA that the subject property is located in an area that was hired during World War II under Regulation 55 of the National Securities Regulations as camp site and training area, including two grenade ranges.

Please find enclosed a copy of the relevant material from the Department of Defence files. Any queries on information contained within the files will have to be sought from Mr Leigh Edwards, Assistant Director Defence Property Services (Management) on phone02 9265 4139 or fax02 9265 3791.

Following commencement of the Contaminated Land Management Act 1997 on 1 September 1998, the Environment Protection Authority no longer issues notices under S.35 or 36 of the Environmentally Hazardous Chemicals Act 1985.

Remaining current EHC Act notices, as well as current action taken under the CLM Act will be noted on planning certificates issued by local councils under S.149(2) of the Environment Planning and Assessment Act.

Gretel Pursar-Vera
Acting Manager Land & Waste Information Databases
Environmental Information & Statistics Unit

Date: 14/08/2001
Paid by CHEQUE

** On receipt, please check that the property details above are correct.

Appendix F

UST Disposal Certificate

Group of Companies

John F. Taylor & Sons (NSW) Pty. Ltd. A.C.N. 003 600 440
John F. Taylor & Sons (Old) Pty. Ltd. A.C.N. 071 332 119
John F. Taylor & Sons (Civil) Pty. Ltd. A.C.N. 002 467 594
Mitay Consulting Services Pty. Ltd. A.C.N. 082 721 971
JFT Petroleum Services Pty. Ltd. A.C.N. 091 974 622
JFT Environmental Services Pty. Ltd. A.C.N. 091 973 429

CERTIFICATE OF TANK DESTRUCTION

To: DASCEM PTY LTD {Company Name}

of: SUITE 1D, 9 BURWOOD ROAD {Address}

BURWOOD NSW 2134

Attention: JOE GLOVER

I hereby certify that the destruction of all tankage, as specified below, removed from:

AUSTRALIAN QUARANTINE SERVICE
WALGROVE ROAD, EASTERN CREEK
{Full address of site location from which tanks were removed}

The tanks were cut up in terms of all regulatory standards, in accordance with Australian Standards 1940-1993 and AIP Code of Practice 22.

Total number of tanks received from site: One (1)

Size (litres)	Qty	Date/s Delivered
12,000 UST (T10)	1	16.02.01

Signed: _____

For & on behalf of
JFT Group of Companies

Appendix G

UXO Site Assessment, Wallgrove NSW