CONSULTING EARTH SCIENTISTS

STAGE 1 PRELIMINARY SITE INVESTIGATION:
LOT 5 DP 262213, ROPES CREEK EMPLOYMENT PRECINCT, NSW

PREPARED FOR JACFIN PTY LTD

REPORT ID: CES100604-JBA-01-F
Revision: 0.3

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Report ID: CES100604-JBA-01-F

EXECUTIVE SUMMARY

Consulting Earth Scientists Pty Ltd (CES) were commissioned by Jacfin Pty Ltd (Jacfin) to undertake a Stage 1 Preliminary Site Investigation (PSI) at the site located at Lot 5 in Deposited Plan (DP) 262213, Ropes Creek Employment Precinct, Old Wallgrove Road, Eastern Creek, New South Wales (NSW) hereinafter referred to as the site.

The Stage 1 PSI had been requested by Jacfin as part of a Concept Plan and Project Application, which will identify the provision of necessary infrastructure including roads, drainage, utilities and communication services to support a proposed industrial and employment estate development.

This report has been prepared in general accordance with the requirements specified for a Stage 1 PSI as published by the Department of Environment, Climate Change and Water (DECCW), in *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA, 1997).

The purpose of the PSI was to identify and assess likely contaminants or potential environmental issues, resulting from past and/or present activities undertaken on or adjacent to the site which may affect the sites suitability for the proposed commercial/industrial land use.

The Stage 1 PSI comprised a site history and information review, a detailed site inspection and preliminary sampling programme. The desktop review included the examination of the following information:

- Current land title records for ownership and leases;
- Deposited Plans;
- Council records including Section 149 Certificate and land use;
- Historical aerial photographs;
- Maps detailing the site geology, soils, topography and acid sulphate soil risk;
- Available hydrogeological information; and
- Other anecdotal evidence including site interviews.

Fieldwork was undertaken from 13 and 14 July 2010 and comprised the collection of surface soil samples from twenty five grid sampling locations and one targeted location across the site. Boreholes were advanced with the aid of a decontaminated hand auger with samples collected at 0.1 to 0.5 mBGL. Each soil sample was taken directly from the decontaminated hand auger using a new pair of nitrile/latex gloves and placed into a jar.

The findings of the PSI are presented below:

Site Information Summary

- The site address is Ropes Creek Employment Precinct, off Old Wallgrove Road, Eastern Creek, NSW;
- The current legal description of the site is Lot 5 in Deposited Plan 262213;
- The site is currently owned by Jacfin Pty Ltd;
- The latitude and longitude coordinates for the approximate centre of the site are 150º49'50"E and 33º48'32"S;
- From provided survey information, the site is roughly rectangular in shape and covers an area of approximately105 hectares;
- The site is bound entirely by a wire cattle fence, by grazing land to the north and west, the Sydney Water Pipeline to the south and the Transgrid Substation to the east;
- The site is subject to the State Environmental Planning Policy (Western Sydney Employment Area) 2009 applies to the land. Under this Policy the land is zoned partly Zone IN1 General Industrial and partly Zone E2 Environmental Conservation;
- The site has an approximate elevation of 50 - 70 m Australian Height Datum (AHD) and is generally undulating. The main elevated area is along the northern boundary. Three tributary drainage lines to Ropes Creek travels through the centre of the site;
- A review of the Penrith 1:100 000 Geological Series Sheet 9030 (Department of Lands, 1991) indicated that the site and surrounding area is situated on the low hills of the Bringelly Shale;
- Surface water runoff and shallow groundwater on the northern portion of the site would flow to the Ropes Creek tributary in the centre of the site. While surface water runoff and shallow surface across the remainder of the site would generally flow to the west to Ropes Creek;
- A search of the NSW Natural Resource Atlas indicated that eight registered bores were located within a 2 km radius from the centre of the site, one of which was located on site. However, no information was available for the registered bores, including the bore present on the site;

- A search of the NSW DECCW licences register indicated that there are currently no Environmental Protection Licences or remediation orders issued by the NSW DECCW relating to the site or adjoining properties;
- The Section 149 planning certificates indicated that there are no notices regarding site contamination issued for the site under Section 9(2) of the *Contaminated Land Management Act 1997*;
- At the time of field investigation, with exception of several power stanchions, the site was vacant of any structures;
- A site inspection was carried out by CES in July 2010. At the time of the inspection, no chemicals or waste of any kind were observed to be stored on the site; and
- Although disturbed terrain/fill material was noted during the field investigation (July 2010), there was no indications that significant quantities of imported fill had been brought onto the site or any considerable filling activities having taken place on the site.

Site History Summary

The title search indicated that the site has been owned by farmers and graziers since 1920 to present day.

A review of the historical information and anecdotal information from the site owners indicated that the site had remained as grazing land for cattle and horses since the early 1900's. No sheep, stock dips or crops had been present on the site at any time.

Results Summary

The soil types encountered during the field investigation (to a maximum depth of 0.5 m below ground level) included:

- Disturbed material (surrounding dams only) – reworked natural clay comprising brown/orange mottled clay which was dry with no unusual odours or staining. No waste materials were encountered within the disturbed materials;
- Top soil – Grass cover underlain by dark brown loose clay with trace sand that was dry with no odour; and
- Clay – Generally brown/orange mottled clay that was moist with medium plasticity. A humic odour was noted at some locations.

The concentrations of potential contaminants including heavy metals, hydrocarbon compounds (TPH, BTEX and PAH), pesticides (OCP), Polychlorinated Biphenyls (PCB) and asbestos in each soil sample analysed were below the adopted site assessment criteria for commercial/industrial land use.

Conclusions

Based on a review of the site history and a detailed site inspection, no significant potentially contaminating activities associated with current and historical site usage were identified on the site or adjacent properties.

It was considered that the greatest soil contamination risk would have been from the application of pesticides on livestock. These were tested through the analysis of soil samples for pesticide compounds including heavy metals, hydrocarbons and pesticides. None of the samples analysed reported heavy metal, hydrocarbon and pesticide concentrations above the site assessment criteria. Hydrocarbon and pesticide concentrations were not reported above laboratory levels of reporting.

Based on observations of site topography and field investigation results, the presence of significant volumes of imported fill is considered unlikely.

CES conclude that based on the results of the investigation with regard to soil contamination, the site is considered suitable for the proposed industrial/commercial development.

LIST OF ABBREVIATIONS

AGST	Aboveground Storage Tank
CES	Consulting Earth Scientists Pty Ltd
DA	Development Application
DCP	Development Control Plan
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change
DECCW	Department of Environment, Climate Change and Water
DNR	Department of Natural Resources
DWE	Department of Water and Energy
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
Jacfin	Jacfin Pty Ltd
LEP	Local Environment Plan
LGA	Local Government Area
LPI	Land and Property Information
mAHD	metres Australian Height Datum
mBGL	metres Below Ground Level
NEPM	National Environment Protection Measure
NLA	National Library of Australia
NSW	New South Wales
OHS	Occupational Health and Safety
PSP	Project Safety Plan
PASS	Potential Acid Sulfate Soil
SEPP	State Environmental Planning Policy
UST	Underground Storage Tank

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1 INTRODUCTION

Consulting Earth Scientists Pty Ltd (CES) was commissioned by Jacfin Pty Ltd (Jacfin) to undertake a Stage 1 Preliminary Site Investigation (PSI) at the site located at Lot 5 in Deposite plan (DP) 262213, Ropes Creek Employment Precinct, off Old Wallgrove Road, Eastern Creek NSW, referred to hereinafter as the site.

The Stage 1 PSI had been requested by Jacfin as part of a Concept Plan and Project Application, which will identify the provision of necessary infrastructure including roads, drainage, utilities and communication services to support a proposed industrial and employment estate development.

This report has been prepared in general accordance with the requirements specified for a Stage 1 PSI as published by the Department of Environment, Climate Change and Water (DECCW)[1], in *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA, 1997).

[1] The DECCW incorporates the NSW Environment Protection Authority (NSW EPA).

2 OBJECTIVES AND SCOPE

The objectives of the Stage 1 PSI were to:

- Identify any past or present land uses on and/or adjacent to the site that may have resulted in contamination, as possible from the information available;
- Assess whether any potential contamination represents a risk to future site occupants or the environment considering the sites proposed commercial/industrial land use and the receiving environments; and
- Prepare a report, in accordance with DECCW guidelines, providing a preliminary assessment of contamination at the site.

To attain the objectives, CES undertook the following:

- A review of available information on the history of the site and general site information;
- A detailed site inspection including preparation of a Project Safety Plan (PSP);
- Analysis of selected soil samples collected from grid pattern sampling and from areas considered to be potential sources of contamination; and
- A report detailing the results of the investigation.

3 METHODS

3.1 SITE HISTORY AND INFORMATION REVIEW

The site history and information review comprised the examination of the following:

- Current land title records for ownership and leases;
- Deposited plans;
- Council records including Section 149 planning certificates and land use;
- Historical aerial photographs;
- DECCW records for contamination notices and environment protection licences;
- Maps detailing the site geology, soils, topography and acid sulphate soil risk;
- Available hydrogeological information; and
- Other anecdotal information sources including site interviews.

3.2 SITE INSPECTION

To identify activities on the site that may have resulted in environmental contamination, the detailed site inspection assessed the following:

- Physical site description including topography, site drainage, surface conditions and vegetation;
- Summary of surrounding land uses;
- Identification and location of site buildings and features;
- Inventory of site infrastructure and storage areas (chemicals, waste, batteries, transformers, etc);
- Identification of visible contamination and any unusual odours or staining;
- Location of underground services including storage tanks;
- Location and description of imported fill; and
- Interview with persons having anecdotal information regarding the history of the site.

3.3 SAMPLING AND ANALYSIS PROGRAMME

To achieve these objectives of the PSI, CES undertook the following sampling and analysis programme:

- Hand auguring at sampling locations set out in a grid pattern across the site so that statistical analysis could be employed to assess the suitability of the site for commercial industrial use. A total of twenty five sample locations (which equates to a sample density of approximately 1 sample points per 4 hectares) were drilled;
- Soil samples were collected from 0.1 to 0.5mBGL; and

- Soil/fill samples were analysed for metals and metalloids (As, Cd, Cr, Cu, Ni, Pb, Zn and Hg), Total Petroleum Hydrocarbons (TPH); Benzene, Toluene, Ethylbenzene and total Xylenes (BTEX); Polycyclic Aromatic Hydrocarbons (PAHs); Organochlorine Pesticides (OCPs); Polychlorinated Biphenyls (PCBs) and asbestos fibres.

3.4 REPORTING

Following completion of the site history and information review, detailed site inspection and preliminary sampling programme, this report:

- Incorporates the results of the Stage 1 PSI;
- Summarises the results of the review and site inspection;
- Presents the results of the preliminary soil sampling and analysis programme compared against adopted Site Assessment Criteria (SAC) for commercial/industrial land use; and
- Discusses the suitability of the site for the proposed commercial/industrial land use, as well as recommendations for any further investigations that may be required including the need for further assessment of soil and/or groundwater.

4 SITE INFORMATION

4.1 SITE IDENTIFICATION

The Ropes Creek Employment Precinct site is located within the Blacktown Local Government Area (LGA) at Eastern Creek within Precinct 8 of the Western Sydney Employment Area. The sites legal description is Lot 5 in DP 262213 within the Parish of Melville and County of Cumberland. The site is roughly rectangular in shape and covers and area of 105 hectares.

The latitude and longitude coordinates for the approximate centre of the site are 150º49'50"E and 33º48'32"S and the general locality of the site is shown in Figure 1. The site is bound entirely by a wire cattle fence, by grazing land to the north and west, the Sydney Water Pipeline to the south and the Transgrid substation to the east.

4.2 SITE ZONING AND LANDUSE

Under the Blacktown Local Environmental Plan 1988 the site is subject to the State Environmental Planning Policy (Western Sydney Employment Area) 2009. Under this Policy the land is zoned partly Zone IN1 General Industrial and partly Zone E2 Environmental Conservation. A copy of the Section 149 Planning Certificate and the objectives of the individual zones are provided in Appendix 1.

4.3 TOPOGRAPHY AND DRAINAGE

A review of the Penrith 1:25 000 topographic map, Sheet 9030 (Department of Lands, 2001) indicated that the site has an approximate elevation of 50 to 70 m Australian Height Datum (AHD). Observations made by CES during the site inspection (July 2010) revealed that the site is generally undulating. The main elevated area on the site is along the northern boundary. Three tributary drainage lines to Ropes Creek travel generally east to west through the centre of the site and south western corner of the site.

With the exception of several power stanchions, the site was cleared of any structures. Therefore, infiltration into the subsoil of rainwater falling onto the site would be considerable as no sealed areas or stormwater collection points are present. Surface water runoff and shallow groundwater on the northern ridge line is likely to flow towards the Ropes Creek tributary drainage line in the centre of the site, and flow off site to the west. While surface water runoff and shallow groundwater over the remainder of the site is likely to flow to the west into the Ropes Creek.

4.4 GEOLOGY AND SOILS

4.4.1 Regional Geology

A review of the Penrith 1:100 000 Geological Series Sheet 9030 (Department of Lands, 1991) indicated that the site and surrounding area is situated on the low hills of the Bringelly Shale. Bringelly Shale forms part of the Mezazoic Era Wianamatta Group and comprises shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone, rare coal and tuff.

4.4.2 Soils

A review of the Penrith 1:100 000 Soil Landscape Series Sheet 9030 (Soil Conservation Service of NSW, 1989) indicated that the site and surrounding area is situated on the Blacktown Landscape Group. The Blacktown Landscape Group consists of gently undulating rises on Wianamatta Shale, local relief to 30m, slopes usually <5%, broad rounded crests and ridges with gently inclined slopes and cleared eucalypt woodland and tall open forest (dry sclerophyll forest).

Soils of the Blacktown Landscape Group comprise shallow to moderately deep hardsetting mottled texture contrast soil, red and brown Podzolic soils on crests to yellow Podzolic soils on lower slopes and drainage lines.

4.4.3 Vegetation and Land Use

A review of the Soil Conservation Service of NSW Soil and Land Resources Series (Natural Resources Information Unit: Version 1.0, 2008) and observations made during the site inspection indicated that the site and surrounding areas are almost completely cleared of tall open forest (wet sclerophyll) and woodland (dry sclerophyll) and is currently used for cattle grazing.

Minor to moderate sheet and gully erosion was observed in some locations across the site.

4.5 HYDROGEOLOGY

The exact direction of groundwater flow could not be determined from the available information; however, it is likely that shallow groundwater will follow the regional topography and flow generally with the tributary drainage line to the west. The nearest down gradient water receptor is a Ropes Creek which forms the western boundary of the site.

A search of the NSW Department of Natural Resources (DNR) Groundwater Works database (DNR, 2008) indicated that that there were eight registered bores which exist within a 2 km radius of the centre of the site. One registered groundwater bore was located on the site. However, no information was available for the registered bores, including the one on the site. A

copy of the groundwater bore location map and groundwater summary sheets are provided in Appendix 2.

4.6 ACID SULPHATE SOIL RISK

No Acid Sulphate Soil (ASS) Risk Map for the Ropes Creek / Eastern Creek area exists; therefore no map was available to be reviewed. The Section 149 Certificate indicates that no ASS risk is present in the Ropes Creek / Eastern Creek area. During the site inspection and field investigation it was noted that the soils located across the site are unlikely to contain actual ASS.

5 SITE HISTORY

Several sources have been investigated to determine the history of the land use of the site. A summary of the information provided by each source is provided below.

5.1 HISTORICAL TITLE INFORMATION

Copies of historical title deeds for the site, held by the Land Titles Office of NSW, were obtained to review previous site owners and previous potential site use. A summary of the results is discussed below, while copies of the title documents are provided in Appendix 3.

Lot 5 DP 232213

1983 – to date	Jacfin Pty Ltd

Prior to 1983, the site comprised two allotments:

- Part of Portion 45 DP 588400; and
- Part of Portion 80 (Lot 5 DP 229784).

Portion 45 DP 588400

1955-1983	Burfield Pty Ltd (Later renamed Ray Fitzpatrick Pty Ltd) (Also as Pioneer Quarries (Sydney) Pty Ltd)
1934 – 1955	William Thomas Collett Baker (farmer) and Irene Winifred Wainwright (wife of Wainwright, labourer)
1909 – 1934	Thomas Baker (farmer)
1909	David Shepherd (gentlemen)

Part of Portion 45 DP 588400 was leased to Ray Fitzpatrick Quarries Pty Ltd, which expired in 1979.

Portion 80 (Lot 5 DP 229784

1979 – 1983	Jacfin Pty Ltd
1959 – 1979	Ray Fitzpatrick Pty Ltd
1949 – 1959	Arthur Stockman (state merchant)
1937 – 1949	Arthur Renwick Poolman (farmer and grazier)
Prior to 1937	Crown land

The search indicated that the site had been privately owned by farmers and graziers since the early 1900's.

5.2 AERIAL PHOTOGRAPH INTERPRETATION

Historical aerial photographs from the NSW Department of Lands, Land and Property Information Division (LPI) were examined for the years: 1947, 1955, 1961, 1965, 1970, 1978 and 2005. In addition, the approximate 2008 aerial photograph acquired by Google Earth was examined. Copies of the photographs are provided in Appendix 4. The findings of the aerial photograph investigation are as follows:

Year	Description
1947	**Site:** The majority of the site was cleared grassland with scattered trees with only the north west and south west corners being used for farming activities. Ropes Creek formed the western boundary of the site. This creek branched across the site but due to the limited resolution of the photo the extent of branching is difficult to determine. The Sydney Water Pipeline formed the southern boundary. The north and east boundaries were undefined at this point. **Surrounding area:** The surrounding area had been substantially cleared for grazing and farming purposes. Small dwellings were noticed to the south, south east and west and only a few access roads were visible. Ropes creek continued north to south across the area.
1956	**Site:** As per the 1947 aerial photograph with the creek networking and access road more defined. **Surrounding area:** As per the 1947 aerial photograph with further clearing noticed to the west of the site. The small dwelling to the south east was no longer present.
1961	**Site**: As per the 1956 aerial photograph with a more defined grazing area established in the south west corner **Surrounding area:** As per the 1956 aerial photograph with further clearing to the west.
1965	**Site:** As per the 1961 aerial photograph except a network of lines spread across the entire site. It is anticipated that these lines were the results of slashing or ploughing for pasture improvement. Power lines were extended across the site prior to the 1965 aerial photograph.

Surrounding area: As per the 1961 aerial photograph with the exception of a networks of lines were noticed in most of the paddocks on adjacent properties. It is anticipated that these lines were the results of slashing or ploughing for pasture improvement. The north and east boundaries were better defined. An electrical substation had been constructed to the east and formed part of the defined eastern boundary. Small scale mining and quarry activities were noticed directly north of the site. Bush land remained to the north west. An increase in small dwellings surrounding the site were noted.

1970 **Site:** As per the 1965 aerial photograph. A branching access road had been constructed across the north section of the site with two clusters of small structures around it. Due to the resolution it was not clear what kind of structures these were, or how many. Power lines extending from the substation had been erected across the centre of the site from east to west.

Surrounding area: As per the 1965 aerial photograph with power lines extending in all directions from the substation. Small scale mining/quarry activities were present to the south of the site.

1978 **Site:** As per the 1970 aerial photograph with the majority of the trees having been cleared. The access road and the small structures around it were no longer present.

Surrounding area: As per the 1970 aerial photograph with the mining/quarry activities to the south expanding to include more land with more and much larger buildings and structures.

2005 **Site:** As per the 1978 aerial photograph with a small network of access roads spanning the site. More power lines extending from the substation had been erected north of the original lines.

Surrounding area: As per the 1978 aerial photograph with the following exception. Almost all areas (except to the north of the site) had been cleared to accommodate residential, commercial and industrial land use. To the north east was a small mine/quarry as well as some excavated land used for industrial purposes with large buildings having been erected. East past the substation, the land was excavated for industrial purposes. To the south east, the areas were being utilised for mining/quarry operations and a vast area subdivided into small individual plots for residential and commercial purposes. Small to medium houses and buildings were scattered throughout. To the south and south west, the site was bordered by land that was largely cleared and small individual plots (similar to that to the south east) were evident. To the west the bordering land was cleared and further in this direction the land had been heavily excavated for industrial purposes. To the north west the town of St. Clair had been established consisting of low density residential properties.

2008 **Site:** As per the 2005 aerial photograph.

Surrounding Area: As per the 2005 aerial photograph with the M7 present to the east of the site.

5.3 WORKCOVER NSW RECORDS

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the storage of dangerous goods on the site.

5.4 BLACKTOWN CITY COUNCIL

The Section 149 planning certificates for the site were obtained from Blacktown City Council to determine if any notices regarding site contamination had been issued under Section 9(2) of the *Contaminated Land Management Act 1997*. No such notices had been issued on the site. A copy of the certificate is provided in Appendix 1.

5.5 RECORD OF DECCW NOTICES

A search of the DECCW licences register indicated that there are currently no Environmental Protection Licences or remediation orders issued by the NSW DECCW relating to the site or adjoining properties.

5.6 ANECDOTAL INFORMATION

A site inspection was undertaken on 5 July 2010 by experienced CES staff. Anecdotal information indicated that the site had always been used as cattle grazing land for cattle. CES understand that fuels, machinery oils and rural chemicals had not been stored on the site.

5.7 INTEGRITY ASSESSMENT

Historical and site information was sourced mainly from reputable NSW government departments with no known interest in the site. CES have relied on the accuracy of the documentation provided and our experience in historical document interpretation. Whilst there is a small margin for error in interpretation, CES consider the information presented in this assessment to be accurate.

6 SITE CONDITION AND THE SURROUNDING ENVIRONMENT

6.1 CURRENT OCCUPIER AND OPERATIONS

In accordance with the current land titles (Appendix 3), the site is currently owned by Jacfin Pty Ltd. At the time of the inspection, with the exception of several power stanchions, the site was vacant of any structures and was used to graze cattle and horses.

6.2 SITE DESCRIPTION

The site description is based on observations made during a site inspection by CES on 5 July 2010 and during the field investigation carried out by experienced CES staff on 13 and 14 July 2010. Site photographs are provided in Appendix 4.

The site is bound by Ropes Creek to the west and is located to the north of the Sydney Water Pipeline while access is via Old Wallgrove Road to the east. The site is generally rectangular in shape and covers an area of 105 hectares. At the time of the investigation the site was bound by a wire cattle fence.

At the time of the site inspection and field investigation the site was vacant of any structures. The site had generally been cleared of trees. The grass generally appeared to be in good health with no significant signs of stress. A small number of small trees and shrubs were noted along the Ropes Creek tributaries.

Although no permanent roads were visible across the site, unsealed tracks did transverse across the site. These tracks had not caused any erosion of the top soil or limited the growth of the grass.

6.3 TANKS AND ASSOCIATED SERVICES

At the time of the site inspection and field investigation, no tanks and associated services were observed on the site.

6.4 CHEMICAL AND WASTE STORAGE

At the time of the site inspection and field investigation, chemicals or waste of any kind did not appear to be stored on the site.

6.5 FILL

Although disturbed terrain was noted during the field investigation, there was no sign of significant quantities of imported fill being brought onto the site or any considerable filling activities having taken place on the site. Disturbed terrain was observed at the following locations. Sample locations are presented on Figure 2.

- RCBH13 – Located in the centre of the site within a potential former excavation. It is unlikely that fill was imported into the area as material comprised reworked natural clay and tree roots;
- RCBH17 – Disturbed terrain, which was potentially sourced from the adjacent dam excavation. It is unlikely that the material was sourced from off site as it contained materials similar to the natural soils encountered on site; and
- RCBH22 – Area of potentially disturbed terrain with low sparse grass in the area, however no obvious signs of filling in the area. Material is likely to have been generated during potential cut and fill activities along the edges of the Ropes Creek tributary.

6.6 ODOURS AND STAINING

With the exception of a humic odour noted within several bore holes, no odours or staining were observed. It should be noted that no odour or staining associated with contamination were observed during the field investigation.

6.7 SURROUNDING LAND USE

Without gaining access, the properties immediately surrounding the site were visually inspected. The observations were as follows:

- North – Farm land with open grazing paddocks;
- South – Sydney Water Pipeline with further farm land (open grazing paddocks);
- West – Ropes Creek with further farm land with open grazing paddocks and Erskine Park residential developments to the north west; and
- East – Transgrid Substation.

The adjoining properties were not investigated. However, from the observations made, it is considered unlikely the surrounding properties have had or currently have the potential to contaminate the site.

7 CONCEPTUAL MODEL OF POTENTIAL CONTAMINATION

The Conceptual Model of Potential Contamination (CMPC) has been developed to provide an understanding of the critical parameters required to understand the contamination status of the site. Its purpose is to develop a hypothesis on the contamination of the site that can be tested through a programme of sampling and analysis.

The model had been developed from a review of background information and a detailed site inspection. It includes potential sources of contamination and their associated Contaminants of Potential Concern (CoPC), site conditions and a summary of the approach of the sampling and analysis programme.

7.1 POTENTIAL SOURCES OF CONTAMINATION AND ASSOCIATED COPC

It is believed that the site had been used as farm grazing land since the early 1900's. The greatest contamination risk to the site would have been from the application of pesticides/herbicides to livestock.

Based on observations of site topography, the presence of significant volumes of imported fill is considered unlikely.

The CoPC associated with the identified activities are likely to be:

- Arsenic, Cadmium, Chromium, Copper, Mercurey, Lead, Nickel and Zinc;
- Total Petroleum Hydrocarbons (TPH);
- Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX);
- Polycyclic Aromatic Hydrocarbons (PAH);
- Organochlorine Pesticides (OCP);
- Polychlorinated Biphenyls (PCB); and
- Asbestos.

7.2 APPROACH OF INVESTIGATION

The approach of this PSI was designed with reference to the results of the CMPC outlined above. The surface soils on the paddocks were considered potential point sources for metals, hydrocarbon and pesticides associated with the control of pests on livestock. While isolated pockets of visible fill, surface unconformities and areas around the dams are potential source points of metals, TPH/BTEX, PAH, OCP, PCB and asbestos.

The sampling and analysis programme was designed to provide adequate coverage of the site, to characterise the site in terms of contamination and to assess specific areas identified during the inspection and field investigation as areas of potential concern.

8 SAMPLING AND ANALYSIS PROGRAMME

The sampling and analysis programme was designed to target areas of potential concern identified during there review of background information and the detailed site inspection, to provide overall site coverage, address the CMPC and the meet the objectives of the PSI.

8.1 FIELDWORK

Fieldwork was undertaken on 13 and 14 July 2010 and comprised the collection of soil samples (to a maximum depth of 0.5m) from twenty five grid sampling locations and four targeted locations across the site. Sampling and a detailed site inspection was carried out by Caroline Aylott and Mark Pickett of CES, experienced Environmental Scientist and Engineering Geologists respectively, who also logged the encountered surface lithology.

The sampling programme does not meet the sampling density as recommended by the NSW EPA (1995) *Contaminated Sites: Sampling Design Guidelines* for site characterisation of an area of 105 hectares. However, it is noted that the systematic sampling density of approximately one sample per 4 hectares was considered appropriate for this preliminary instigation to adequately characterise a rural property with limited contamination risk based on historical information and site observations.

Sample locations are presented on Figure 2.

8.2 SOIL SAMPLING PROGRAMME

Boreholes were advanced with the aid of a decontaminated hand auger with samples collected at 0.1 to 0.5 mBGL. Each soil sample was taken directly from the decontaminated hand auger using a new pair of nitrile/latex gloves and placed into a jar. It is acknowledged that collecting disturbed samples is not ideal when investigating volatile contaminants; however, due to the preliminary aspect of the investigation and no known volatile contamination sources based on historical information and site observations, this method was considered suitable.

Samples were collected from disturbed material, natural alluvial sandy clay top soil and underlying natural clay.

8.2.1 Sampling methodology

Sample collection, handling and preservation were undertaken in accordance with documented CES procedures by appropriately trained personnel. When collecting the duplicate samples, samples were not homogenised, rather they were placed directly into sample jars to maintain the concentration of volatile compounds.

General sampling procedures for soil are summarised below:

1. Label sample containers with a unique sample identification, project details, date and initials of sampling personnel;
2. Decontaminate sampling equipment using phosphate-free detergent solution (EXTRAN) followed by a final rinse with distilled water (does not include sample jars);
3. Collect samples in pre-washed glass jars with Teflon-lined screw lids in accordance with USEPA methods SW846;
4. Ensure minimal head space within the sample jar and seal jar with lid;
5. Complete record of samples collected and Chain-of-Custody form;
6. Place samples in coolers containing ice;
7. Seal coolers with custody seal at the conclusion of sampling; and
8. Transport samples to the analytical laboratory under CES chain-of-custody.

8.3 ANALYTICAL PROGRAMME

CES commissioned Envirolab Service Pty Ltd (Envirolab) and Australian Laboratory Services Pty Ltd (ALS) to conduct the analytical work. Envirolab and ALS are National Association of Testing Authorities (NATA) registered for the testing undertaken.

Twenty nine samples were analysed for metals and OCP. Twelve of the twenty nine samples collected were additionally analysed for TPH/BTEX, PAH, PCB and asbestos.

The soil samples were analysed in accordance with NEPC (1999) using accredited methods based on USEPA and APHA approved analytical methods as shown in the laboratory report.

9 QUALITY CONTROL PROGRAMME AND DATA EVALUATION

For the purpose of assessing the quality of data presented in this report, CES collected and analysed Quality Control (QC) samples (field QC samples), while the laboratory completed their own QC. The current section of this report is focused on the presentation of results of these QC samples and discussion of deviations from the Data Acceptance Criteria (DAC).

9.1 FIELD QC

9.1.1 Blind Replicates

Two blind replicate samples were analysed which is a frequency of 8% of the total number of samples analysed. Although this frequency is marginally below the DAC of 10%, it is considered not to affect the integrity of the data. All Relative Percentage Difference (RPD) results for the blind replicate sample conformed to the DAC.

9.1.2 Split Replicates

One split replicate sample was analysed which is a frequency of 4 % of the total number of samples analysed. Although this frequency is marginally below the DAC of 5%, it is considered not to affect the integrity of the data. All RPD results for the split replicate sample conformed to the DAC

9.1.3 Trip Blank

One trip blank was included with the one sample batch submitted to the laboratory which conforms to the DAC. The trip blank sample was analysed for TPH C_6-C_9 and BTEX. TPH C_6-C_9 and BTEX were not detected in the trip blank sample indicating that cross contamination during transport of samples did not occur. The trip blank analysis confirmed to the DAC of below their respective LORs.

9.1.4 Trip Spikes

One trip spike was included with the one sample batch submitted to the laboratory which conforms to the DAC. The trip spike sample was analysed for TPH C_6-C_9 and BTEX. The trip spike recoveries for BTEX conformed to the DAC of 70-130 % indicating that loss of volatile compounds did not occur during sample transport.

9.2 LABORATORY QA/QC

Laboratory QA/QC data is presented in full in the laboratory certificates in Appendix 6. Sample receipt notices are provided in Appendix 6.

9.2.1 Laboratory Duplicates

The RPDs for all laboratory duplicates were within the acceptable range as outlined in the DAC.

9.2.2 Laboratory Control Samples

All Laboratory Control Samples (LCS) were within the acceptable range as outlined in the DAC.

9.2.3 Surrogates

All surrogate samples were within the acceptable range as outlined in the DAC.

9.2.4 Matrix Spikes

All matrix spike samples were below the laboratory detection limit and therefore conformed to the DAC.

9.2.5 Sample preservation

All samples were collected in appropriately preserved jars for the selected analysis and therefore conformed to the DAC.

9.2.6 Holding times

All samples were analysed within the appropriate holding times for the selected analysis and therefore conformed to the DAC.

9.3 DATA QUALITY INDICATORS (DQI)

9.3.1 Precision

The RPD's of the field and laboratory duplicates and the recoveries for the laboratory prepared trip spikes conformed to the DAC, which indicated the sampling, laboratory and analytical precision was within acceptable limits and therefore provides confidence of limited variability and high reproducibility of the data set.

9.3.2 Accuracy

Laboratory accuracy was assessed by the analysis of laboratory control samples and method blanks and percent recoveries of matrix spikes and surrogates. This indicates the accuracy of the analytical results is acceptable and results represent an accurate measure of the reported data.

9.3.3 Representativeness

CES consider the samples collected from the fill/natural soil to be representative of the materials being targeted as part of this investigation. CES staff ensured that soil samples collected were representative of the material observed in each borehole.

9.3.4 Completeness

All samples were collected and analysed in accordance with the proposal and CES sampling procedures. All other required QA/QC data, including both field and laboratory data is also provided and complete.

9.3.5 Comparability

Soil samples were collected by experienced CES environmental scientist and engineering geologists in accordance with the proposal and CES sampling procedures using appropriate CES protocols and analysed in accordance with NATA accredited laboratory methods. The data are considered to be comparable as consistent sampling protocols were employed throughout the duration of the fieldwork and analysis was undertaken by NATA registered laboratories using accredited analytical methods.

9.4 ASSESSMENT

It is concluded that laboratory data are of acceptable quality and are considered useable in making conclusions regarding the site.

10 SITE ASSESSMENT CRITERIA

To determine the significance of contaminants detected in the soil, appropriate Site Assessment Criteria (SAC) were defined. The SAC should include aesthetics (including soil odour), ecological issues and potential human health issues NSW Department of Concervation (2006): *Contaminated Sites: Guidelines for NSW Site Auditor Scheme (2nd Edition)* (NSW DEC, 2006).

10.1.1 Aesthetics

Aesthetics on a commercial/industrial site relate to the generation of odours from the soil as a result of contamination (NSW DEC, 2006). Aesthetic issues were addressed during the site investigation and have been reported in section 11.

10.1.2 Health-Based Soil Investigation Levels

To address potential health impacts at the site, CES compared the analytical testing results against a set of Health-based Soil Investigation Levels (HIL) appropriate for the proposed commercial/industrial land use. That is, the HIL was set at a level that provides confidence that contaminant concentrations below the HIL will not adversely affect human health.

CES adopted the following HIL criteria:

- Nation Environmental Protection Council (1999). National Environmental Protection (Assessment of Site Contamination) Measure Schedule B(7b) Guideline on Exposure Scenarios and Exposure Settings (NEPC, 1999) Health Based Investigation Levels (HIL) recommended for exposure setting 'F' which includes commercial/industrial land-use;
- With respect to hydrocarbons (TPH and BTEX), the NSW Environmental Protection Authority (1994): Contaminated Sites: Guidelines for Assessing Service Station Sites (NSW EPA, 1994) Threshold Levels; and
- There are no national or NSW DECCW-endorsed guidelines for asbestos in soil relating to human health. The NSW DEC (2006) states that Auditors must exercise their professional judgement when assessing whether a site is suitable for a specific use. The NSW DECC states that the position of the Health Department is that there should be no asbestos in surface soil. A criteria of no asbestos in surface soil has been adopted for this assessment.

A summary of the SAC is provided in Table 1.

11 RESULTS

Results of the sampling and analysis programme are presented below and in Tables 4 to 8.

11.1 SITE STRATIGRAPHY

The soil types encountered during the investigation included:

- Disturbed material – Reworked natural clay comprising brown/orange mottled clay, which was dry with no unusual odours or staining. No waste materials were encountered within the soils excavated as part of the dam construction;
- Top soil – Grass cover underlain by dark brown loose clay that was dry with trace sands and no odour; and
- Clay – Generally brown/orange mottled clay that was moist with medium plasticity. A humic odour with organics was noted at some locations.

11.2 AESTHETICS

With the exception of a humic odour encountered at several locations, no odours that could be associated with contamination were noted during the field investigation.

11.3 SOIL ANALYTICAL RESULTS

Analytical results for the soil samples collected are presented below. Laboratory certificates of analysis are presented in Appendix 6.

11.3.1 Heavy Metals

Metal concentrations in samples of soil are summarised in Table 4. Concentrations of arsenic, cadmium, chromium, copper, nickel, lead, mercury and zinc were below the SAC in the samples analysed. Where detected above LOR, heavy metal concentrations are considered to be representative of background concentrations.

11.3.2 OCPs

The concentration of OCPs in soil samples are summarised in Table 5. OCP concentrations were below the LOR and SAC in the samples analysed.

11.3.3 TPH and BTEX

The concentrations of TPH and BTEX in samples of soil are summarised in Table 6. Concentrations of TPH and BTEX in the soil samples analysed were below the LOR and SAC.

11.3.4 PAHs

The concentrations of PAH in soil samples are summarised in Table 7. PAH concentrations were below the LOR and SAC in the samples analysed.

11.3.5 PCBs

The concentration of PCBs in soil samples are summarised in Table 8. PCB concentrations were below the LOR and SAC in the samples analysed.

11.3.6 Asbestos

The results of asbestos fibre identification summarised in Table 9. Asbestos fibres were not identified in any samples submitted for identification.

12 CONCLUSIONS

CES were commissioned by Jacfin to undertake a Stage 1 PSI at the site (Lot 5 DP 262213) located at Ropes Creek Employment Precinct, off Old Wallgrove Road, Eastern Creek, NSW.

Based on a review of site history and a detailed site inspection, no significant potentially contaminating activities associated with general farm activities were identified on the site or on adjoining areas.

It was anticipated that the greatest contamination risk to the site would have been from the application of pesticides on livestock. No sample analysed reported heavy metal, hydrocarbon or pesticide concentrations above the SAC. Hydrocarbon and pesticide concentrations were not reported above LOR.

Based on observations of site topography and field investigation results, the presence of significant volumes of imported fill is considered to be unlikely.

CES conclude that based on the results of the investigation with regard to soil contamination, the site is considered suitable for the proposed industrial/commercial development.

13 RESPONSE TO DIRECTOR GENERALS REQUIREMENTS

CES has reviewed the requirements stated by the Director General of the NSW Department of Planning in his letter dated 13 August 2010. CES response to items applicable to our scope of work is as follows (items applicable to CES scope of work are shown in ***bold italics***).

Section	Title	DGR Comment	CES Response
Key Issues	Soil and Water	Including water supply and efficiency, proposed erosion and sediment controls (during construction); the proposed stormwater management system for site; detailed considerations of any potential. Offsite drainage or flooding impacts; consideration of the potential for rainwater harvesting, wastewater disposal; and soil salinity and ***contamination***.	A Stage 1 Preliminary Site Investigation was carried out by CES to identify and assess likely contaminants or potential environmental issues, resulting from past and/or present activities undertaken on or adjacent to the site which may affect the sites suitability for the proposed commercial /industrial land use. The findings of the contamination investigation are detailed throughout this report, while the results are specified in Section 11.

14 LIMITATIONS OF THIS REPORT

This report has been prepared for use by the client who commissioned the works in accordance with the project brief and based on information provided by the client. The advice contained in this report relates only to the current project and all results, conclusions and recommendations should be reviewed by a competent person with experience in environmental investigations before being used for any other purpose.

CES accepts no liability for use of interpretation by any person or body other than the client. This report must not be reproduced except in full and must not be amended in any way without prior approval by the client and CES.

Sampling and analysis of soils has been undertaken as per the agreed scope of works. The assessment of potential contamination at the site was based on knowledge of site history and visual inspection only. Due to the limitations of the soil investigation, the approach may not identify contamination that occurs in unexpected locations or from unexpected sources.

The assessment is an interpretation based on available data and professional judgement. The accuracy with which the site has been characterised is therefore limited by the scope of works undertaken. This report does not provide a complete assessment of the environmental status of the site and is limited to the scope defined therein.

Should information become available regarding conditions at the site including previously unknown sources of contamination, CES reserves the right to review the report in the context of the additional information.

15 REFERENCES

Department of Environment and Climate Change, 2008a: *DECC Contaminated Land Record.* http://www.environment.nsw.gov.au/clmapp/searchregister.aspx. Accessed on 13/1/2009;

Department of Land and Conservation, 2001: *Penrith 1:25 000 Topographic and Orthophoto Map 9030;*

Department of Land and Conservation, 2001: *Penrith 1:25 000 Geological Series Sheet 9030.*

NSW DECC Soil and Land Resources Series (Natural Resources Information Unit: Version 1.0, 2008);

Department of Natural Resources, 2008: *Groundwater Works Database.* http://waterinfo.nsw.gov.au/gw/ Accessed on 23/07/2010;

NEPC, 1999: National Environment Protection Council (1999*).* National Environment Protection (Assessment of Site Contamination) Measure Schedule B(7b) Guideline on Exposure Scenarios and Exposure Settings;

NSW DECC, 2008: Department of Environment and Climate Change: Soil and Land Resources Series, 2008: *Hawkesbury - Nepean Catchment Version 1.0;*

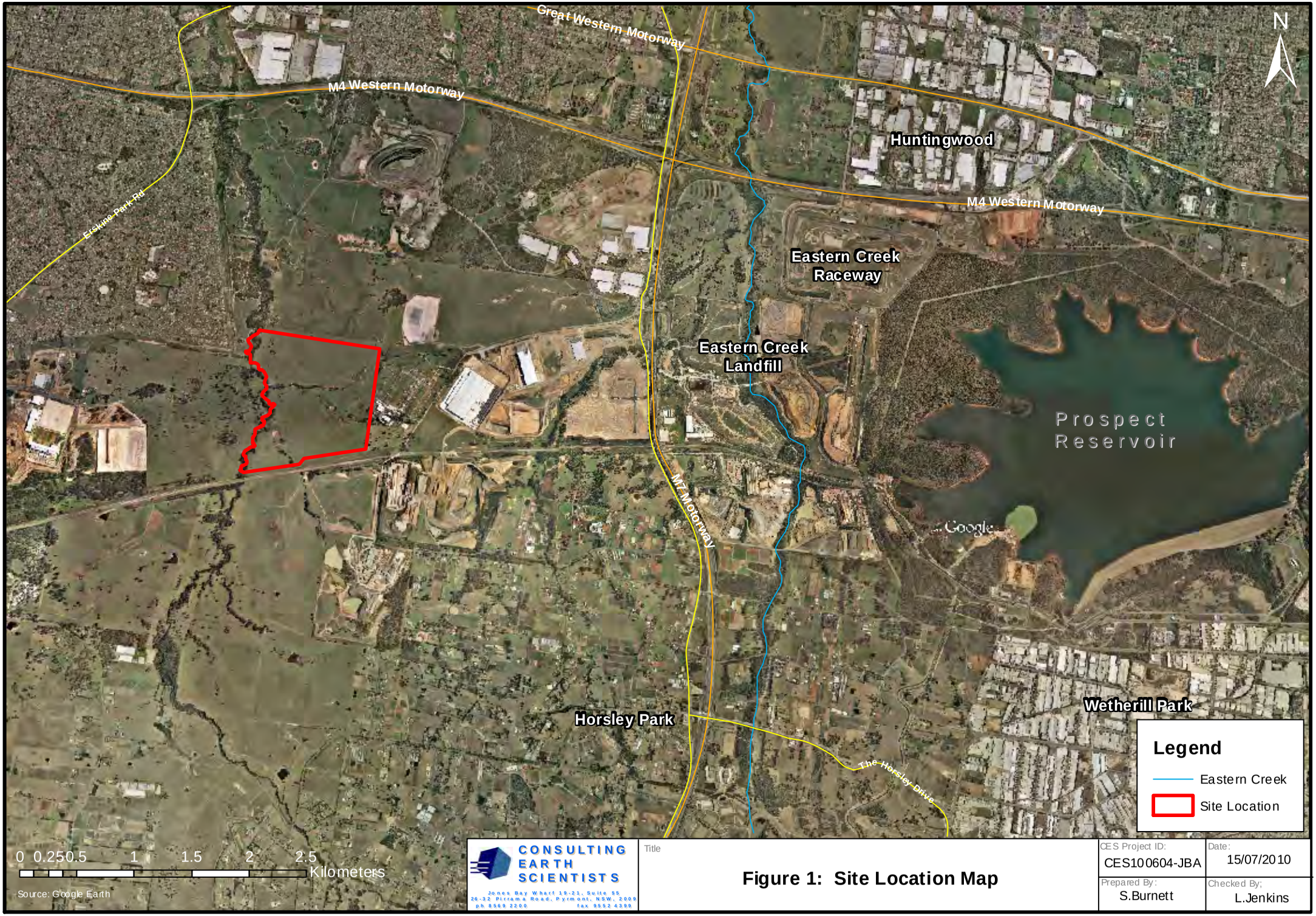
NSW DEC, 2006: Department of Environment and Conservation: *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd Edition);*

NSW EPA, 1997: Environment Protection Authority 1997: *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*. EPA NSW;

NSW EPA, 1994: Environment Protection Authority 1994: *Contaminated Sites: Guidelines for Assessing Service Station Sites*. EPA NSW; and

Soil Conservation Service of NSW, 1989: *Penrith 1:100 000 Soil Landscape Series Sheet 9030.*

Figures



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Title

Figure 1: Site Location Map

CES Project ID:	Date:
CES100604-JBA	15/07/2010
Prepared By: S.Burnett	Checked By: L.Jenkins

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Title

Figure 2: Site Boundary and Sample Locations
Ropes Creek Employment Precinct

CES Project ID:	Date:
CES100604-JBA	26/07/2010
Prepared By: S.Burnett	Checked By: L.Jenkins

Tables

Table 1: Site assessment criteria for industrial and commercial use - Soil		
Parameter	**Site Assessment Criteria (mg kg-1)**	**Source and Comments**
Aldrin + Dieldrin	**50**	EPA NSW (1998), NEHF (1998)
Arsenic (total)	**500**	EPA NSW (1998), NEHF (1998)
Benzene	**1**	EPA NSW (1994)[1]
Benzo(a)pyrene	**5**	EPA NSW (1998), NEHF (1998)
Cadmium	**100**	EPA NSW (1998), NEHF (1998)
Chlordane	**250**	EPA NSW (1998), NEHF (1998)
Chromium III	**60%**	EPA NSW (1998), NEHF (1998)
Copper	**5000**	EPA NSW (1998), NEHF (1998)
DDT+DDD+DDE	**1000**	EPA NSW (1998), NEHF (1998)
Ethylbenzene	**3.1**	EPA NSW (1994)[1]
Heptachlor	**50**	EPA NSW (1998), NEHF (1998)
Lead	**1500**	EPA NSW (1998), NEHF (1998)
Mercury (inorganic)	**75**	EPA NSW (1998), NEHF (1998)
Nickel	**3000**	EPA NSW (1998), NEHF (1998)
PAHs (total)	**100**	EPA NSW (1998), NEHF (1998)
PCBs (total)	**50**	EPA NSW (1998), NEHF (1998)
Toluene	**1.4**	EPA NSW (1994)[1]
Total Petroleum Hydrocarbons (TPH)	**$C_6 – C_9$: 65; C_{10}-C_{36}:1000**	EPA NSW (1994)[1]
Total xylenes	**14**	EPA NSW (1994)[1]
Zinc	**35000**	EPA NSW (1998), NEHF (1998)
Note 1: EPA NSW (1994) threshold concentrations for sensitive land use.		

Table 2: Ropes Creek Field QA/QC Results

Location		RCBH21							RCBH7			
Sample Depth (m)		0.25-0.26	0.25-0.26	0.25-0.26					0.45-0.5	0.45-0.5		
Sample ID		140710-22-MP	140710-23-MP	140710-24-MP					130710-07-MP	130710-08-MP		
Date Sampled		14 Jul 2010	14 Jul 2010	14 Jul 2010					13 Jul 2010	13 Jul 2010		
					Blind replicate		Split replicate				Blind replicate	
Analyte	Units	Environmental Sample	Blind Replicate	Split Replicate	Average	RPD (%)	Average	RPD (%)	Environmental Sample	Blind Replicate	Average	RPD (%)
Arsenic	mg/kg	7	6	9	6.5	15.38	8.00	25.00	6	7	6.50	15.38
Cadmium	mg/kg	< 0.5	< 0.5	<1	na	na	na	na	< 0.5	< 0.5	na	na
Chromium	mg/kg	21	18	24	19.5	15.38	22.50	13.33	19	19	19.00	0.00
Copper	mg/kg	15	17	21	16	12.50	18.00	33.33	20	21	20.50	4.88
Nickel	mg/kg	9	9	10	9	0.00	9.50	10.53	6	5	5.50	18.18
Lead	mg/kg	16	15	18	15.5	6.45	17.00	11.76	14	15	14.50	6.90
Zinc	mg/kg	26	27	30	26.5	3.77	28.00	14.29	19	19	19.00	0.00
Mercury	mg/kg	< 0.1	< 0.1	<0.1	na	na	na	na	< 0.1	< 0.1	na	na
alpha-BHC	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Hexachlorobenzene	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
b-BHC	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
gamma-BHC (Lindane)	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
d-BHC	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Heptachlor	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Aldrin	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Heptachlor epoxide	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Chlordane - trans	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Chlordane - cis	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endosulfan alpha	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Dieldrin	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
4,4-DDE	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
4,4-DDD	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endrin	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endosulfan II	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endrin aldehyde	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endosulfan sulphate	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
4,4-DDT	mg/kg	< 0.1	< 0.1	<0.2	na	na	na	na	< 0.1	< 0.1	na	na
Methoxychlor	mg/kg	< 0.1	< 0.1	<0.2	na	na	na	na	< 0.1	< 0.1	na	na

Notes:

na= not applicable

<xxx= result was less than the laboratory PQL

Table 5: Ropes Creek Soil Analytical Results - OCP

Location	Sample Depth (m)	Sample ID	Date Sampled	vTPH C_6 - C_9	Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Trip Blank	na	Trip Blank-RC	14/07/2010	<25	<0.5	<0.5	<1	<2	<1
Trip Spike	na	Trip Spike-RC	14/07/2010	-	97%	98%	97%	99%	99%

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

na= not applicable

Table 4: Ropes Creek Soil Analytical Results - Metals											
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Nickel**	**Lead**	**Zinc**	**Mercury**
			Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
RCBH1	0.25-0.26	130710-01-MP	13 Jul 2010	4	< 0.5	12	12	5	15	14	< 0.1
RCBH2	0.05-0.06	130710-02-MP	13 Jul 2010	4	< 0.5	16	21	11	19	32	< 0.1
RCBH3	0.45-0.46	130710-03-MP	13 Jul 2010	6	< 0.5	16	18	7	16	20	< 0.1
RCBH4	0.05-0.06	130710-04-MP	13 Jul 2010	5	< 0.5	18	20	11	19	38	< 0.1
RCBH5	0.45-0.5	130710-05-MP	13 Jul 2010	7	< 0.5	16	39	10	21	53	< 0.1
RCBH6	0.05-0.1	130710-06-MP	13 Jul 2010	6	< 0.5	19	18	10	17	31	< 0.1
RCBH7	0.45-0.5	130710-07-MP	13 Jul 2010	6	< 0.5	19	20	6	14	19	< 0.1
RCBH8	0.1-0.15	130710-09-MP	13 Jul 2010	4	< 0.5	13	19	11	17	41	< 0.1
RCBH9	0.09-0.1	130710-10-MP	13 Jul 2010	5	< 0.5	15	12	8	17	27	< 0.1
RCBH10	0.29-0.3	130710-11-MP	13 Jul 2010	< 4	< 0.5	44	14	15	12	11	< 0.1
RCBH11	0.25-0.3	130710-12-MP	13 Jul 2010	7	< 0.5	18	27	10	15	28	< 0.1
RCBH12	0.3-0.35	130710-13-MP	13 Jul 2010	6	< 0.5	19	17	13	11	48	< 0.1
RCBH13	0.03-0.04	130710-14-MP	13 Jul 2010	8	< 0.5	18	15	11	18	43	< 0.1
RCBH14	0.45-0.5	130710-15-MP	13 Jul 2010	< 4	< 0.5	13	39	16	11	67	< 0.1
RCBH15	0.09-0.1	130710-16-MP	13 Jul 2010	8	< 0.5	24	11	9	28	16	< 0.1
RCBH16	0.09-0.1	130710-17-MP	13 Jul 2010	< 4	< 0.5	12	20	9	21	43	< 0.1
RCBH17	0.09-0.1	130710-18-MP	13 Jul 2010	< 4	< 0.5	13	18	8	12	23	< 0.1
RCBH18	0.45-0.5	130710-19-MP	13 Jul 2010	< 4	< 0.5	14	30	12	12	50	< 0.1
RCBH19	0.19-0.2	140710-20-MP	14 Jul 2010	14	< 0.5	19	19	14	15	28	< 0.1
RCBH20	0.25-0.26	140710-21-MP	14 Jul 2010	5	< 0.5	18	18	10	16	24	< 0.1
RCBH21	0.25-0.26	140710-22-MP	14 Jul 2010	7	< 0.5	21	15	9	16	26	< 0.1
RCBH22	0.1-0.15	140710-25-MP	14 Jul 2010	8	< 0.5	21	11	6	18	19	0.1
RCBH23	0.15-0.2	140710-26-MP	14 Jul 2010	< 4	< 0.5	12	11	4	12	11	< 0.1
RCBH24	0.35-0.4	140710-27-MP	14 Jul 2010	5	< 0.5	18	20	9	21	33	< 0.1
RCBH25	0.2-0.25	140710-28-MP	14 Jul 2010	7	< 0.5	21	10	8	20	13	< 0.1
RCBH26	0.3-0.35	140710-29-MP	14 Jul 2010	6	< 0.5	20	13	9	13	18	< 0.1
RCBH27	0.25-0.3	140710-30-MP	14 Jul 2010	< 4	< 0.5	22	21	19	16	33	< 0.1
RCBH28	0.15-0.2	140710-31-MP	14 Jul 2010	< 4	< 0.5	14	19	6	20	37	< 0.1
RCBH29	0.2-0.25	140710-32-MP	14 Jul 2010	7	< 0.5	15	18	7	13	33	< 0.1
HIL-IND/COMM[2]				**500**	**100**	**600000**	**5000**	**3000**	**1500**	**35000**	**75**
CONTAM. SITE THRESHOLDS[3]				**-**	**-**	**-**	**-**	**-**	**300**	**-**	**-**

Note 1: EnviroLab reports(s) 43537

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

Note 3: Contaminated site thresholds taken from 'Guidelines for assessing service station sites' EPA NSW 1994

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 5: Ropes Creek Soil Analytical Results - OCP

Location	Sample Depth (m)	Sample ID	Date Sampled	alpha-BHC	Hexachlorobenzene	b-BHC	gamma-BHC (Lindane)	d-BHC	Heptachlor	Aldrin	Heptachlor epoxide	Chlordane - trans	Chlordane - cis	Endosulfan alpha	Dieldrin	4,4-DDE	4,4-DDD	Endrin	Endosulfan II	Endrin aldehyde	Endosulfan sulphate	4,4-DDT	Methoxychlor
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
RCBH1	0.25-0.26	130710-01-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH2	0.05-0.06	130710-02-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH3	0.45-0.46	130710-03-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH4	0.05-0.06	130710-04-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH5	0.45-0.5	130710-05-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH6	0.05-0.1	130710-06-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH7	0.45-0.5	130710-07-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH8	0.1-0.15	130710-09-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH9	0.09-0.1	130710-10-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH10	0.29-0.3	130710-11-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH11	0.25-0.3	130710-12-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH12	0.3-0.35	130710-13-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH13	0.03-0.04	130710-14-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH14	0.45-0.5	130710-15-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH15	0.09-0.1	130710-16-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH16	0.09-0.1	130710-17-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH17	0.09-0.1	130710-18-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH18	0.45-0.5	130710-19-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH19	0.19-0.2	140710-20-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH20	0.25-0.26	140710-21-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH21	0.25-0.26	140710-22-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH22	0.1-0.15	140710-25-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH23	0.15-0.2	140710-26-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH24	0.35-0.4	140710-27-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH25	0.2-0.25	140710-28-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH26	0.3-0.35	140710-29-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH27	0.25-0.3	140710-30-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH28	0.15-0.2	140710-31-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
RCBH29	0.2-0.25	140710-32-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HIL-IND/COMM[2]				--	--	--	--	--	50	50	--	250	250	--	50	--	--	--	--	--	--	1000	--

Note 1: Envirolab reports(s) 43537

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 6: Ropes Creek Soil Analytical Results - TPH/BTEX												
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**TPH C6 - C9**	**TPH C10 - C14**	**TPH C15 - C28**	**TPH C29 - C36**	**Benzene**	**Toluene**	**Ethylbenzene**	**meta- & para-Xylene**	**ortho-Xylene**
			Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
RCBH5	0.45-0.5	130710-05-MP	13 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH6	0.05-0.1	130710-06-MP	13 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH8	0.1-0.15	130710-09-MP	13 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH13	0.03-0.04	130710-14-MP	13 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH14	0.45-0.5	130710-15-MP	13 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH16	0.09-0.1	130710-17-MP	13 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH17	0.09-0.1	130710-18-MP	13 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH18	0.45-0.5	130710-19-MP	13 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH19	0.19-0.2	140710-20-MP	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH23	0.15-0.2	140710-26-MP	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH26	0.3-0.35	140710-29-MP	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
RCBH28	0.15-0.2	140710-31-MP	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HIL-IND/COMM[2]				**65**	**--**	**--**	**--**	**1**	**1.4**	**3.1**	**14**	**14**
Contam. Site thresholds[3]				**65**	**1000**	**1000**	**1000**	**1**	**1.4**	**3.1**	**25**	**25**

Note 1: EnviroLab reports(s) 43537

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

Note 3: Contaminated site thresholds taken from 'Guidelines for assessing service station sites' EPA NSW 1994

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 7: Ropes Creek Soil Analytical Results - PAH																		
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**Naphthalene**	**Acenaphthylene**	**Acenaphthene**	**Fluorene**	**Phenanthrene**	**Anthracene**	**Fluoranthene**	**Pyrene**	**Benzo(a)anthracene**	**Chrysene**	**Benzo(b)&(k)fluoranthene**	**Benzo(a)pyrene**	**Indeno(1,2,3-cd)pyrene**	**Dibenz(a,h)anthracene**	**Benzo(g,h,i)perylene**
			Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
RCBH5	0.45-0.5	130710-05-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH6	0.05-0.1	130710-06-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH8	0.1-0.15	130710-09-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH13	0.03-0.04	130710-14-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH14	0.45-0.5	130710-15-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH16	0.09-0.1	130710-17-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH17	0.09-0.1	130710-18-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH18	0.45-0.5	130710-19-MP	13 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH19	0.19-0.2	140710-20-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH23	0.15-0.2	140710-26-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH26	0.3-0.35	140710-29-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
RCBH28	0.15-0.2	140710-31-MP	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HIL-IND/COMM[2]				--	--	--	--	--	--	--	--	--	--	--	5	--	--	--

Note 1: EnviroLab reports(s) 43537

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 8: Ropes Creek Soil Analytical Results - PCB										
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**Arochlor 1016**	**Arochlor 1221***	**Arochlor 1232**	**Arochlor 1242**	**Arochlor 1248**	**Arochlor 1254**	**Arochlor 1260**
			Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
RCBH5	0.45-0.5	130710-05-MP	13 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH6	0.05-0.1	130710-06-MP	13 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH8	0.1-0.15	130710-09-MP	13 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH13	0.03-0.04	130710-14-MP	13 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH14	0.45-0.5	130710-15-MP	13 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH16	0.09-0.1	130710-17-MP	13 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH17	0.09-0.1	130710-18-MP	13 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH18	0.45-0.5	130710-19-MP	13 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH19	0.19-0.2	140710-20-MP	14 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH23	0.15-0.2	140710-26-MP	14 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH26	0.3-0.35	140710-29-MP	14 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RCBH28	0.15-0.2	140710-31-MP	14 Jul 2010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
HIL-IND/COMM[2]				**--**	**--**	**--**	**--**	**--**	**--**	**--**

Note 1: EnviroLab reports(s) 43537

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 9: Ropes Creek: Soil Analytical Results - Asbestos[1]					
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**Asbestos**	**asbestos fibres**
			Units	**g/kg**	**g/kg**
RCBH5	0.45-0.5	130710-05-MP	13 Jul 2010	<0.1	nd
RCBH6	0.05-0.1	130710-06-MP	13 Jul 2010	<0.1	nd
RCBH8	0.1-0.15	130710-09-MP	13 Jul 2010	<0.1	nd
RCBH13	0.03-0.04	130710-14-MP	13 Jul 2010	<0.1	nd
RCBH14	0.45-0.5	130710-15-MP	13 Jul 2010	<0.1	nd
RCBH16	0.09-0.1	130710-17-MP	13 Jul 2010	<0.1	nd
RCBH17	0.09-0.1	130710-18-MP	13 Jul 2010	<0.1	nd
RCBH18	0.45-0.5	130710-19-MP	13 Jul 2010	<0.1	nd
RCBH19	0.19-0.2	140710-20-MP	14 Jul 2010	<0.1	nd
RCBH23	0.15-0.2	140710-26-MP	14 Jul 2010	<0.1	nd
RCBH26	0.3-0.35	140710-29-MP	14 Jul 2010	<0.1	nd
RCBH28	0.15-0.2	140710-31-MP	14 Jul 2010	<0.1	nd
HIL-IND/COMM[2]				--	--

Note 1: EnviroLab reports(s) 43537

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nd = not detected

nt = Not Tested

-- = Action Level not established

APPENDIX 1:
SECTION 149 PLANNING CERTIFICATE

Blacktown City Council

PLANNING CERTIFICATE UNDER SECTION 149

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

RECEIVED
JUL 2010
BY:

Certificate No.: 10-3890
Date: 5 JUL 2010
Page: 1 of 9
Enquiries: Ms Lucic
Applicants Ref.: CES/00604-JBA

Applicant CONSULTING EARTH SCIENTISTS
JONES BAY WHARF, UPPER DECK,
55 SUITE, 26-32 PIRRAMA ROAD
PYRMONT 2009

Property LOT 5 DP 262213 OFF OLD WALLGROVE ROAD

OLD WALLGROVE ROAD,

Suburb EASTERN CREEK Parish of Melville

NOTE: The land the subject of this Certificate is known to be located in the suburb of Eastern Creek. For all correspondence and property transactions this suburb name is to be used.

PART A
PRESCRIBED INFORMATION PROVIDED PURSUANT TO SECTION 149(2) OF THE *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (EP&A Act 1979)*

NOTE: The following information is provided pursuant to Section 149(2) of the EP&A Act 1979, as prescribed by Schedule 4 of the *Environmental Planning and Assessment Regulation 2000*, and is applicable as of the date of this certificate.

1. NAMES OF RELEVANT PLANNING INSTRUMENTS AND DEVELOPMENT CONTROL PLANS

1.1 Environmental Planning Instruments

As at the date of this certificate the abovementioned land is not affected by Blacktown Local Environmental Plan 1988.

1.2 Development Control Plans

As at the date of this certificate the abovementioned land is not affected by Blacktown Development Control Plan 2006.

1.3 Relevant State Environmental Planning Policies (SEPPs), including draft policies, or Regional Environmental Plans deemed to be SEPPs

General Manager Per:

State Environmental Planning Policy No. 1 - Development Standards

The policy requires that variations to development standards must meet the objectives of local plans and controls. It makes development standards more flexible. It allows councils to approve a development proposal that does not comply with a set standard where this can be shown to be unreasonable or unnecessary.

State Environmental Planning Policy No. 4 - Development Without Consent and Miscellaneous Complying Development

This policy permits minor development and activities on land without a development application or through alternative assessment. This policy should be read in conjunction with Councils controls for Exempt and Complying Development.

State Environmental Planning Policy No. 6 - Number of Storeys in a Building

This Policy sets out a method for determining the number of storeys in a building, to prevent possible confusion arising from the interpretation of various environmental planning instruments.

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

This policy protects and preserves bushland within certain urban areas, as part of the natural heritage or for recreational, educational and scientific purposes. The policy is designed to protect bushland in public open space zones and reservations, and to ensure that bush preservation is given a high priority when local environmental plans for urban development are prepared.

State Environmental Planning Policy No. 30 - Intensive Agriculture

This Policy requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The Policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The Policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

State Environmental Planning Policy No. 55 - Remediation of Land

This policy provides state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

State Environmental Planning Policy No. 64 - Advertising and Signage

This policy aims to ensure that outdoor advertising is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations and is of high quality design and finish. The SEPP was amended in August 2007 to permit and regulate outdoor advertising in transport corridors (e.g. freeways, tollways and rail corridors). The amended SEPP also aims to ensure that public benefits may be derived from advertising along and adjacent to transport corridors.

State Environmental Planning Policy - Affordable Rental Housing 2009

This policy establishes a consistent planning regime for the provision of affordable rental housing. The policy provides incentives for new affordable rental housing, facilitates the retention of existing affordable rentals, and expands the role of not-for-profit providers. It also aims to support local centres by providing housing for workers close to places of work, and facilitate development of housing for the homeless and other disadvantaged people.

State Environmental Planning Policy - Exempt and Complying Development Codes

This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt and complying development codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent; and, in the General Housing Code, types of complying development that may be carried out in accordance with a complying development certificate as defined in the Environmental Planning and Assessment Act 1979.

State Environmental Planning Policy - Major Development 2005

The SEPP defines certain developments that are major projects to be assessed under Part 3A of the Environmental Planning & Assessment Act 1979 and determined by the Minister for Planning. It also provides planning provisions for State significant sites. In addition, the SEPP identifies the council consent authority functions that may be carried out by joint regional planning panels (JRPPs) and classes of regional development to be determined by JRPPs. Note: This SEPP was formerly known as State Environmental Planning Policy (Major Projects) 2005.

State Environmental Planning Policy - Western Sydney Employment Area 2009

This State Environmental Planning Policy promotes economic development and the creation of employment in the Western Sydney Employment Area by providing for development, including major warehousing, distribution, freight transport, industrial, high technology and research facilities. The policy provides for coordinated planning, development and rezoning of land for employment or environmental conservation purposes.

State Environmental Planning Policy - Basix

This SEPP operates in conjunction with draft Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX. The draft SEPP was exhibited together with draft Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004.

State Environmental Planning Policy - Infrastructure 2007

This policy provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

State Environmental Planning Policy - Mining, Petroleum Production and Extractive Industries 2007

This policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The policy establishes appropriate planning controls to encourage ecologically sustainable development.

State Environmental Planning Policy - Temporary Structures and Places of Public Entertainment 2007

This policy provides for the erection of temporary structures and the use of places of public entertainment, while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

Sydney Regional Environmental Plan No. 9 - Extractive Industry Sydney Region

This plan aims to protect the viability of extractive resources in the Sydney Metropolitan Area by ensuring consideration is given to the impact of encroaching development.

2. ZONING AND LAND USE UNDER RELEVANT ENVIRONMENTAL PLANNING INSTRUMENTS

(a) The abovementioned land is subject to the provisions of State Environmental Planning Policy (Western Sydney Employment Area) 2009 and is zoned:

E2 - ENVIRONMENTAL CONSERVATION
IN1 - GENERAL INDUSTRIAL

(b) The land does not include or comprise a critical habitat. Critical habitat refers to habitat that is critical to the survival of endangered species, populations or ecological communities. Areas of critical habitat are declared under Part 3 of the Threatened Species Conservation Act 1995 and Part 7A of the Fisheries Management Act 1994.

(c) The land is not within a conservation area.

(d) This land does not contain an item of environmental heritage under the protection of Blacktown Local Environmental Plan 1988.

3. COMPLYING DEVELOPMENT

Complying development under the *General Housing Code* may not be carried out on the land. The land is affected by specific land exemptions:

it is a flood control lot.

Complying development under the *Housing Internal Alterations Code* may be carried out on the land.

Complying development under the *General Commercial and Industrial Code* may be carried out on the land.

Disclaimer: This information only addresses matters raised in Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008. It is your responsibility to ensure that you comply with the general requirements of the State Environmental Planning Policy (Exempt and Complying Codes) 2008. Failure to comply with these provisions may mean that a Complying Development Certificate issued under the provisions of State Environmental Planning Policy (Exempt and Complying Codes) 2008 is invalid.

4. COASTAL PROTECTION

The land is not affected by the operation of Sections 38 or 39 of the *Coastal Protection Act, 1979*.

5. MINE SUBSIDENCE

The land has not been proclaimed to be a mine subsidence district within the meaning of Section 15 of the *Mine Subsidence Compensation Act, 1961*.

6. ROAD WIDENING AND ROAD REALIGNMENT

Blacktown Local Environmental Plan 1988 and Blacktown Development Control Plan 2006 nominate preferred road patterns throughout the City.

The land is not affected by road widening/road realignment under Division 2 of Part 3 of the Roads Act 1993 and/or Blacktown Local Environmental Plan 1988.

7. COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

Council has not adopted any policies to restrict the development of the land by reason of the likelihood of landslip, bushfire, tidal inundation, subsidence or the occurrence of acid sulphate soils. Although the Council has not adopted a specific policy to restrict development on bush fire prone land, it is bound by statewide bush fire legislation that may restrict development. In this regard, refer to point 11 below.

Council has adopted a policy on contaminated land which may restrict the development of this land. The land contamination policy applies when zoning or land use changes are proposed on land which has previously been used for certain purposes or has the potential to be affected by such purposes undertaken on nearby lands. Council's records may not be sufficient to determine all previous uses on the land, or determine activities that may have taken place on this land. Consideration of Council's policy and the application of provisions under the relevant State legislation and guidelines is necessary.

7A. FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

In respect of mainstream or backwater flood-related development controls, Council has adopted a Floodplain Management Policy which may restrict the development of the land subject to this Certificate, including development for the purposes of dwelling houses, dual occupancies, multi-dwelling housing, residential flat buildings and any other purpose that requires the placement or erection of any structure on the land. The Flood Risk Precinct Maps prepared under the policy are based on the results of Engineering Flood Studies commissioned by Government Authorities and Council. These maps indicate that the land subject to this Certificate lies partly within the Medium Flood Risk Precinct and partly within the High Flood Risk Precinct. The term Medium Flood Risk Precinct is defined as land below the 100-year flood level that is not within a High Flood Risk Precinct. This is land that is not subject to a high hydraulic hazard or where there are no significant evacuation difficulties. The term High Flood Risk Precinct is defined as the area of land below the 100-year flood event that is either subject to a high hydraulic hazard or where there are significant evacuation difficulties. Further details are provided in the NSW Government's Floodplain Development Manual and are available from Council. Council does not warrant that the information provided or made available to you is complete. Council strongly recommends that, in all cases, you seek independent professional advice to supplement your enquiries.

8. LAND RESERVED FOR ACQUISITION

Clauses 17, 17A and 18 of Blacktown Local Environmental Plan 1988 provide for the acquisition of certain land zoned 5(a), 5(b), 5(c), 6(a) or 6(c) by a public authority.

9. CONTRIBUTIONS PLANS

Council currently levies contributions under Section 94 of the EP&A Act 1979 for facilities and services. The further development of the subject land may incur such contribution.

10. MATTERS ARISING UNDER THE CONTAMINATED LAND MANAGEMENT ACT 1997

Item 10 to Schedule 4 of the Environmental Planning and Assessment Regulation 2000 has been repealed by the Contaminated Land Management Amendment Act 2008

11. BUSH FIRE PRONE LAND

The *Rural Fires and Environmental Assessment Legislation Amendment Act 2002*, which came into force on 1 August 2002, introduced development provisions for bush fire prone land as shown on a Bush Fire Prone Land Map. "Bush fire prone land" is land that has been designated by the Commissioner of the NSW Rural Fire Service as being bush fire prone due to characteristics of vegetation and topography. The land the subject of this certificate has been identified on Council's Bush Fire Prone Land Map as being:

clear of any bush fire prone land

On land that is bush fire prone, certain development may require further consideration under Section 79BA or Section 91 of the EP&A Act 1979 and under Section 100B of the *Rural Fires Act 1997*.

12. PROPERTY VEGETATION PLANS

Land to which this Certificate applies is not subject to a Property Vegetation Plan under the provisions of the *Native Vegetation Act 2003*.

13. ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Land to which this Certificate applies is not the subject of an order made under the *Trees (Disputes Between Neighbours) Act 2006*.

14. DIRECTIONS UNDER PART 3A

Land to which this Certificate applies is not subject to the above.

15. SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

Land to which this Certificate applies is not subject to the above.

16. SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

Land to which this Certificate applies is not subject to the above.

17. SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

Land to which this Certificate applies is not subject to the above.

18. MATTERS ARISING UNDER THE CONTAMINATED LAND MANAGEMENT ACT 1997 AND CONTAMINATED LAND MANAGEMENT AMENDMENT ACT 2008

(a) The land to which this certificate relates has not been declared to be significantly contaminated land at the date when the certificate was issued.

(b) The land to which the certificate relates is not subject to a management order at the date when the certificate was issued.

(c) The land to which this certificate relates is not the subject of an approved voluntary management proposal at the date when the certificate was issued.

(d) The land to which this certificate relates is not subject to an ongoing maintenance order as at the date when the certificate was issued.

(e) The land to which this certificate relates is not the subject of a site audit statement provided to the Council.

19. NATION BUILDING AND JOBS PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009

Land to which this Certificate applies is not subject to the above.

PART B
ADDITIONAL INFORMATION PROVIDED PURSUANT TO SECTION 149(5) OF THE *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (EP&A Act 1979)*

NOTE: When information pursuant to section 149(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 149(6) which states that a Council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

This advice is provided in accordance with Section 149(5) and 149(6) of the EP&A Act 1979:

The land is affected by a tree preservation control under Blacktown Local Environmental Plan 1988. A person shall not ringbark, cut down, lop, top, remove, injure or wilfully destroy any tree, or cause any tree to be ringbarked, cut down, topped, lopped, injured or wilfully destroyed, except with the consent of the Council.

The provisions of any covenant, agreement or instrument applying to this land purporting to restrict or prohibit certain development may be inconsistent with the provisions of a Regional Environmental Plan, State Environmental Planning Policy or Blacktown Local Environmental Plan 1988, in which case the provisions of any such covenant, agreement or instrument may be overridden.

This land contains an Aboriginal archaeological site under the protection of the National Parks and Wildlife Service Act, 1974. Before any development can proceed in an area known to contain Aboriginal archaeological sites, a consent to destroy must be obtained from the Director of the National Parks and Wildlife Service.

The *Threatened Species Conservation Act 1995* provides for the conservation of threatened species, populations and ecological communities of animals and plants. The *Threatened Species Conservation Act* amended the *Environmental Planning and Assessment Act 1979* to require, amongst other things, that:-

(a) a critical habitat (as defined in the *Threatened Species Conservation Act 1995)* be identified in environmental planning instruments;

(b) consent authorities and determining authorities must, when considering proposed development or an activity, assess whether it is likely to significantly affect threatened species, populations and ecological communities, or their habitats, and, if a significant effect is likely, to require the preparation of a species impact statement in accordance with the requirements of the *Threatened Species Conservation Act 1995;*

(c) consent authorities and determining authorities must, when considering proposed development or an activity, have regard to the relevant recovery plans and threat abatement plans; and

(d) a regime for concurrence and consultation between consent authorities and determining authorities and the Minister administering the *Threatened Species Conservation Act 1995* or the Director-General of the National Parks and Wildlife be instructed to aid the assessment process under the *Environmental Planning & Assessment Act 1979.*

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* provides protection for items of national significance. The Act requires a separate Commonwealth approval to be obtained where an action is likely to have significant impacts on items of national environmental significance. Items of national environmental significance include, amongst other things, nationally threatened animal and plant species and ecological communitites. The Commonwealth Department of the Environment and Water Resources should be contacted for further advice.

General Manager

Per: _____

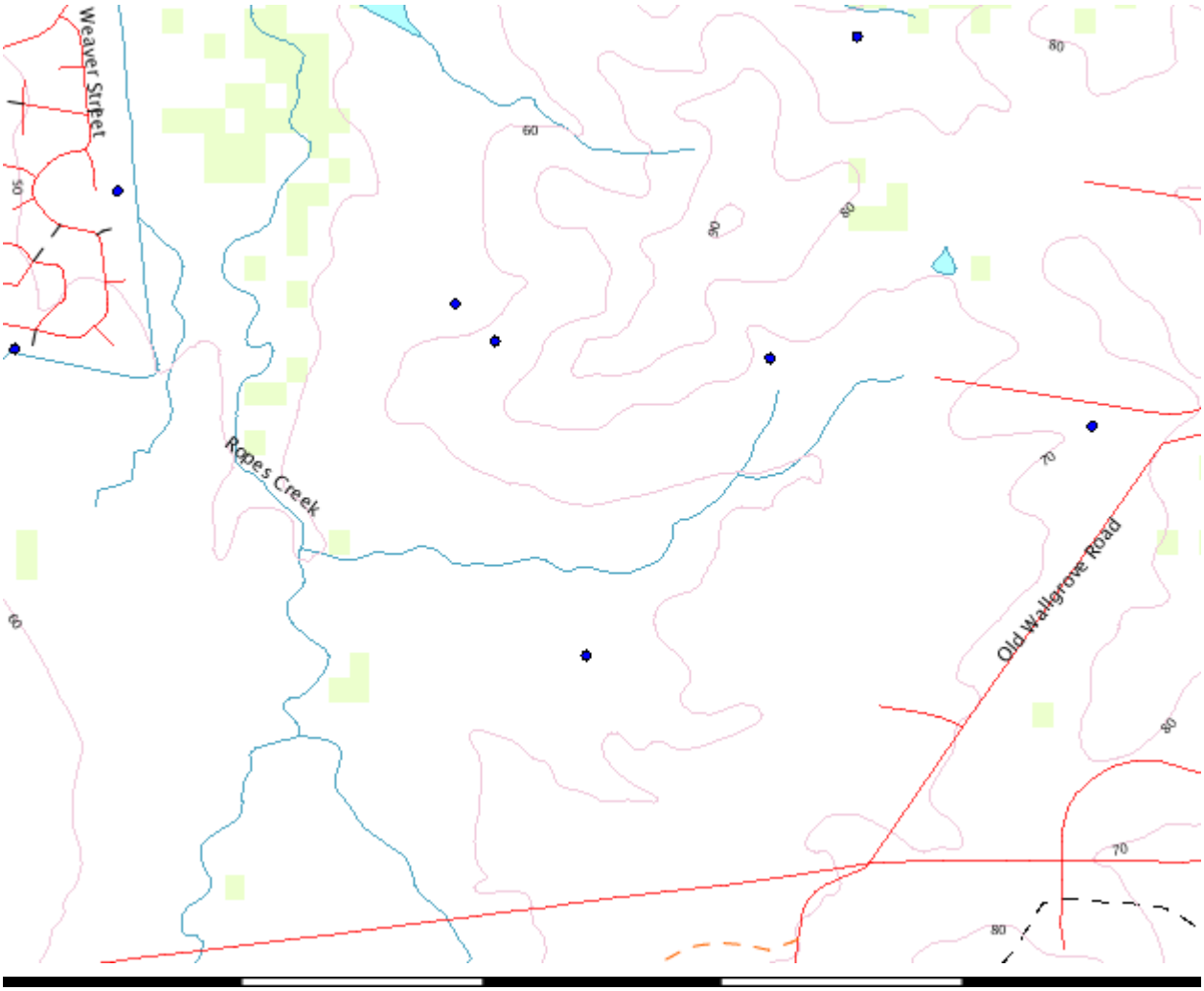
End of Certificate

APPENDIX 2:
GROUNDWATER MAP AND SUMMARY SHEETS

Map from the NSW Natural Resource Atlas

Map created with NSW Natural Resource Atlas - http://www.nratlas.nsw.gov.au

Friday, July 23, 2010



0 2 Km

Legend

Symbol	Layer	Custodian
	Cities and large towns renderImage: Cannot build image from features	
Cowra	Populated places renderImage: Cannot build image from features	
	Towns	
	Groundwater Bores	
	Catchment Management Authority boundaries	
	Major rivers	
	Topographic base map	

APPENDIX 3:
HISTORICAL INFORMATION

Environmental Legal Searches
Environmental Management Group Pty Ltd
ACN 108 771 482
ABN 76 784 207 704

MOBILE: 0404 069 995
FAX: 02 - 8211 9179
EMAIL: search@elsearches.com.au
WEB: www.elsearches.com.au
ADDRESS: PO BOX 393 Kingsford NSW 2032

8 July 2010

Consulting Earth Scientists
Jones Bay Wharf 19-21
Upper Deck Suite 55
26-32 Pirrama Road
PYRMONT NSW 2009

Attention: Ms Wendy Ellis

RE: Lot 5 DP 262213, Ropes Creek
Your Ref. No: CES100604-JBA

SUMMARY OF PROPRIETORS

Lot 5 DP 262213

Year	Proprietor	Source
1983-To date	Jacfin Pty. Ltd.	Current certificate of Title Vol. 14726 Fol. 225
Prior to 1983 comprises: Part of Portion 45 DP 588400 & Part of Portion 80 (Lot 5 DP229784)		Vol. 13548 Fol. 70 Vol. 11063 Fol. 178

SUMMARY OF PROPRIETORS

Part of Portion 45 DP 588400

Year	Proprietor	Source
1955-1983	Burfield Pty. Ltd. (later renamed Ray Fitzpatrick Pty. Ltd) (also as Pioneer Quarries (Sydney) Pty. Ltd.)	Vol. 14726 Fol. 225 Vol. 13548 Fol. 70 P.A. 52819
1934-1955	William Thomas Collett Baker (farmer) & Irene Winifred Wainwright (wife of Wainwright, labourer)	P.A. 52819
1909-1934	Thomas Baker (farmer)	P.A. 52819
1909	David Shepherd (gentleman)	P. A. 52819

Environmental Legal Searches
Environmental Management Group Pty Ltd
ACN 108 771 482
ABN 76 784 207 704

MOBILE: 0404 069 995
FAX: 02 - 8211 9179
EMAIL: search@elsearches.com.au
WEB: www.elsearches.com.au
ADDRESS: PO BOX 393 Kingsford NSW 2032

SUMMARY OF LEASE

Part of Portion 45 DP 588400

Lessee	Source
Leased to Ray Fitzpatrick Quarries Pty. Ltd. Expired 1979	Vol. 13548 Fol. 70 P. A. 52819 Lease No. 79 Book 2603

SUMMARY OF PROPRIETORS

Part of Portion 80 (Lot 5 DP 229784)

Year	Proprietor	Source
1979-1983	Jacfin Pty. Ltd.	Vol. 14726 Fol. 225 Vol. 11063 Fol. 178
1959-1979	Ray Fitzpatrick Pty. Ltd.	Vol. 11063 Fol. 178 Vol. 7955 Fol. 107 Vol. 6887 Fol. 107
1949-1959	Arthur Stockman (state merchant)	Vol. 6887 Fol. 107
1937-1949	Arthur Renwick Poolman (farmer & Grazier)	Vol. 6887 Fol. 107
Prior to 1937	Crown land	Vol. 6887 Fol. 107

Environmental Legal Searches
Environmental Management Group Pty Ltd
ACN 108 771 482
ABN 76 784 207 704

MOBILE: 0404 069 995
FAX: 02 - 8211 9179
EMAIL: search@elsearches.com.au
WEB: www.elsearches.com.au
ADDRESS: PO BOX 393 Kingsford NSW 2032

Terms of Conditions & Limitations

1. The client is responsible for payment associated with the search.

2. The client is authorised to use our report subject to settlement of our account. Until the account is settled, the report remains the property of Environmental Legal Searches. If the account is not settled within 30 days of the invoice date, then the authority to use the report may be revoked. Where authority to use the report is revoked, all references to the report should be deleted or rendered inactive until the account is settled.

3. Search was based on **Lot 5 DP 262213** provided by **Ms Wendy Ellis of Consulting Earth Scientists.**

   The attached cadastral plan and **Deposited Plan (DP262213)** MUST be checked against the survey plan for the property for correctness.

4. The details of the leases (if applicable) were solely based on the available records of the Department of Lands. The MOST RECENT record may not be available on the day of the searching.

LAND AND PROPERTY INFORMATION NSW
CENTRAL REGISTER OF RESTRICTIONS CERTIFICATE

1W - ENVIRONMENTAL LEGAL SEARCHES

Land and Property Management Authority

APPLN NO: 1249555
YOUR REFERENCE: CES 100604 JBA

ISSUED: 2/7/2010 10:12 AM
PAGE: 1

REFERENCE: 5/262213

LGA: BLACKTOWN

PARISH: MELVILLE COUNTY: CUMBERLAND

NO. OF AUTHORITIES INQUIRED OF: 1

THE FOLLOWING AUTHORITIES HAVE A POSSIBLE OR ACTUAL INTEREST IN THIS PROPERTY. YOUR INQUIRY HAS BEEN REFERRED TO THEM FOR DIRECT RESPONSE:

THE DEPARTMENT OF DEFENCE - (ADMINISTERED BY LPI)

REGISTRAR GENERAL

***** END OF CERTIFICATE *****

Box: 1W

Land and Property Management Authority

1 Prince Albert Rd
Sydney NSW 2000
Ph 1300 0LANDS
Fax (02) 9233 4357
lands.nsw.gov.au

ENVIRONMENTAL LEGAL SEARCHES
35 BOYCE ROAD
MAROUBRA 2035

UNEXPLODED ORDNANCE SEARCH RESULT

Date: 2/7/2010
Appln No: 1249555
Title Ref: 5/262213
Your Ref: CES 100604 JBA
Parish: MELVILLE CUMBERLAND

The Department of Defence advises that there is no record of land within this title having been used for military purposes of a nature that may have resulted in ordnance-related contamination.

For any further details regarding your inquiry, please contact Ms Josephine Velte at the Department of Lands on Phone (02) 9228 6835 or Fax (02) 9221 1323.

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

MR RON SALE
Manager
Electronic Services LPI

WorkCover
NEW SOUTH WALES

Our Ref: D10/086713
Your Ref: Luke Jenkins

20 July 2010

Attention: Luke Jenkins
Consulting Earth Scientists
Jones Bay Wharf Suite 55
26-32 Pirrama Road
PYRMONT NSW 2009

Dear Mr Jenkins,

RE SITE: Lot A DP392643 & Lot 5 DP262213

I refer to your site search request received by WorkCover NSW on 05 July 2010 requesting information on licences to keep dangerous goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the above-mentioned premises.

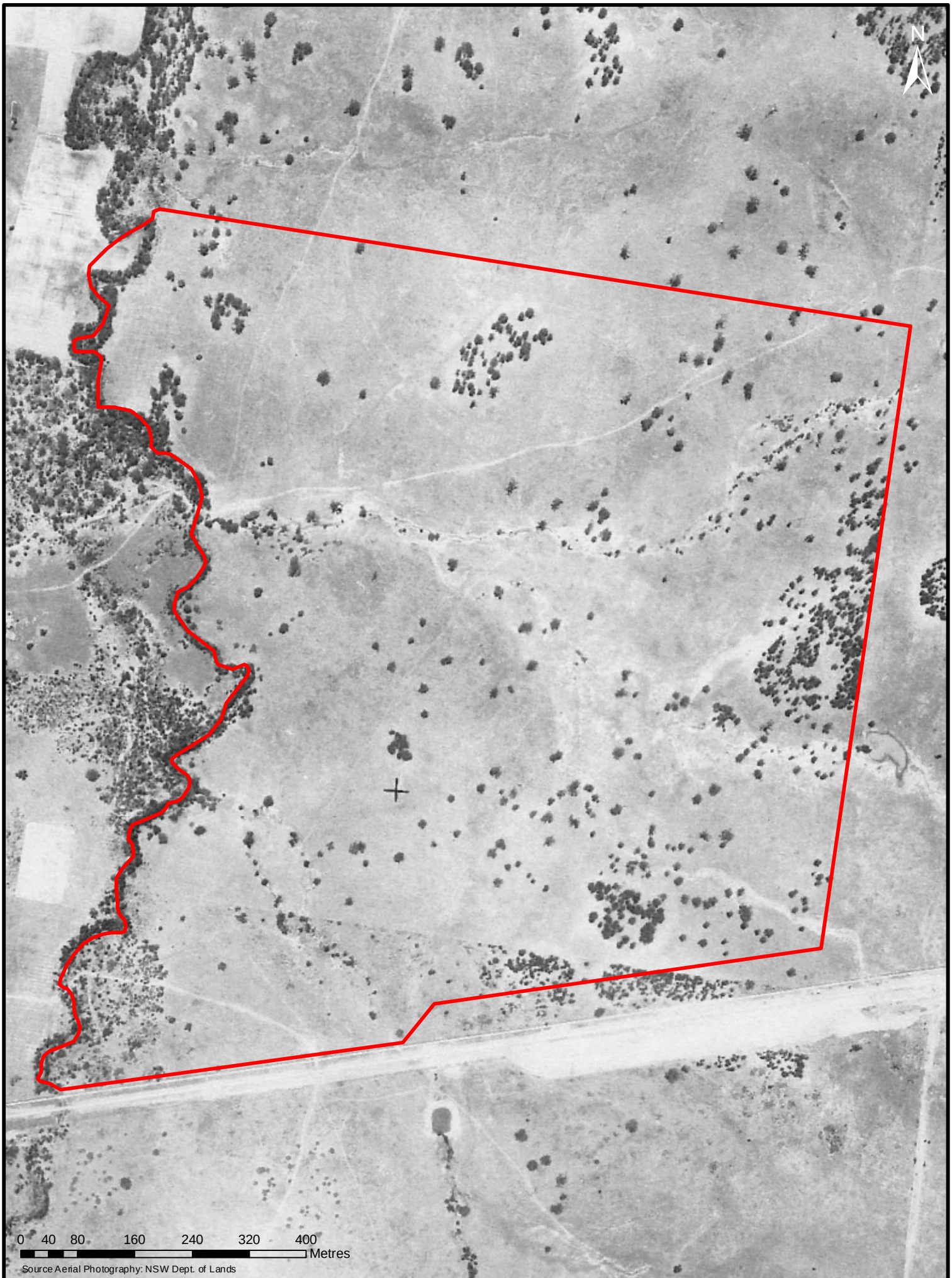
If you have any further queries please contact the Dangerous Goods Licensing Team on (02) 4321 5500.

Yours Sincerely

Diana Hayes

Senior Licensing Officer
Dangerous Goods Team

APPENDIX 4:
HISTORICAL AERIAL PHOTOGRAPHS



CONSULTING EARTH SCIENTISTS
Jones Bay Wharf 19-21, Suite 55
26-32 Pirrama Road, Pyrmont, NSW, 2009
ph 8569 2200 fax 9552 4399

Title

Appendix 5.1 - Lot 5 DP 262213
Ropes Creek Employment Precinct (1947)

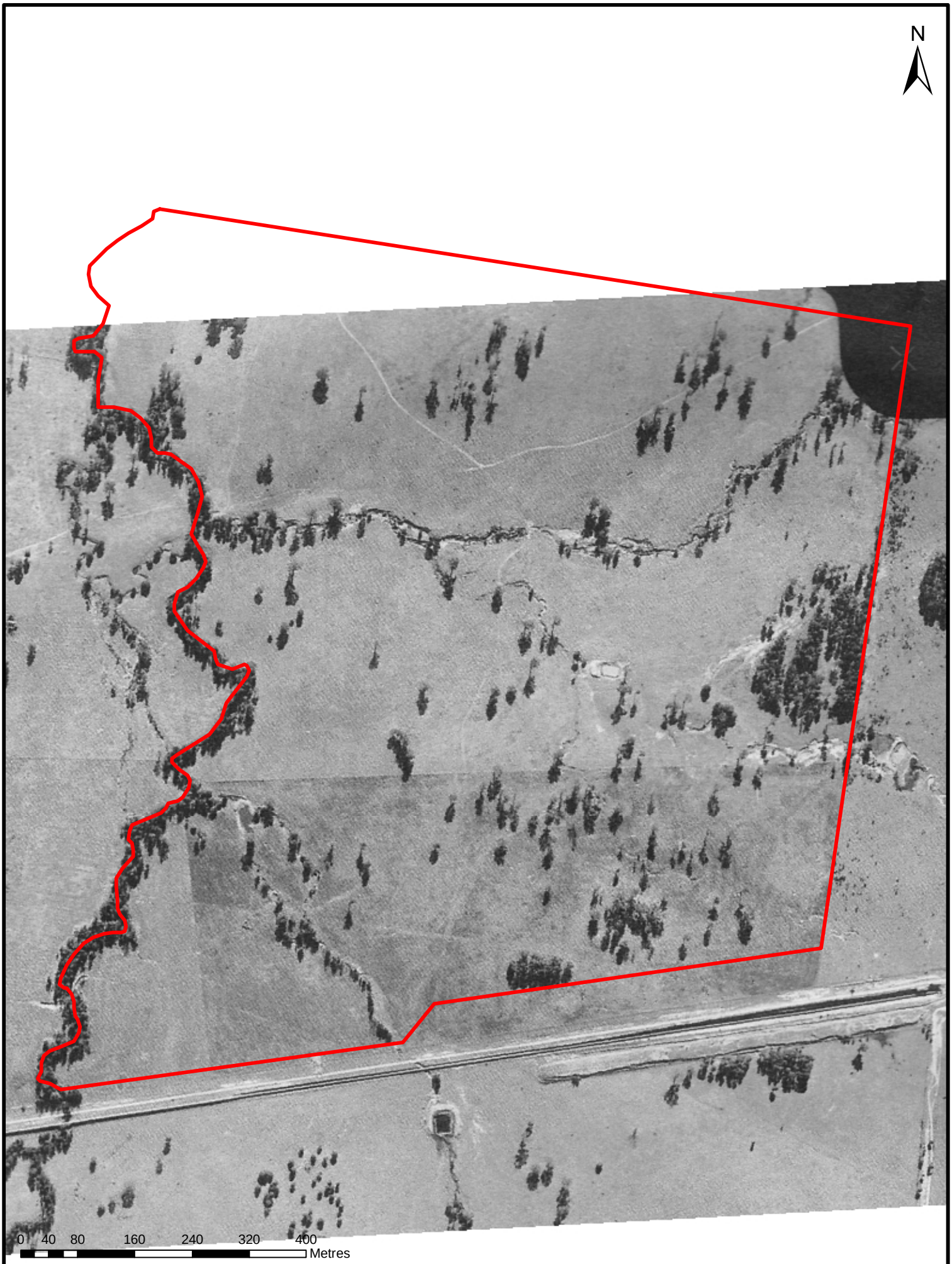
CES Project ID:	Date:
CES100604-JBA	23/07/2010
Prepared By:	Checked By:
M.Howden	L.Jenkins

CONSULTING EARTH SCIENTISTS
Jones Bay Wharf 19-21, Suite 55
26-32 Pirrama Road, Pyrmont, NSW, 2009
ph 8569 2200 fax 9552 4399

Title

Appendix 5.2 - Lot 5 DP 262213
Ropes Creek Employment Precinct (1956)

CES Project ID:	Date:
CES100604-JBA	23/07/2010
Prepared By:	Checked By:
M.Howden	L.Jenkins



Source Aerial Photography: NSW Dept. of Lands

CONSULTING EARTH SCIENTISTS
Jones Bay Wharf 19-21, Suite 55
26-32 Pirrama Road, Pyrmont, NSW, 2009
ph 8569 2200 fax 9552 4399

Title

Appendix 5.3 - Lot 5 DP 262213
Ropes Creek Employment Precinct (1961)

CES Project ID:	Date:
CES100604-JBA	23/07/2010
Prepared By:	Checked By:
M.Howden	L.Jenkins

Source Aerial Photography: NSW Dept. of Lands

CONSULTING EARTH SCIENTISTS
Jones Bay Wharf 19-21, Suite 55
26-32 Pirrama Road, Pyrmont, NSW, 2009
ph 8569 2200 fax 9552 4399

Title

Appendix 5.4 - Lot 5 DP 262213
Ropes Creek Employment Precinct (1965)

CES Project ID:	Date:
CES100604-JBA	23/07/2010
Prepared By:	Checked By:
M.Howden	L.Jenkins

CONSULTING EARTH SCIENTISTS
Jones Bay Wharf 19-21, Suite 55
26-32 Pirrama Road, Pyrmont, NSW, 2009
ph 8569 2200 fax 9552 4399

Title

Appendix 5.5 - Lot 5 DP 262213
Ropes Creek Employment Precinct (1970)

CES Project ID:	Date:
CES100604-JBA	23/07/2010
Prepared By: M.Howden	Checked By: L.Jenkins