

CONSULTING EARTH SCIENTISTS

STAGE 1 & LIMITED STAGE 2 ENVIRONMENTAL SITE ASSESSMENT:
LOT 11 DP229784, TEMPLAR ROAD, ERSKINE PARK, NSW
PREPARED FOR WORLEYPARSONS GROUP

REPORT ID: CES080106-WPG-01-F

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**STAGE 1 & LIMITED STAGE 2 ENVIRONMENTAL SITE
ASSESSMENT: LOT 11 DP229784, TEMPLAR ROAD, ERSKINE PARK,
NSW. PREPARED FOR WORLEYPARSONS GROUP.**

Report ID: CES080106-WPG-01-F

EXECUTIVE SUMMARY

Consulting Earth Scientists Pty Ltd (CES) was commissioned by WorleyParsons Group (WPG) to undertake a Stage 1 and Limited Stage 2 Environmental Site Assessment (ESA) at the property located at Lot 11 in Deposited Plan (DP) 229784, Templar Road, Erskine Park, NSW (referred to herein as the site). A site location plan is presented as Figure 1.

The ESA was commissioned to assess contamination issues at the site that may have arisen from past and/or present activities undertaken on and/or adjacent to the site and to support a Part 3A Application to NSW Department of Planning for development of a warehousing facility.

The scope of the ESA involved a review of available background information, a drilling program targeting Areas of Environmental Concern (AEC) and providing representative sampling across the site, sampling and analysis for a broad suite of common contaminants and preparation of a report detailing the results of the investigation in comparison with NSW DECC endorsed guidelines for commercial and industrial land-use.

The results, conclusions and recommendations of the ESA were as follows:

- The legal description for the site is Lot 11 in DP 229784 and is located along Templar Road, Erskine Park, NSW. At the time of the investigation, the site was vacant undeveloped grazing land although there was no livestock present;
- Historical information indicates that the site has remained relatively unchanged from its current state and used for agricultural purposes, specifically, grazing (cattle) and agistment (horses);
- From the review of historical documents it appeared that there have been no significant potentially contaminating activities at the site and observations during fieldwork indicated that there were no current activities on or adjacent to the site that would cause contamination;
- Six boreholes were drilled across the site to assess the presence of potential gross contamination across the site. All boreholes were drilled to 0.5 m depth through a thin

topsoil layer and terminated in natural silty clay soil. No significant quantities of fill material were noted;

- Groundwater was not encountered throughout the depth of the boreholes;
- No unusual odours that could be potentially associated with contamination were noted during the site inspection or soil sampling;
- PID readings were less than 0.2 ppm for all samples collected indicating that there was no VOC impact;
- Selected samples were analysed for a suite of metals, TPH, BTEX, PAH, OCP, PCB and asbestos;
- The concentrations of metals, TPH, BTEX, PAHs, OCPs and PCBs in the samples submitted for analysis, all conformed to the SAC detailed in Section 10. Additionally, no asbestos was identified in the near surface samples collected from each borehole;
- The QA/QC undertaken as part of this investigation demonstrated that the laboratory data are of acceptable quality and are considered useable in making conclusions and recommendations regarding the site.

The site in its present condition is considered suitable for commercial and/or industrial land-use.

LIST OF ABBREVIATIONS

ALS	Australian Laboratory Services Pty Ltd
AST	Aboveground Storage Tank
BTEX	Benzene, Toluene, Ethylbenzene and Total Xylenes
CES	Consulting Earth Scientists Pty Ltd
CMPC	Conceptual Model of Potential Contamination
COC	Chain-of-Custody
CoPC	Contaminants of Potential Concern
DAC	Data Acceptance Criteria
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change
DQO	Data Quality Objectives
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
HIL	Health Investigation Levels
LCS	Laboratory Control Sample
LOR	Limit of Reporting
NATA	National Association of Testing Authorities
nd	not detectable
NEPC	National Environmental Protection Council
NEHF	National Environmental Health Forum
NSW	New South Wales
OCP	Organochlorine Pesticides
OHS	Occupational Health and Safety
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PID	Photoionisation Detector
PSP	Project Safety Plan
QA/QC	Quality Assurance and Quality Control
RPD	Relative Percentage Difference
SAC	Site Assessment Criteria
SAQP	Sampling, Analysis and Quality Plan
TPH	Total Petroleum Hydrocarbons
ULP	Unleaded Petrol
UST	Underground Storage Tank

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1 INTRODUCTION

Consulting Earth Scientists Pty Ltd (CES) was commissioned by WorleyParsons Group (WPG), on behalf of Jacfin Pty Ltd (Jacfin), to undertake a Stage 1 and Limited Stage 2 Environmental Site Assessment (ESA) at the property located at Lot 11 in Deposited Plan (DP) 229784, Templar Road, Erskine Park, NSW (referred to herein as the site). A site location plan is presented as Figure 1.

The ESA was commissioned to assess contamination issues at the site that may have arisen from past and/or present activities undertaken on and/or adjacent to the site and to support a Part 3A Application to NSW Department of Planning for development of a warehousing facility.

This report has been prepared in general accordance with the requirements specified for a Stage 1 Preliminary Site Investigation and a Detailed Site Investigation as published by the Department of Environment and Climate Change (DECC), formerly known as the Department of Environment and Conservation (DEC) and incorporating the NSW Environment Protection Authority (NSW EPA) in *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA, 1997).

2 OBJECTIVES AND SCOPE

The objectives of the ESA were to:

- Assess whether the site had been contaminated from past and/or present activities undertaken on and/or adjacent to the site; and
- If present, assess whether the contamination represents a risk to site occupants or the environment considering the sites proposed land use (ie. commercial/industrial) and receiving environments (Ropes Creek).

To achieve these objectives, CES undertook the following scope of works:

- A Stage 1 ESA comprising a review of available information and a detailed site inspection;
- Prepared a Project Safety Plan (PSP) that identified foreseeable hazards associated with the site inspection and intrusive soil investigation and the measures employed to manage or remove the associated risk;
- Provided a clearance of each sampling location for underground services, which included a dial-before-you-dig search and scanning by an underground services locator;
- Undertook a limited intrusive soil investigation involving the sampling of soil and laboratory analysis of selected soil samples to assess the presence of contamination;
- Implemented a quality control programme to ensure the integrity of the data obtained and that the data was appropriate and defensible; and
- Prepared a report which outlined the results of the ESA.

3 DATA QUALITY OBJECTIVES

Step 1 - State the Problem

The problem was potential contamination attributable to historical and current site usage above the DECC endorsed guidelines for commercial/industrial land use.

Step 2 - Identify the Decision Statement

The primary question that the sampling and analysis programme attempted to resolve was:

Was there soil and/or groundwater contamination at the site, that may impact on off-site receptors or would pose an unacceptable risk for industrial land-use, as defined by the NEPM (NEPC, 1999) or NSW DEC (2006) and that may require remediation to make the site suitable for commercial and/or industrial land use.

Step 3 - Identify Inputs to the Decision

The following information inputs were required to resolve the decision statement:

- The findings from a review of available background and historical information together with observations made during the site inspection;
- Collection of soil samples using appropriate methods;
- Analysis of selected samples for the contaminants of concern; and
- Comparison of the results with relevant Site Assessment Criteria (SAC) as defined in Section 10.

Step 4 - Define the Boundaries of the Study

The site occupies an area of approximately 4.1 hectares (information from WorleyParsons Group). The legal description of the site is Lot 11 in DP 229784.

The investigation for the limited Stage 2 ESA extended laterally across accessible areas of the site to provide general coverage and to target areas of potential concern. All boreholes were extended to 0.5m depth terminating in natural soil.

Step 5 - Develop a Decision Rule

The purpose of this step was to define the parameter of interest, specify the action level and combine the outputs of the previous DQO steps into an “if...then...” decision rule that defines the conditions that would cause the decision maker to choose alternative actions.

The parameters of interest (or contaminants of concern) have been determined based on background information and to establish baseline chemical conditions and contaminant concentrations. The action level (Site Assessment Criteria) will be used to decide if the parameter represents an unacceptable risk for commercial/industrial land use. If the measured

concentration of a compound exceeds the action levels in soils, then this is deemed to present an unacceptable risk if the site is developed for commercial/industrial land use.

If the absolute values of a compound are above the nominated action levels, then further sampling will be proposed to determine the extent of contamination or remediation of the contamination recommended.

Step 6 - Specify Acceptable Limits on Decision Errors

There are two types of errors:

- a) Deciding that the site is acceptable for commercial/industrial land use when it actually is not. The consequence of this error may be unacceptable health risk for future users of the site; or
- b) Deciding that the site is unacceptable for commercial/industrial land use when it is acceptable. The consequence of this error is that the client will pay for further investigation / remediation that are not necessary.

The more severe consequences are with decision error (a) since the risk of jeopardising human health outweighs the consequences of paying more for remediation. It will not be possible to conduct statistical hypothesis tests as the proposed sampling programme consists of the collection of one round of samples only. Additionally, the small number of samples analysed is likely to bias a 95% Upper Confidence Limit calculation in favour of decision error (b).

Step 7 - Optimising the Design for Obtaining Data

The purpose of this step was to identify a resource-effective data collection design for generating data that are expected to satisfy the DQO.

To ensure the design satisfies the DQO a comprehensive Quality Assurance and Quality Control Plan was implemented as described in Section 9.

4 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

At the time of preparing this ESA report, no previous environmental investigations are known to have been undertaken at the site.

5 SITE INFORMATION

The site information presented below is based on a review of readily available government information sources.

5.1 SITE IDENTIFICATION

The site is identified as Lot 11 in DP229784 in the Local Government Area (LGA) of Penrith, Parish of Melville, County of Cumberland. The site is located on Templar Road, Erskine Park, NSW. The Australian Map Grid co-ordinates of the approximate centre of the site are 296096 mE, 6255208 mN. The site location is shown in Figure 1.

A site layout plan is presented as Figure 2.

5.2 SITE ZONING AND LANDUSE

The current zoning of the site is 4(e1) Employment (Restricted) under the Penrith Local Environment Plan (LEP) 1994 (Erskine Park Employment Area). At the time of preparing the ESA, the site was vacant, undeveloped grassland.

It is understood that the site will retain the same zoning and will be developed for commercial/industrial use.

5.3 TOPOGRAPHY AND DRAINAGE

A review of the Prospect 9030-2N, 1:25,000 Topographic Map (Land and Property Information NSW 2001) indicated that the site has an elevation of between 50 and 60 m Australian Height Datum (AHD). The regional topography falls towards the south-southwest at approximately 5 per cent.

The site is predominately covered by grassland. The majority of rain falling onto the site would be directed as sheet flow to the north western corner of the site and also infiltrate directly into sub-soils.

Regionally, the surface water from the northern portion of the site is likely to flow west and northwest.

5.4 GEOLOGY

A review of the 1:100,000 (Edition 1) Penrith Geological Sheet 9030 (Department of Mineral Resources, 1991) indicated that the site is within an area underlain by Bringelly Shale of the Wianamatta Group. The Bringelly Shale typically comprises shale, carbonaceous claystone,

claystone, laminite, fine to medium grained lithic sandstone, rare coal and tuff. Natural soils derived from Bringelly Shale are typically clay based.

The Bringelly Shale is approximately 60 m thick at Eastern Creek and is underlain by the Triassic Hawkesbury Sandstone Formation.

5.5 SOILS

Review of the Penrith 1:100 000 Soil Landscape Series Sheet 9030 (Soil Conservation Service of NSW, 1990) indicated that the site was located on the residual Blacktown soil landscape group.

As described by the soil map, the landscape in which soils of the Blacktown soil landscape group are found comprises gently undulating rises with broad rounded crests and ridges with gently inclined slopes on Wianamatta Group shales. Local relief is to 30 metres with slopes usually less than 5%.

Soils of the Blacktown soil landscape group are described as shallow to moderately deep (<100cm) red and brown podzolic soils on crests, upper slopes and well drained areas with deep yellow podzolic soils and soloths on lower slopes and in areas of poor drainage. The limitations of this soil landscape group are noted as being moderately reactive, highly plastic subsoil with low soil fertility and poor soil drainage. Site specific information on soil types is presented in Section 11.1.

5.6 ACID SULFATE SOIL RISK

Standard 1:25,000 Acid Sulfate Soil (ASS) Risk Maps produced by the Department of Land and Water Conservation (DLWC) have not been prepared for the areas within and surrounding the site. Considering the height of the site (ie. between 50 and 60m AHD) and absence of estuarine environments, it is unlikely that ASS (actual and/or potential) would be present beneath the site.

No suspected ASS were encountered during the drilling program because fill and soil did not exhibit the following characteristics (as defined in the ASSMAC 1998):

- Fill and soils did not exhibit a sulphurous smell;
- There was no evidence of shells;
- No jarositic horizons or substantial iron oxide mottling was observed; or
- Fill and soils were not classified as unripe muds (soft, buttery, blue grey or dark greenish grey) or estuarine silty sands or sands (mid to dark grey) or bottom sediments of estuaries or tidal lakes (dark grey to black).

No groundwater was encountered during the drilling programme.

5.7 SOIL SALINITY RISK

A review of the map of Salinity Potential in Western Sydney 2002 (Department of Infrastructure, Planning and Natural Resources) indicated the site is located in an area of moderate salinity potential. Information provided on the map indicated that areas of moderate salinity potential are located on Wianamatta Group Shales and Tertiary Alluvial Terraces. The map further indicated that scattered areas of scalding and indicator vegetation have been noted but no concentrations have been mapped. Saline areas may occur in this zone, which have not yet been identified or may occur if risk factors change adversely.

Saline soils are naturally occurring sediments and soils containing salts. Saline soils occur naturally and are derived from weathering of naturally saline parent material, such as shales that have been deposited in an environment, or via other natural processes such as deposition via rainwater, through groundwater movement, or a combination of one or more of the above processes. Saline soils in their existing environment may not provide any indicators of their presence, however, when saline soils are disturbed during site development (eg bulk earthworks) they can produce numerous problems due to the release of salts, which can affect plant growth, building materials, including pavements and roads, erosion and water quality.

It is noted that any proposed development that does incorporate significant cut and fill is unlikely to be affected by the potentially saline soils.

5.8 HYDROGEOLOGY

Groundwater associated with the Wianamatta Shale is characterised by high salinity (Wooley, 1980; Krumins *et al.*, 1998) and high ammonia concentrations ($>10 \text{ mg L}^{-1}$, Old, 1942). Naturally occurring high levels of these parameters reflect the deposition of organic-rich sediment in low energy coastal environments. Rates of groundwater movement are likely to be low as a result of low relief, low altitude (approximately 50 m AHD) and low permeability of the Wianamatta Shale (Herbert, 1980).

The direction of groundwater flow cannot be assessed based on current information, although the surrounding topography suggests that groundwater would flow to the west towards the northwest.

Based on geological information, CES anticipate that the groundwater at this site lies within an unconfined aquifer in shale bedrock with potential perched groundwater in the overlying regolith.

6 SITE HISTORY

Several sources were investigated to determine the history of land use at the site. The following list details the sources of historical information and a summary of information provided by each source:

- Land Titles Office of New South Wales: Historical title information;
- NSW Department of Lands, Land and Property Information Division (LPI): Historical aerial photographs (1947 to 2005);
- Roads and Traffic Authority: *From the skies. Aerial photographs of Sydney in 1943* (CD Rom);
- Penrith City Council: Planning Certificate
- WorkCover NSW: Searches of Dangerous Goods licensing records;
- Department of Energy, Utilities and Sustainability: Records of cathode-protected tanks; and
- Department of Natural Resources: Licensed Groundwater Bore Database.

6.1 HISTORICAL TITLE INFORMATION

A title deeds search was conducted through the Land Titles Office of New South Wales. A summary of the results is discussed below. Where available, original title documents are provided in Appendix A.

The history of proprietors indicated that the site has been owned since 1937 by various persons/companies. Prior to 1937 the site was listed as crown land. The listed professions of the proprietors (where recorded) included a farmer (1937-1949), a merchant (1949-1959) and company directors (1959). The site was owned by Arthur Stockman Pty Ltd (1959) and Ray Fitzpatrick Pty Ltd (1959-1979). The site has been owned by Jacfin Pty Ltd since 1979.

6.2 AERIAL PHOTOGRAPH INTERPRETATION

Historical aerial photographs from the NSW Department of Lands, Land and Property Information Division (LPI) were examined for the years: 1947, 1956, 1961, 1970, 1978, 1986, 1994, 2002 and 2005. Copies of the aerial photographs are provided in Appendix B. The findings of aerial photo investigations are as follows.

<u>Year</u>	<u>Description</u>
1947	<p><u>Site:</u> The site appeared to be generally cleared. No discernable structures were observed on the site. A dam was located in the north-western corner of the site.</p> <p><u>Surrounding Area:</u> The surrounding area was predominantly occupied by cleared open space areas likely to be used for grazing. Excavation of a quarry (now Enviroguard Landfill) had commenced to the northwest of the site.</p>
1956	<p><u>Site:</u> The site appeared unchanged compared to the 1947 aerial photograph.</p> <p><u>Surrounding Area:</u> The surrounding land use had changed little since the 1947 aerial photograph with the exception of a dam being constructed to the south east of the site. Further excavation of the quarry was observed.</p>
1961	<p><u>Site:</u> The site appeared unchanged compared to the 1956 aerial photograph.</p> <p><u>Surrounding Area:</u> The surrounding land use had changed little since the 1956 aerial photograph with the exception of the clearing of the land to the south west of the site. Further excavation of the quarry was observed.</p>
1970	<p><u>Site:</u> The site appeared unchanged compared to the 1961 aerial photograph.</p> <p><u>Surrounding Area:</u> The surrounding land use had changed little since the 1961 aerial photograph with the exception of the clearing of the land to the west and revegetation of land to the south west of the site. Further excavation of the quarry was observed.</p>
1978	<p><u>Site:</u> The site appeared unchanged compared to the 1970 aerial photograph.</p> <p><u>Surrounding Area:</u> The surrounding land use had changed little since the 1970 aerial photograph with the exception of revegetation of the land to the west of the site.</p>
1986	<p><u>Site:</u> The site appeared unchanged compared to the 1978 aerial photograph.</p> <p><u>Surrounding Area:</u> The surrounding land use had changed little since the 1978 aerial photograph.</p>
1994	<p><u>Site:</u> The site appeared unchanged compared to the 1986 aerial photograph.</p> <p><u>Surrounding Area:</u> The surrounding land use had changed little since the 1986 aerial photograph with the exception of a development (Emmaus Village) which had been constructed on land to the south west of the site between 1986 -1994.</p>

2002 **Site:** The site appeared unchanged compared to the 1994 aerial photograph.

Surrounding Area: The surrounding land use had changed little since the 1994 aerial photograph with the exception of the commencement of filling operations at the Enviroguard Landfill to the north west of the site between 1994 – 2002.

2005 **Site:** The site appeared unchanged when compared to the 2002 aerial photograph. Additionally, the site appears similar to the condition of the site as determined from a site inspection carried out on 14 March 2008.

Surrounding Area: The surrounding land use had changed little since the 2002 aerial photograph with the exception of the expansion of landfilling activities and industrial development on land to the north of the site. With the exception of further industrial development on the land to the north, the surrounding area also appears similar to existing site conditions as determined on 14 March 2008.

6.3 PENRITH CITY COUNCIL PLANNING CERTIFICATE

A review of the Penrith City Council Planning Certificate (pursuant to Section 149(2) of the Environmental Planning and Assessment Act, 1979) indicated that no matters apply to the site under the Contaminated Land Management Act, 1997. A copy of the Penrith City Council Planning Certificate is provided in Appendix C.

6.4 NSW DECC CONTAMINATED SITES REGISTER

A search of the NSW DECC Contaminated Sites Register (under Section 58 of the Contaminated Land Management Act 1997) indicated that there were no notices for land within the suburb of Erskine Park.

6.5 WORKCOVER NSW RECORDS

A search of the NSW Stored Chemical Information Database (SCID) and microfiche records pertaining to a Licence to Keep Dangerous Goods by WorkCover was not able to be undertaken as the necessary written approval was not received from the client at the time of writing this report. However, given the rural history of the site it is considered unlikely that dangerous goods depots, including underground storage tanks, will have been licensed on the property.

6.6 DEPARTMENT OF ENERGY, UTILITIES AND SUSTAINABILITY

A search of records of cathode-protected tanks, maintained by the Department of Energy, Utilities and Sustainability was also conducted. Records maintained by the Department did not

indicate the presence of any cathodic protection systems on the site. A copy of the correspondence from the Department of Energy, Utilities and Sustainability is provided in Appendix D.

6.7 DEPARTMENT OF DEFENCE

The Department of Defence advised that it holds no record that the site has been used for military purposes that may have resulted in ordinance contamination. A copy of the correspondence from the Department of Defence is provided in Appendix E.

6.8 GROUNDWATER BORE SEARCH

A search of the NSW Water Information database maintained by the NSW Government for registered groundwater bores was undertaken. The search indicated that there were nine registered bores located within a 4 km radius of the centre of the site. All registered groundwater bores were located to the north and north-west of the site. The closest registered bore was located approximately 500m to the north of the site. All bores were licensed as monitoring bores.

Groundwater information for the nine bores located within 4 km of the site are provided in Appendix F.

6.9 SITE HISTORY SUMMARY

The title information indicated that the site has had various registered owners since 1937 including a farmer, company directors and a merchant. Prior to 1937 the site was listed as being crown land while the current owner (Jacfin Pty Ltd) has owned the site since 1979.

From a review of the historical aerial photography, the site and surrounding land has remained relatively unchanged since the earliest available photograph which was taken in 1947. Information provided by the owner and JBA Urban Planning Consultants Pty Ltd (JBA) indicated that the site has historically been used for agricultural purposes, particularly grazing or agistment of stock.

From the review of historical documents it appeared that there have been no significant potentially contaminating activities at the site and observations during fieldwork indicated that there were no current activities on or adjacent to the site that would cause contamination.

6.10 INTEGRITY ASSESSMENT

Historical and site information was sourced from 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.

7 SITE CONDITION AND THE SURROUNDING ENVIRONMENT

7.1 CURRENT OCCUPIER AND OPERATIONS

At the time of the ESA, the site was vacant undeveloped land covered by grass with a few isolated trees.

7.2 SITE DESCRIPTION

The site description is based on observations made during a site inspection and the drilling programme conducted by Mr Stephen McCormack of CES on 14 February 2008. The site location is shown on Figure 1 and the site layout on Figure 2.

The site is generally triangular in shape and has an area of approximately 4.1 hectares. At the time of this investigation the site was vacant, undeveloped grassland with sporadic and isolated trees. A small dam was located in the northwest corner of the site. The site was bounded to the north by industrial land owned by CSR, vacant industrial zoned land to the west and a water supply pipeline to the south.

From information obtained from JBA Urban Planning Consultants, the site is strategically located within the western Sydney employment hub with nearby access to the M4, linking with the M7.

7.3 TANKS AND ASSOCIATED SERVICES

No evidence of tanks or associated services were observed across areas of the site.

7.4 FILL

It is considered unlikely that the site has been subjected to any substantial filling. This is supported by the field drilling investigation carried out at six locations across the site which encountered relatively shallow topsoil overlying natural silty clay soils.

7.5 ODOURS AND STAINING

No unusual odours that could be potentially associated with contamination were noted during the site inspection or drilling programme.

7.6 CHEMICAL AND WASTES

No chemicals were observed to be stored on site.

7.7 SURROUNDING LAND-USE

The site was surrounded by the following.

- North – Industrial land owned by CSR;
- South/East – Sydney Water pipeline; and
- West – vacant industrial zoned land.

Whilst adjoining properties were not thoroughly investigated, it is considered unlikely that the surrounding properties had the potential to contaminate the site.

7.8 AREAS OF ENVIRONMENTAL CONCERN

Based on the site history and site inspection, the site appeared to have been used principally for agricultural purposes, particularly grazing and/or agistment of stock. Consequently there were no obvious Area of Environmental Concern (AEC).

8 SAMPLING AND ANALYSIS PROGRAMME

Although there were no obvious AEC identified during the Stage 1 ESA, a limited sampling and analysis programme was undertaken to determine actual presence of potential contamination.

The soil sampling programme was undertaken on the 14 February 2008 and was in accordance with CES Quality Work Procedures and to industry best practice. Furthermore, all work was carried out in accordance with CES' Project Safety Plan prepared for the site. The sampling programme was completed in conjunction with a geotechnical investigation.

No groundwater monitoring wells were installed as part of this investigation.

8.1 FIELDWORK

The fieldwork was undertaken by Mr Stephen McCormack of CES, an experienced Environmental Engineer, who directed drilling operations, nominated sampling and testing, and logged the encountered sub-surface lithology.

Fieldwork included the following:

- The drilling of six boreholes (BH1, BH2, BH3, BH4, BH5 and BH6) across the site and the collection of soil samples from each of these boreholes for subsequent laboratory analysis. Each of the boreholes were drilled to 0.5m depth with a 80 mm diameter stainless steel hand auger which was decontaminated in between borehole locations. It was intended to use a mechanical drilling rig, however, recent rainfall made the site inaccessible, even with a 4WD rig;
- The collection of soil samples for subsequent laboratory analysis. Soil samples were collected from the near surface soils (topsoil) and from the underlying natural silty clay soil; and
- Field screening of soil samples (where quantity allowed) for Volatile Organic Compounds using a Photoionisation Detector (PID).

A summary of borehole information is provided in Table 1 and their locations are shown on Figure 2. Borehole logs are provided in Appendix G.

8.2 SOIL SAMPLING PROGRAMME

8.2.1 Sampling pattern, location and depths

CES adopted a judgemental sampling pattern to assess the presence of gross contamination across the site. Each borehole was extended to a total depth of 0.5m through topsoil and penetrating the underlying natural silty clay soils.

From each borehole, soil samples were collected from both the topsoil and underlying natural silty clay soil.

Quality Control (QC) samples, including one blind replicate sample, one trip blank and one rinsate sample were also collected during the fieldwork (Section 9). A summary of the samples collected during this investigation (including QC samples) is provided in Table 2, while their locations are shown on Figure 2.

8.2.2 Method of Sampling Collection

Care was taken to ensure that representative samples were obtained from the depth required and that sample integrity was maintained, particularly when dealing with potentially volatile and semi-volatile components.

All soil samples were collected directly from the hand auger. The soil was transferred from the auger to the sample jar using new latex gloves.

When collecting duplicates, samples to be analysed for volatiles were not mixed, rather they were placed directly into sample jars.

8.2.3 Sampling Methodology

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

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. Collect samples in pre-washed glass jars with Teflon™ lined screw lids in accordance with USEPA methods SW846;
3. Ensure minimal head space within the sample jar and seal jar with lid;
4. Complete Chain-of-Custody (COC) form;
5. Place samples in coolers containing ice;
6. Seal coolers with custody seal at the conclusion of sampling; and
7. Transport samples to the analytical laboratory under CES COC.

Samples were placed within a laboratory supplied wide-mouth glass jar until full. Samples were collected by hand directly from the hand auger using new disposable latex gloves for each sample.

Where there was sufficient sample volume, part of the sample was placed in a re-sealable polyethylene bag for measurement of volatile soil gases using the closed headspace PhotoIonisation Detector (PID) method. The PID is a non-specific detector, as such, the instrument provides a measure of concentrations of total ionisable compounds reported as equivalents of a calibration span gas. Therefore, the data are used to compare Volatile Organic Compounds (VOC) concentrations between samples without an understanding of the specific compounds present.

VOC concentrations detected by PIDs are dependent on a number of factors including:

- The concentration and type of VOCs present in soil samples;
- Soil texture and compaction largely influence the potential for VOCs to be released from samples;
- Time since sample collection; and
- Temperature strongly affects the level of volatilisation of VOCs from soil and fill samples. In fact, temperature changes may result in differences of up to one order of magnitude in levels of VOCs detected using PIDs. Consequently, field screening for VOCs should be undertaken at the same time for all samples in order to produce representative results.

The procedure for soil screening using a PID is summarised as follows:

1. A corresponding sample to that selected for possible laboratory analysis was placed into a “snap-lock” or re-sealable plastic bag until half filled, then sealed. Samples were stored on ice then returned to base.
2. Upon returning to base, samples were left to equilibrate to ambient room temperature with occasional agitation to maximise the release of Volatile Organic Compounds (VOC) into the headspace. All samples were screened during one continuous session at the completion of the fieldwork.
3. The PID instrument was calibrated to ambient air and a span gas comprising 97.5 ppm \pm 10 Isobutylene.
4. Background VOC concentrations in ambient air were measured prior to each reading in order to account for sensor drift. Concentrations were recorded on field data sheets along with date, location details, depth and method (HS for headspace method).

5. The point of the PID or a knife was used to punch a small hole in the top of the plastic bag. The tip of the PID was pushed into the hole in the bag, the readout monitored and the maximum and minimum concentration during the measurement period were noted.
6. The concentrations were noted in field data sheets.
7. The process outlined above was repeated for each sample (i.e., background reading followed by sample reading).
8. An instrument calibration check was undertaken after every 20 samples and at the completion of screening. If results of the calibration check varied by more than 10 % from the known concentration of the span gas, the instrument was recalibrated. Calibration checks and recalibrations were recorded on field data sheets.
9. Samples with high concentrations of VOCs in headspace gases were included for TPH testing at the laboratory.

8.2.4 Sample Containers, Method of Sample Storage and Handling

The soil sample jars were glass with TeflonTM lined lids and were supplied by the primary laboratory Australian Laboratory Services (ALS). The jars were completely filled with soil, labelled with unique sample identification, project details, date and initials of sampling personnel.

The soil jars, once filled with sample and sealed, were immediately placed in an esky / cool box in which ice had been added. At the end of the day the samples were transported, in the cool box, to the CES office where they were kept on ice until delivered to the laboratory in a cool box to which ice had been added.

Sample holding times, container and preservation requirements in accordance with NEPC (1999) are shown in Table 3.

8.2.5 Decontamination Procedures

The following decontamination procedures were adopted for the drilling and sampling equipment.

The hand auger was washed between sample locations using Decon 90 mixed with potable water followed by adequate rinsing with clean water. All samples were collected with new disposable latex or nitrile gloves for each sample.

A rinsate sample (140208-20-SM) was collected from the hand auger to assess the efficiency of the decontamination procedures.

8.2.6 Documentation

All samples were classified in the field based on soil/fill characteristics, which along with obvious signs of contamination such as discolouration and/or odour, were noted on a log.

All samples, including QA samples, were transported to the primary and check laboratories under Chain-of Custody procedures and maintained in an ice-filled cool box. The COC detailed the following information:

- Site identification;
- The sampler;
- Nature of the sample;
- Collection time and date;
- Analyses to be performed;
- Sample preservation method;
- Departure time from office; and
- Time of receipt at the laboratory.

8.2.7 Sample Logging

A qualified environmental scientist completed soil borehole logs during drilling operations. The logs recorded the following data:

- Project and borehole details;
- Sample numbers and depths;
- Soil classification, colour, consistency or density, moisture content and obvious indications of contamination;
- Depth of drilling;
- Drilling refusal;
- Method of drilling; and
- The depth of first encountered free water.

Borehole logs are presented in Appendix G.

8.3 ANALYTICAL PROGRAMME

8.3.1 Field Screening

Field screening was carried out on all soil samples using a PID to indicate samples potentially impacted by volatile compounds and to assist in the selection of samples for laboratory analysis. Given the limits of PID screening (as discussed in Section 8.2.4), site conditions such as odour and discolouration were also factors considered in determining what samples were selected for analysis of volatile compounds. Observations of odour and discolouration were

noted in the field and are described on Table 2. The PID calibration record is included on the PID Field Data Sheet, a copy of which is provided in Appendix H.

A calibration check was conducted at the end of field screening and recorded on the PID field data sheet with the results of PID screening (Appendix H). The calibration checks were within 10% of the concentration of the span gas and the results are considered to be representative.

8.3.2 Laboratory Analysis

The samples were selected for analysis based on visual observations and odour and to provide lateral and vertical coverage of the site.

The samples were analysed for a broad suite of commonly encountered contaminants including metals, TPH, BTEX, PAHs, OCPs, PCBs and asbestos.

8.3.3 Analytical Parameters and Methods

CES commissioned Australian Laboratory Services (ALS) as the primary laboratory for the analytical work. ALS is National Association of Testing Authorities (NATA) registered for the testing undertaken.

Soil samples were analysed in accordance with NEPC (1999) using accredited methods based on US EPA and APHA approved analytical methods as described in Table 4. The corresponding laboratory Limits of Reporting (LOR) are also summarised in Table 4.

9 QA/QC 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 sample), while the laboratory completed its own QC. A description of the types of QC samples and their purpose, and tabulated QC data is provided in Appendix I. 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) (Table 5).

Additionally, in accordance with the DEC (2006) *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd Edition)*, Data Quality Indicators (Completeness, Comparability, Representativeness, Precision and Accuracy) have also been considered, where appropriate.

9.1 FIELD QA

All soil samples were collected by Mr Stephen McCormack of CES, an experienced environmental Engineer, under established CES protocols. CES personnel have been trained in sample collection and handling techniques (Section 8.2.3).

9.2 FIELD QC

Field QC data is presented in Appendix I.

9.2.1 Blind Replicates

One blind replicate sample 140208-02-SM (blind replicate of environmental sample 140208-01-SM) was analysed to assess the quality control during the field sampling program. This equates to a blind replicate to environmental sample frequency of between 8.3 % and 33 % depending on the analyte. With the exception of metals analyses, this blind replicate analysis is commensurate to the NSW EPA (1994) and the DAC requirement of 10%.

The rate of analysis of blind replicates for metals was lower than the DAC requirement. All other QC procedures undertaken by CES and the laboratories generally met the requirements of the DAC. In consideration of the results of the laboratory analysis and the QC procedures undertaken, it is considered that the marginally reduced blind replicate sampling rate would not affect the usability of the data.

The RPDs for all analytes for the blind replicate conformed to the DAC.

9.2.2 Trip Blanks

One laboratory prepared trip blank (Trip Blank) was submitted for BTEX and metal analysis with the single batch of samples collected during the investigation which conforms to the requirements of the DAC.

The concentrations of BTEX compounds and metals in the trip blank were below the respective laboratory LORs and therefore conformed to the DAC.

9.2.3 Rinsate Blank

One rinsate sample (140208-20-SM) was collected from the hand auger and submitted to the laboratory for metals, TPH and BTEX analysis. All compounds were not detected at concentrations exceeding the LORs and therefore conformed to the DAC.

9.3 LABORATORY QA

All analysis was undertaken in accordance by NATA accredited laboratories using NATA accredited analytical methods.

9.4 LABORATORY QA/QC

Laboratory QA/QC data is presented in full in the laboratory certificates in Appendix J.

9.4.1 Laboratory Duplicates

RPDs for laboratory duplicate samples conformed to the DAC.

9.4.2 Laboratory Control Samples

Recoveries for laboratory control samples conformed to the DAC with the exception of OCP compounds beta-BHC (59.6 %) and delta-BHC (57 %) which was marginally outside the DAC limit of 60 – 130 %. The marginal non-compliance and absence of this chemical within soil samples analysed from the site indicated that these exceptions did not compromise the integrity of the data

9.4.3 Surrogates

Recoveries for laboratory surrogate samples conformed to the DAC

9.4.4 Matrix Spikes

All matrix spike data conformed to DAC.

9.4.5 Method Blanks

All method blanks reported analyte concentration below the laboratory LOR and therefore conformed to the DAC.

9.4.6 Sample Holding Times

All samples were extracted and analysed within the specified holding times.

9.4.7 Sample Condition

All samples were received by the analytical laboratories in correctly preserved and chilled containers with no reported breakages. Sample receipt advice are presented with the laboratory reports in Appendix J.

9.5 DATA QUALITY INDICATORS (DQI)

9.5.1 Precision

The RPD's of the field and laboratory duplicates (intra and inter) conformed to the DAC, which indicated the sampling, laboratory and analytical precision was within acceptable limits and therefore provided confidence of limited variability and high reproducibility of the data set.

9.5.2 Accuracy

Laboratory accuracy was assessed by the analysis of laboratory control samples and method blanks and percent recoveries of matrix spikes and surrogates.

The assessment of the results of these laboratory control samples indicated the accuracy of the analytical results were acceptable and represent an accurate measure of the reported data.

9.5.3 Representativeness

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

9.5.4 Completeness

It has been assessed that 100 per cent of the analytical results are valid to be used in the assessment.

9.5.5 Comparability

Soil samples were collected by experienced CES environmental scientists using appropriate CES protocols and analysed in accordance with NATA accredited laboratory methods. The comparability of the data should be consistent as sampling protocols were employed throughout the duration of the fieldwork and analysis was undertaken by NATA registered laboratories using accredited analytical methods.

9.6 ASSESSMENT

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

10 SITE ASSESSMENT CRITERIA

To determine the significance of any contaminants detected in the soil, appropriate Site Assessment Criteria (SAC) were defined. In accordance with NSW EPA (1998), for commercial or industrial sites (ie. the proposed land-use), aesthetics (contaminant odours in particular) and potential human health issues, must be addressed by the SAC.

10.1 AESTHETICS

On an industrial/commercial site, aesthetics relate to the generation of odours from the soil as a result of contamination (DEC, 2006). Soil odour was continually assessed in the field while undertaking the investigations and no adverse odour was noted.

10.2 SOIL INVESTIGATION LEVELS

To address potential health impacts at the site, CES propose to compare the analytical results from validation testing against a set of Health Based Soil Investigation Levels (HILs) appropriate for the current and proposed land-use (ie. Commercial land-use) and the exposure scenario on which they are based. That is, the HIL are set at a level that provides confidence that contaminant concentrations below the HIL will not adversely affect human health.

The HILs adopted as the health based RAC, are derived from the DEC (2006) *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (second edition)* and National Environmental Protection Council (1999) *National Environmental Protection (Assessment of Site Contamination) Measure 1999* Soil Investigation Levels (SILs) developed for commercial and industrial land use (Column 4). Exposure scenarios and exposure settings relating to the SILs for 'Commercial and Industrial sites' as defined by Taylor & Langley (2001) are summarised as follows:

- (i) Default exposure ratio of 0.2 reflecting relatively low potential for contact with soils;
- (ii) Exposure period of 8 hours day⁻¹, 5 days week⁻¹, 48 weeks year⁻¹ for 30 years;
- (iii) Assumptions
 - Soil contact opportunities arise during course of site utilisation by public and workers.
 - Adults will usually be the key exposure concern allowing a lower default exposure ratio than for Parklands/Recreational Land Use.
 - No residential land use occurring.
- (iv) Exclusions
 - Home-grown fruit and vegetables;
 - Poultry
 - Groundwater consumption;
 - Volatile contaminants, unless already accounted for in setting HIL for that contaminant;

- (v) Direct soil exposure pathways
 - Direct soil ingestion;
 - Direct soil dermal contact;
 - Direct soil particulate inhalation;
- (vi) Indirect soil exposure pathways
 - Nil applicable.

It is noted that The National Environmental Protection (Assessment of Site Contamination) Measure 1999 (NEPC Guidelines), do not provide numeric guidelines for the assessment of asbestos or petroleum hydrocarbons in soil. NSW EPA advice has indicated that based on health concerns there should be no asbestos in soil at the surface, however the NSW EPA have not published numerical guidelines for the assessment of asbestos in subsurface soils. Consequently, the RAC for asbestos is that there must be no visible ACM and each soil sample collected for validation must not contain any respirable asbestos fibres above the lower detection limit of the analytical method used (*ie.* 0.1 grams per kilogram).

With respect to petroleum hydrocarbons, CES propose to adopt the threshold concentrations for sensitive land use as provided in EPA NSW (1994) *Guidelines for Assessing Service Station Sites*.

A summary of the SAC is provided in Table 6.

11 RESULTS

Results of the investigation are presented below.

11.1 SITE STRATIGRAPHY

The sub-surface material encountered in the boreholes generally consisted of clayey silt topsoil overlying natural silty clay throughout the depth of the investigation (*ie.* 0.5m). Detailed sample descriptions are provided in Table 2. Borehole Logs are provided in Appendix G.

11.2 AESTHETICS

No unusual odours that could be potentially associated with contamination were noted during the site inspection or soil sampling.

11.3 SOIL PID FIELD SCREENING RESULTS

All samples screened with the PID recorded low results (< 0.2 ppm). These results indicated that there was unlikely to be VOC impacted soil present in the locations sampled.

PID field data sheets are presented in Appendix H and the results also presented in Table 2.

11.4 SOIL ANALYTICAL RESULTS

Soil analytical results are presented below. Laboratory certificates of analysis are presented in Appendix J.

11.4.1 Metals

The concentrations of metals in soil samples are presented in Table 7. The concentrations of metals in all samples analysed were low or less than the LOR and were below the SAC

11.4.2 TPH and BTEX

The concentrations of TPH in soil samples are presented in Table 8. The concentrations of TPH and BTEX were less than LOR and were below the SAC for all samples analysed.

11.4.3 PAHs

The concentrations of PAHs in soil samples are presented in Table 9. The concentrations of PAH were less than the LOR and were below the SAC for all samples analysed.

11.4.4 OCPs

The concentrations of OCPs in soil samples are presented in Table 10. OCP concentrations were less than the LOR and were below the SAC for all samples analysed.

11.4.5 PCBs

Concentrations of PCBs in soil samples are presented in Table 10. PCB concentrations were less than the LOR and were below the SAC for all samples analysed.

11.4.6 Asbestos

Results of asbestos analysis in soil samples are presented in Table 11. Asbestos was not detected in the two samples submitted for asbestos analysis.

12 DISCUSSION

On the basis of a review of historical information, the detailed site inspection and the results of the soil sampling and analysis programme, the findings of the assessment are presented below:

12.1 STAGE 1 ESA FINDINGS

Historical information indicates that the site has remained relatively unchanged from its current state and used for agricultural purposes, specifically, grazing (cattle) and agistment (horses).

From the review of historical documents it appeared that there have been no significant potentially contaminating activities at the site.

12.2 LIMITED STAGE 2 ESA FINDINGS

A review of the results of the limited programme of sampling and analysis completed on the site indicated that gross contamination was not present on the site and no unusual odours that could be potentially associated with contamination were noted during the site inspection or soil sampling.

With respect to the analytical data, the concentrations of metals, TPH, BTEX, PAHs, OCPs and PCBs in the samples submitted for analysis, all conformed to the SAC detailed in Section 10. Additionally the QA/QC undertaken as part of this investigation concludes that laboratory data are of acceptable quality and are considered useable in making conclusions and recommendations regarding the site.

13 CONCLUSIONS

Based on the findings of the Stage 1 ESA and limited Stage 2 ESA, CES conclude that the site in its present condition is considered suitable for commercial and/or industrial land-use.

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. Consulting Earth Scientists Pty Ltd (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.

The extent of sampling and analysis of soils has been undertaken to target areas of potential environmental concern and to provide site coverage with sampling, where possible, targeting specific soil strata from where contamination is considered most likely to occur based on knowledge of site history and visual inspection. This approach has been adopted in order to maximise the probability of identifying contaminants, however the approach may not identify contamination that occurs in unexpected locations or from unexpected sources.

Furthermore, soil, rock and aquifer conditions are variable, resulting in potential for the heterogeneous distribution of contaminants across the site. Contaminants have been identified at discrete locations, however conditions between sample locations have been inferred based on estimated geological and hydrogeological conditions and the nature and extent of identified contamination. Boundaries between zones of variable contamination are generally unclear and have been interpreted based on available data and professional judgement. The accuracy with which subsurface conditions have been characterised depends on the frequency of sampling, field and laboratory methods, the uniformity of the substrate and is therefore limited by the scope of works undertaken.

This report is based on sampling from borehole locations placed to target potential areas of environmental concern and to provide site coverage. 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

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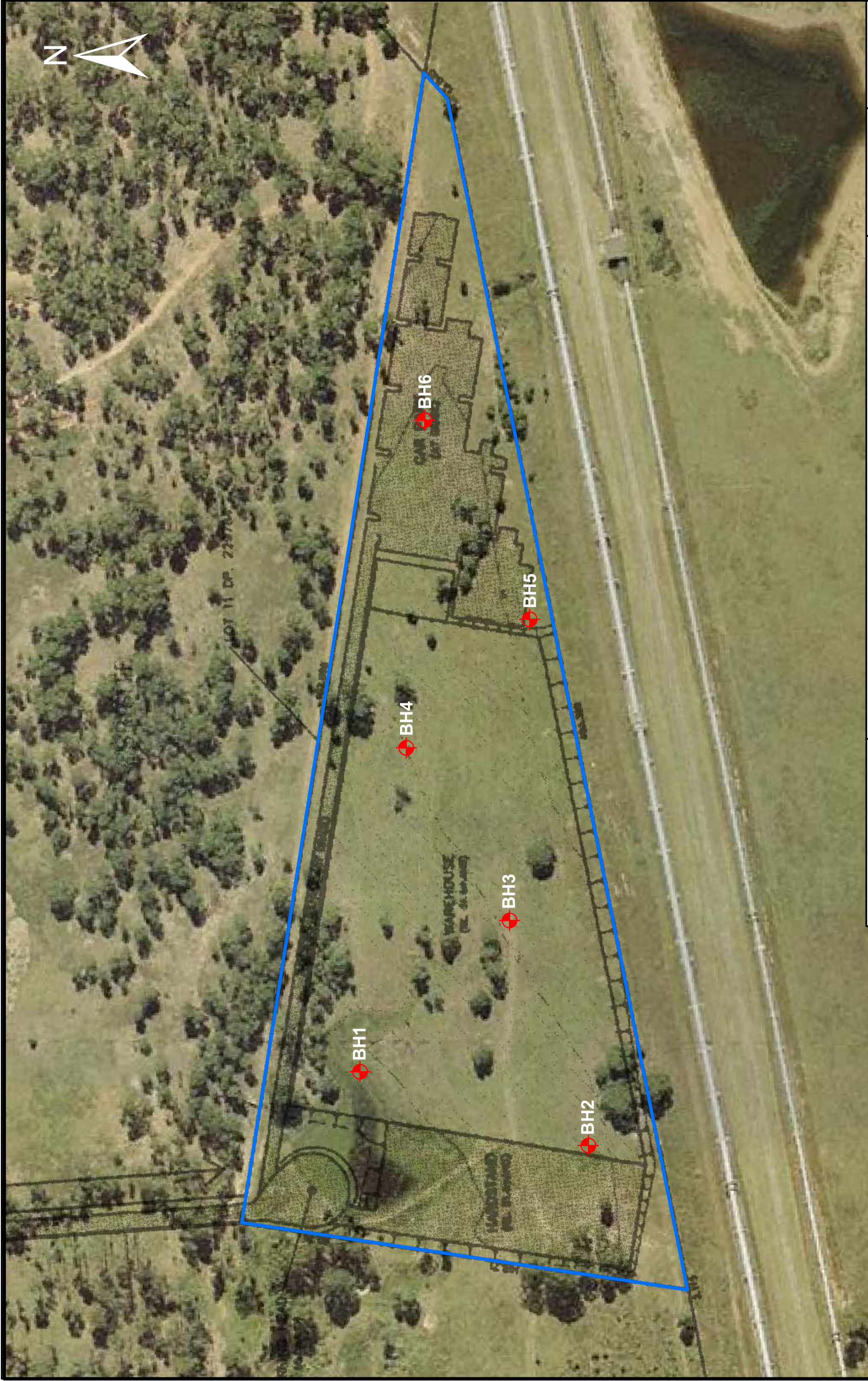
Figures



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<p>TITLE Figure 1: Site Location Map 155 – 157 Arden Street, Coogee, NSW</p>	<p>CES PROJECT ID CES080117-FD</p>	<p>SCALE Not to scale</p>	<p>SIZE A4</p>
<p>PREPARED BY SM</p>	<p>DATE 30/01/2008</p>	<p>CHECKED BY MP</p>	<p>CONSULTING EARTH SCIENTISTS</p>

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CES Project ID:	CES080106-WPG	Date:	25/02/2008
Prepared By:	M. Howden	Checked By:	S. McCormack

Title
Figure 2: Site plan showing borehole locations and proposed development

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Source: Department of Lands

Tables

Table 1: Summary of Borehole Information

Sample Point	Depth (m)	Date Drilled/ Sampled	Location		Method of Sample Collection
			Eastings (mE)	Northing (mN)	
BH1	0.5	14-Feb-08	295989	6255244	Hand Auger
BH2	0.5	14-Feb-08	295960	6255153	Hand Auger
BH3	0.5	14-Feb-08	296050	6255184	Hand Auger
BH4	0.5	14-Feb-08	296119	6255225	Hand Auger
BH5	0.5	14-Feb-08	296170	6255176	Hand Auger
BH6	0.5	14-Feb-08	296249	6255218	Hand Auger

Table 2: Summary of the Sampling and Analytical Program

Location	Sample Depth	Sample Id	Date Sampled	Material Type	Aesthetics	PID (ppm)	Analytical Suite									
							Metals (As, Cd, Cr, Cu, Ni, Zn, Hg, Pb)	PAHs	TPH and BTEX	OCP / Total PCBs	Asbestos Fibre Identification	BTEX Only				
BH1	0-0.15	140208-01-SM	14 Feb 2008	TOPSOIL	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH1	0-0.15	140208-02-SM Field Blind Replicate	Sample of 140208-01-SM		No discolouration. No visible ACM. No unusual odour. No deleterious matter	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH1	0.25-0.5	140208-03-SM	14 Feb 2008	SILTY CLAY	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH2	0-0.15	140208-04-SM	14 Feb 2008	TOPSOIL	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH2	0.25-0.5	140208-05-SM	14 Feb 2008	SILTY CLAY	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH3	0-0.15	140208-06-SM	14 Feb 2008	TOPSOIL	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH3	0.25-0.5	140208-07-SM	14 Feb 2008	SILTY CLAY	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH4	0-0.15	140208-08-SM	14 Feb 2008	TOPSOIL	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH4	0.2-0.5	140208-09-SM	14 Feb 2008	SILTY CLAY	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH5	0-0.15	140208-10-SM	14 Feb 2008	TOPSOIL	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH5	0.2-0.5	140208-11-SM	14 Feb 2008	SILTY CLAY	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH6	0-0.15	140208-12-SM	14 Feb 2008	TOPSOIL	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH6	0.15-0.4	140208-13-SM	14 Feb 2008	SILTY CLAY	No discolouration. No visible ACM. No unusual odour. No deleterious matter	0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Quality Control Spikes, Blanks and Rinsate Samples																
N/A	N/A	Trip Spike	14 Feb 2008	Sand	N/A	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
N/A	N/A	140208-20-SM (Rinsate)	14 Feb 2008	Water	N/A	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Notes:																
Note 1: 'L' not collected																

Table 3: Containers, preservation requirements and holding times - soil

Parameter	Container	Preservation	Maximum holding time	Colour code
Acid digestible metals and metalloids - Total and TCLP (As,Cd,Cu,Cr,Ni,Pb,Zn)	Glass with Teflon lid	Nil	6 months	Orange
Mercury	Glass with Teflon lid	Nil	28 days	Orange
TPH/BTEX	Glass with Teflon lid	4oC, zero headspace	14 days	Orange
PAHs (total and TCLP)	Glass with Teflon lid	4oC	14 days ¹	Orange
OCPs, total PCBs	Glass with Teflon lid	4oC	14 days ¹	Orange

Note 1: Extraction within 14 days. Analysis within 40 days.

Table 4: Analytical parameters, PQLs and methods - Soil

Parameter	Unit	PQL	Method based on
Metals in Soil			
As ¹	mg kg ⁻¹	1	USEPA 200.7
Cd ¹	mg kg ⁻¹	1	USEPA 200.7
Cr ¹	mg kg ⁻¹	1	USEPA 200.7
Cu ¹	mg kg ⁻¹	1	USEPA 200.7
Hg ²	mg kg ⁻¹	0.1	USEPA 7471A
Ni ¹	mg kg ⁻¹	1	USEPA 200.7
Pb ¹	mg kg ⁻¹	1	USEPA 200.7
Zn ¹	mg kg ⁻¹	1	USEPA 200.7
Total Petroleum Hydrocarbons (TPH) in Soil			
C ₆ -C ₉ fraction	mg kg ⁻¹	2	USEPA 8015B
C ₁₀ -C ₁₄ fraction	mg kg ⁻¹	50	USEPA 8015B
C ₁₅ -C ₂₈ fraction	mg kg ⁻¹	100	USEPA 8015B
C ₂₉ -C ₃₆ fraction	mg kg ⁻¹	100	USEPA 8015B
BTEX in Soil			
Benzene	mg kg ⁻¹	0.2	USEPA 8021A
Toluene	mg kg ⁻¹	0.2	USEPA 8021A
Ethylbenzene	mg kg ⁻¹	0.2	USEPA 8021A
m&p-xylene	mg kg ⁻¹	0.2	USEPA 8021A
o-xylenes	mg kg ⁻¹	0.2	USEPA 8021A
Organic Contaminants in Soil			
PAHs	mg kg ⁻¹	0.5	USEPA 8270 SIM
OC Pesticides	mg kg ⁻¹	0.05/0.2	USEPA 8081A
Total PCBs	mg kg ⁻¹	0.1	USEPA 8081A
Note 1: Acid soluble metals by ICP-AES.			
Note 2: Total recoverable mercury.			

Table 5: QC Sample Data Acceptance Criteria

QC Sample Type	Method of Assessment	Acceptable Range
Field QC		
Blind Replicates and Split Samples	<p>The assessment of split replicate is undertaken by calculating the Relative Percent Difference (RPD) of the replicate concentration compared with the original sample concentration. The RPD is defined as:</p> $RPD = 100 \times \frac{ X_1 - X_2 }{\text{Average}}$ <p>Where: X₁ and X₂ are the concentration of the original and replicate samples.</p>	<p>The acceptable range depends upon the levels detected:</p> <ul style="list-style-type: none"> ▪ 0 – 100% RPD (When the average concentration is < 5 times the LOR/EQL) ▪ 0 – 75% RPD (When the average concentration is 5 to 10 times the LOR/EQL) ▪ 0 – 50% RPD (When the average concentration is > 10 times the LOR/EQL)
Blanks (Rinsate and Trip Blanks)	Each blank is analysed as per the original samples.	Analytical Result < LOR/EQL
Laboratory-prepared Trip Spike	The trip spike is analysed after returning from the field and the % recovery of the known spike is calculated.	70% - 130%
Laboratory QC		
Laboratory Duplicates	Assessment as per Blind Replicates and Split Samples.	<p>The acceptable range depends upon the levels detected:</p> <ul style="list-style-type: none"> ▪ 0 – 100% RPD (When the average concentration is < 4 times the LOR/EQL) ▪ 0 – 50% RPD (When the average concentration is 4 to 10 times the LOR/EQL) ▪ 0 – 30% RPD (When the average concentration is > 10 times the LOR/EQL)
Surrogates Matrix Spikes Laboratory Control Samples	<p>Assessment is undertaken by determining the percent recovery of the known spike or addition to the sample.</p> $\% \text{ Recovery} = 100 \times \frac{C - A}{B}$ <p>Where: A = Concentration of analyte determined in the original sample; B = Added Concentration; C = Calculated Concentration.</p>	<p>70% - 130% (General Analytes)</p> <p>50% - 130% (Phenols)</p> <p>60% - 130% (OP Pesticides)</p> <p>If the result is outside the above ranges, the result must be < 3x Standard Deviation of the Historical Mean (calculated over past 12 months)</p>
Method Blanks	Each blank is analysed as per the original samples.	Analytical Result < LOR/EQL

Note: EQL = Laboratory Estimated Quantitation Limit (EQL) or the minimum detection limit for a particular analyte. LOR = Limit of Reporting or the minimum

Table 6: Site Assessment Criteria - commercial and Industrial Land-use

Parameter	Commercial / Industrial Land-use mg kg⁻¹	Source and Comments
Aldrin + Dieldrin	50	DEC, 2006, NEHF (1998)
Arsenic (total)	500	DEC, 2006, NEHF (1998)
Benzene	1	EPA NSW (1994)
Benzo(a)pyrene	5	DEC, 2006, NEHF (1998)
Cadmium	100	DEC, 2006, NEHF (1998)
Chlordane	250	DEC, 2006, NEHF (1998)
Chromium III	60%	DEC, 2006, NEHF (1998)
Chromium VI	500	DEC, 2006, NEHF (1998)
Copper	5000	DEC, 2006, NEHF (1998)
Ethyl benzene	3.1	EPA NSW (1994)
Lead	1500	DEC, 2006, NEHF (1998)
Mercury (inorganic)	75	DEC, 2006, NEHF (1998)
Nickel	3000	DEC, 2006, NEHF (1998)
PAHs (total)	100	DEC, 2006, NEHF (1998)
PCBs (total)	50	DEC, 2006, NEHF (1998)
Toluene	1.4	EPA NSW (1994)
Total Petroleum Hydrocarbons (TPH)	C ₆ -C ₉ : 65;	EPA NSW (1994)
	C ₁₀ -C ₃₆ :1000	
Total xylenes	14	EPA NSW (1994)
Zinc	35,000	DEC, 2006, NEHF (1998)

Table 7: Soil Analytical Results – Metals

Location	Sample Depth (m)	Sample ID	Date Sampled		Arsenic	Cadmium	Chromium	Copper	Nickel	Lead	Zinc	Mercury
			Units	mg/kg								
BH1	0-0.15	140208-01-SM	14 Feb 2008	6	< 1	20	10	7	18	21	< 0.1	
BH1	0-0.15	140208-02-SM Field Blind Replicate Sample of 140208-01-SM	14 Feb 2008	7	< 1	22	10	6	18	18	< 0.1	
BH1	0.25-0.5	140208-03-SM	14 Feb 2008	7	< 1	19	17	8	14	24	< 0.1	
BH2	0-0.15	140208-04-SM	14 Feb 2008	10	< 1	24	23	11	28	40	< 0.1	
BH2	0.25-0.5	140208-05-SM	14 Feb 2008	5	< 1	18	26	5	14	30	< 0.1	
BH3	0-0.15	140208-06-SM	14 Feb 2008	7	< 1	21	18	11	23	35	< 0.1	
BH3	0.25-0.5	140208-07-SM	14 Feb 2008	6	< 1	20	19	7	16	28	< 0.1	
BH4	0-0.15	140208-08-SM	14 Feb 2008	< 5	< 1	16	22	14	21	74	< 0.1	
BH4	0.2-0.5	140208-09-SM	14 Feb 2008	5	< 1	13	20	10	18	26	< 0.1	
BH5	0-0.15	140208-10-SM	14 Feb 2008	8	< 1	24	22	15	24	40	< 0.1	
BH5	0.2-0.5	140208-11-SM	14 Feb 2008	7	< 1	23	20	20	18	38	< 0.1	
BH6	0-0.15	140208-12-SM	14 Feb 2008	6	< 1	16	26	14	24	53	< 0.1	
BH6	0.15-0.4	140208-13-SM	14 Feb 2008	7	< 1	18	29	15	24	54	< 0.1	
Health Based Site Assessment Criteria - Commercial and Industrial Sites³					500	100	600000	5000	3000	1500	35000	75

Note 1: A.L.S. - Sydney reports(s) 802051

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: Soil Analytical Results – TPH and 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									
BH1	0-0.15	140208-01-SM	14 Feb 2008	mg/kg	< 10	< 50	< 100	< 100	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5
BH1	0-0.15	140208-02-SM Field Blind Replicate Sample of 140208-01-SM	14 Feb 2008	mg/kg	< 10	< 50	< 100	< 100	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5
BH3	0-0.15	140208-06-SM	14 Feb 2008	mg/kg	< 10	< 50	< 100	< 100	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5
BH6	0-0.15	140208-12-SM	14 Feb 2008	mg/kg	< 10	< 50	< 100	< 100	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5
Site Assessment Criteria - Commercial and Industrial Land-use²					65	1000	1	130	50	25			

Note 1: ALS - Sydney reports(s) 802051

Note 2: EPA NSW (1994) - (Concentrations above this action level are shown in bold text.)

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

- = Not analysed

Table 9: Soil Analytical Results – PAHs

Location	Sample Depth (m)	Sample ID	Date Sampled	Health Based Site Assessment Criteria - Residential with Accessible Soils ²																	
				Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene	SUM of PAHs	
			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		
BH1	0-0.15	140208-01-SM	14 Feb 2008	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
BH1	0-0.15	140208-02-SM Field Replicate Sample of 140208-01-SM	14 Feb 2008	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH3	0-0.15	140208-06-SM	14 Feb 2008	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH6	0-0.15	140208-12-SM	14 Feb 2008	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Health Based Site Assessment Criteria - Residential with Accessible Soils²				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100

Note 1: ALS - Syntex reports(s) 802051

Note 2: EPA NSW (1998) - Health Based Investigation Levels (Concentrations above this action level are shown in underlined text.)

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

== Not analysed

== Action Level not established

Table 11: Analytical Results - Asbestos

Location	Depth	Sample ID	Date	Matrix	Asbestos Present (Yes / No)	Type
BH2	0-0.15	140208-04-SM	14 Feb 2008	TOPSOIL	No	--
BH3	0-0.15	140208-06-SM	14 Feb 2008	TOPSOIL	No	--
BH4	0-0.15	140208-08-SM	14 Feb 2008	TOPSOIL	No	--
BH5	0-0.15	140208-10-SM	14 Feb 2008	TOPSOIL	No	--
BH6	0-0.15	140208-12-SM	14 Feb 2008	TOPSOIL	No	--

Appendix A

Historical Title Documents



TEL: 03 - 9013 9357
 FAX: 03 - 9013 9358
 MOBILE: 0404 069 995
 EMAIL: search@elsearches.com.au
 WEB: www.elsearches.com.au
 ADDRESS: PO BOX 393 Kingsford NSW 2032

8 February 2008

Consulting Earth Scientists
 Jones Bay Wharf 19-21, Lower Deck, Suite 121
 26-32 Pirrama Road
 PYRMONT NSW 2009

Attention: Ms Sally Anderson

**RE: Lot 11 DP 229784, Erskine Park
 Your Ref. No: CES080106-WPG**

SUMMARY OF PROPRIETORS

Lot 11 DP 229784

Year	Proprietor	Source
1979 – To date	Jacfin Pty Ltd	Current Certificate of Title Vol. 11063 Fol. 182
1959 – 1979	Ray Fitzpatrick Pty Ltd	Vol. 11063 Fol. 182 Vol. 7955 Fol. 107 Vol. 6887 Fol. 107
1959	Arthur Stockman Pty Ltd	Vol. 6887 Fol. 107
1959	Colin Henry Stockman and Haddon Abbey Moase (Company Directors)	Vol. 6887 Fol. 107
1949 – 1959	Arthur Stockman (Merchant)	Vol. 6887 Fol. 107
1937 – 1949	Arthur Renwick Poolman (Farmer)	Vol. 6887 Fol. 107
Prior to 1937	Crown Land	Vol. 6887 Fol. 107

Title Tree

Lot 11 DP 229784

Lot 11 DP 229784 Vol. 11063 Fol. 182 Vol. 7955 Fol. 107 Vol. 6887 Fol. 107

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 11 and DP 229784 provided by Ms Sally Anderson of Consulting Earth Scientists Pty Ltd.

The attached cadastral plan and Deposited Plan (DP229784) 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.



Department of Lands

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 11/229784

SEARCH DATE	TIME	EDITION NO	DATE
4/2/2008	10:34 AM	-	-

VOL 11063 FOL 182 IS THE CURRENT CERTIFICATE OF TITLE

LAND

LOT 11 IN DEPOSITED PLAN 229784
 AT ERSKINE PARK
 LOCAL GOVERNMENT AREA PENRITH
 PARISH OF MELVILLE COUNTY OF CUMBERLAND
 TITLE DIAGRAM DP229784

FIRST SCHEDULE

JACFIN PTY. LIMITED

(T R432225)

SECOND SCHEDULE (1 NOTIFICATION)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND
 CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

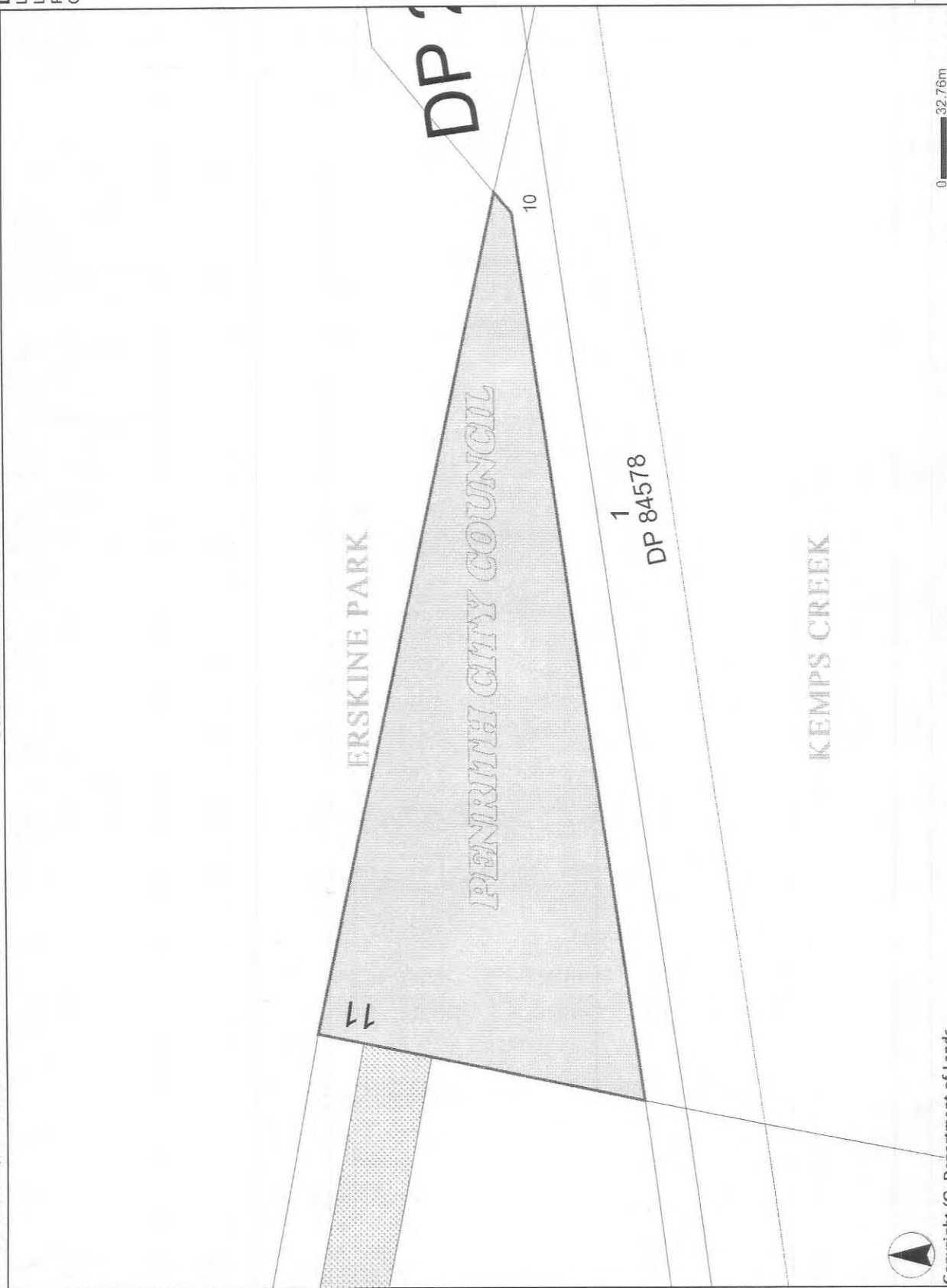
*** END OF SEARCH ***

Cadastral Records Viewer Print

Current Feature
Lot 11 DP229784
 Locality: ERSKINE PARK
 LGA: PENRITH
 Parish: MELVILLE
 County: CUMBERLAND

LEGEND
 [parcels] [selected
 Features]

- Current Feature
- Other Selected Features
- Localities
- LGAS
- Rail Corridor
- Waterway Corridor
- Waterways
- Unidentified Parcels
- Parcels
- Standard Lot
- Standard Part Lot
- Strata
- Stratum
- Road Corridor
- Roads



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 This information is provided as a searching aid only. While every endeavour is made to ensure the current cadastral pattern is accurately reflected, the Registrar General cannot guarantee the information provided.

0 32.76m

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT
DP 229784 SH 1/3

LINKS	METRES
1.3	0.262
2.27	0.457
2.46	0.475
2.5	0.503
6.73	1.354
3.333	0.645
17.45	4.91
5	1.006
4.023	1.022
24.3	4.888
32.94	6.655
42.8	8.610
42.84	8.618
100	15.621
109	20.117
139	21.927
158.84	25.816
164.6	37.062
184.7	37.126
152.67	38.126
51	42.234
200.67	46.234
266.04	53.260
285.5	57.559
290.42	58.500
73.2	58.500
321.79	64.734
477.23	95.023
500	100.584
576.12	115.897
609.7	122.652
834.98	167.971
999.36	201.039
1013.6	203.944
1129.32	213.162
1196.62	227.163
1523.2	306.419
1589.39	319.734
2220.93	446.780
2950	599.461
3063	616.178
3580.7	720.322
4224.9	849.195
4723.46	950.205
6227	1213.024
6726.03	1353.062
6726.4	1353.136
AC RD P	SQ M
1 35 3/4	1316
2 30 1/4	635
AC RD P	HA
5 2 31	2.3
29 2 30 1/4	12.01
799 1 25 3/4	323.5

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT
DP 229784 SH 2/3

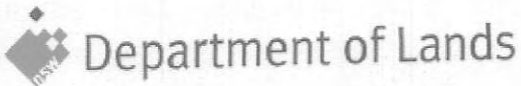
LINKS	METRES
2.27	0.457
2.36	0.475
2.5	0.503
2.51	0.505
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4.91	0.986
5	1.006
5.08	1.022
6.63	1.334
22.27	4.880
26	5.230
39.72	7.990
43.46	9.445
46.38	9.330
47.17	9.489
52.95	10.652
50.82	12.114
51	12.271
55.02	13.281
56.3	13.337
73.2	15.953
17.4	15.973
182.4	20.449
120.3	20.529
138.8	27.526
138.86	27.526
150.02	30.179
170.81	34.199
184.81	37.178
187.57	37.92
201.86	40.612
216	42.452
226.3	45.524
246.1	49.807
270.7	54.456
290.06	58.351
303.03	60.960
314.4	63.247
317.9	63.951
321.3	64.635
342.51	68.902
347.15	69.685
386.7	78.134
399.1	78.274
406.06	82.089
406.3	82.137
406.59	82.135
431.1	86.724
431.1	86.724
503.7	100.384
510.7	102.578
541.5	106.932
574.9	115.681
583.6	117.442
587.31	118.146
606.06	121.920
700	140.815
842.6	169.504
1000	201.166
1027.41	206.682
1023.26	207.859
1069.4	215.12
1106.4	222.572
1106.41	222.574
1401.7	281.977
1506.68	303.538
1664.05	334.754
1797.2	361.539
1860.3	374.283
2083.4	429.113
2126	427.682
2295.7	480.356
2301.54	482.936
2583.8	1123.262

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT
DP 229784 SH 2/3 CONTO

LINKS	METRES
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AC RD P	HA
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12 2 4 1/2	5.07
74 1 35 1/2	30.14
206 + 11 1/2	83.39

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT
DP 229784 SH 3/3

LINKS	METRES
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2.5	0.503
3.332	0.668
5	1.006
5.08	1.022
10.52	2.116
10.99	2.211
17.13	3.446
33.32	6.703
44.21	8.894
49.5	9.958
56.71	11.408
58.92	11.853
67.34	13.547
99.59	20.034
100	20.117
109.71	22.070
109.79	22.086
109.99	22.125
151.68	30.313
200	40.234
300	60.353
486.06	95.069
486.13	95.069
700	140.815
828.7	166.708
859.66	181.023
1000	201.166
1073.88	216.030
1420.97	285.634
1452.33	292.283
1476.34	296.982
1524.45	306.671
1539.14	309.625
1726.76	347.369
1797.2	361.539
1683.6	378.920
2204.31	443.437
2236.44	449.900
2301.54	462.996
2388.04	480.397
3055.51	616.666
7474.91	1503.713
7475.16	1503.763
AC RD P	SQ M
1 3.38 1/2	8056
AC RD P	HA
2 3 10 1/2	1.16
3 2 26 1/2	1.584
10 2 23 1/2	4.296
157 - 23 1/4	63.69



LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

4/2/2008 10:36AM

FOLIO: 11/229784

First Title(s): SEE PRIOR TITLE(S)
 Prior Title(s): VOL 11063 FOL 182

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
17/3/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
13/4/1994		AMENDMENT: LOCAL GOVT AREA	
11/8/1999	6083205	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

3038515 CES

PRINTED ON 4/2/2008



11063

NEW SOUTH WALES

Crown Grant Volume 6887 Folio 107 107
Prior Title Volume 7955 Folio 107

Vol. 11063 Fol. 182



Edition issued 4-6-1969

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

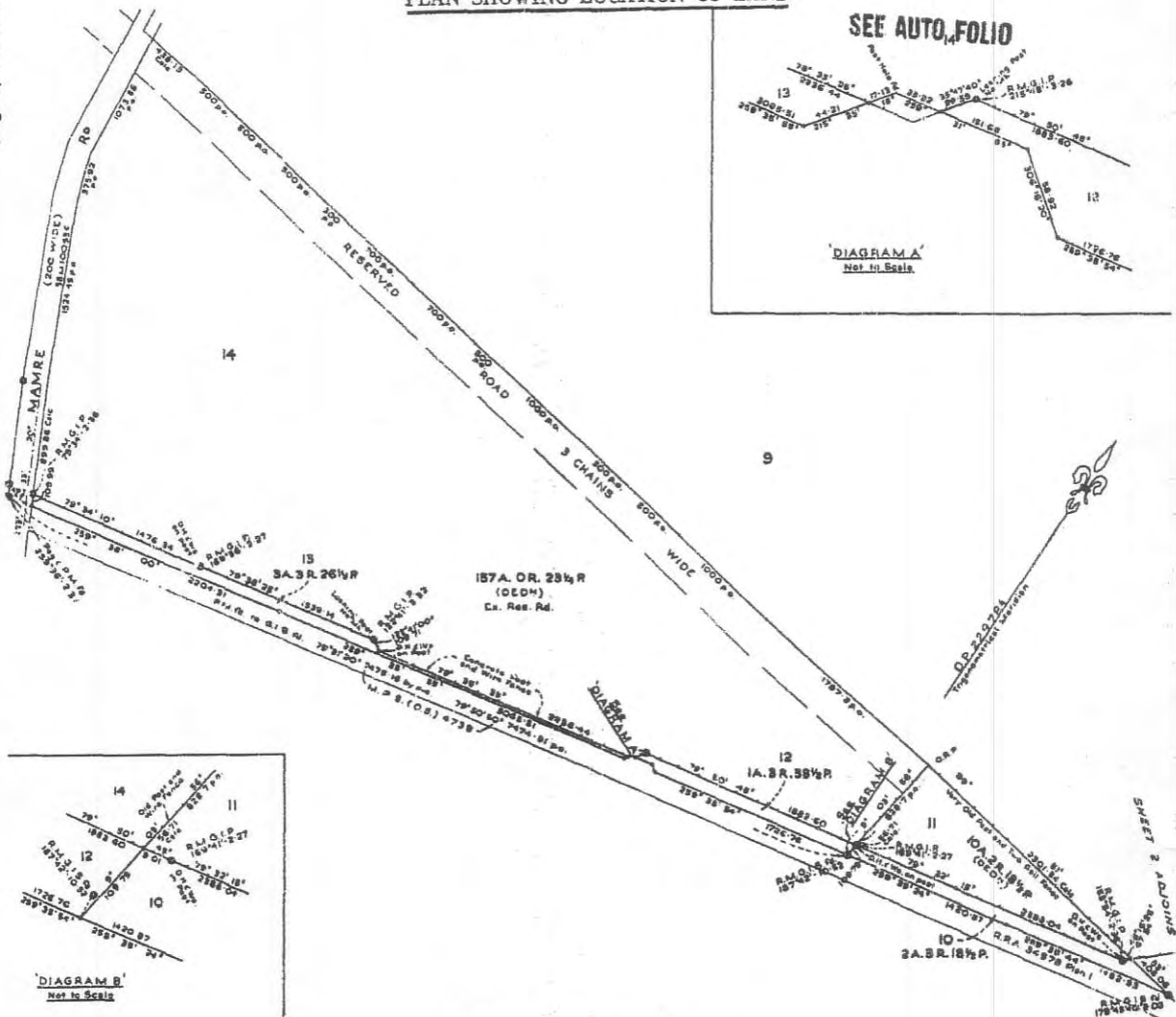
Witness

L. Ballier

CANCELLED
Registrar General.



PLAN SHOWING LOCATION OF LAND



WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 11 in Deposited Plan 229784 at Erskine Park in the City of Penrith Parish of Melville and County of Cumberland EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

* **RAY FITZPATRICK LIMITED.**

FIRST SCHEDULE

* The address of the registered proprietor is now *Er. Messrs*
Storage Buildings & Co. 171-175 Clarence Street, Sydney

REG. GEN.
18-7-1971
1377.M.311

SECOND SCHEDULE

GRM 1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Jawston
Registrar General

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

Fol. 182

11063

(Page 1) Vol.

New South Wales B

[CER



07955107

Reference to Last Title
Vol. 6887 Fol. 107



CANCELLED
REGISTER BOOK

VOL. **7955** FOL. **107**

Issued on Transfer No. H392483

RAY FITZPATRICK PTY. LIMITED, is now the proprietor of an Estate in Fee Simple, subject nevertheless to the reservations and conditions if any contained in the Grant hereinafter referred to and also subject to such encumbrances liens and interests as are notified hereon in Those pieces of land partly in the City of Penrith and partly in the Shire of Blacktown Parish of Melville and County of Cumberland shown in the plan hereon and therein edged red and also shown in plan lodged with Transfer No. H392483 and being parts of Portion 79 and part of Portion 80 granted on 2nd December 1954 by Crown Grant Volume 6887 Folio 107.

EXCEPTING THEREOUT the minerals excepted and reserved by the Crown Grant.

In witness whereof I have hereunto signed my name and affixed my Seal, this Twenty-ninth day of July 1960.

Signed in the presence of

Malmed

Jarvis



Registrar General.

NOTIFICATION REFERRED TO

No. J924492 NOTICE OF RESUMPTION
ELECTRICITY COMMISSION OF NEW SOUTH WALES is the proprietor of an easement for Transmission Line, affecting that part of the land within described, shown by black lines and notation 200 feet wide on the plan hereon, freed from all other interests.
Entered 9th August 1965

Jarvis



REGISTRAR GENERAL.

This deed is cancelled as to Whole
New Certificates of Title have issued on 2-6-1969
for lots in Deposited Plan No. 229784 as follows:-
Lots 3 to 7 and 10 to 11 and Vol. 11063 Fol. 170 to 180 respectively.
11063 181 to 182

Jarvis



REGISTRAR GENERAL

No. J946972 NOTICE OF RESUMPTION
ELECTRICITY COMMISSION OF NEW SOUTH WALES is the proprietor of an easement for Transmission Line affecting that part of the land within described shown as 200ft wide on the plan hereon freed from all other interests
Entered 9th December 1965

Jarvis



REGISTRAR GENERAL

No. L318651 TRANSFER dated 23rd October 1967
to The Metropolitan Water Sewerage and Drainage Board of lots 6 and 10 in Deposited Plan 229784
of the land within described.
Entered 6th March 1969
As to land in this transfer the deed is cancelled and new certificates issued
Jarvis
REGISTRAR GENERAL

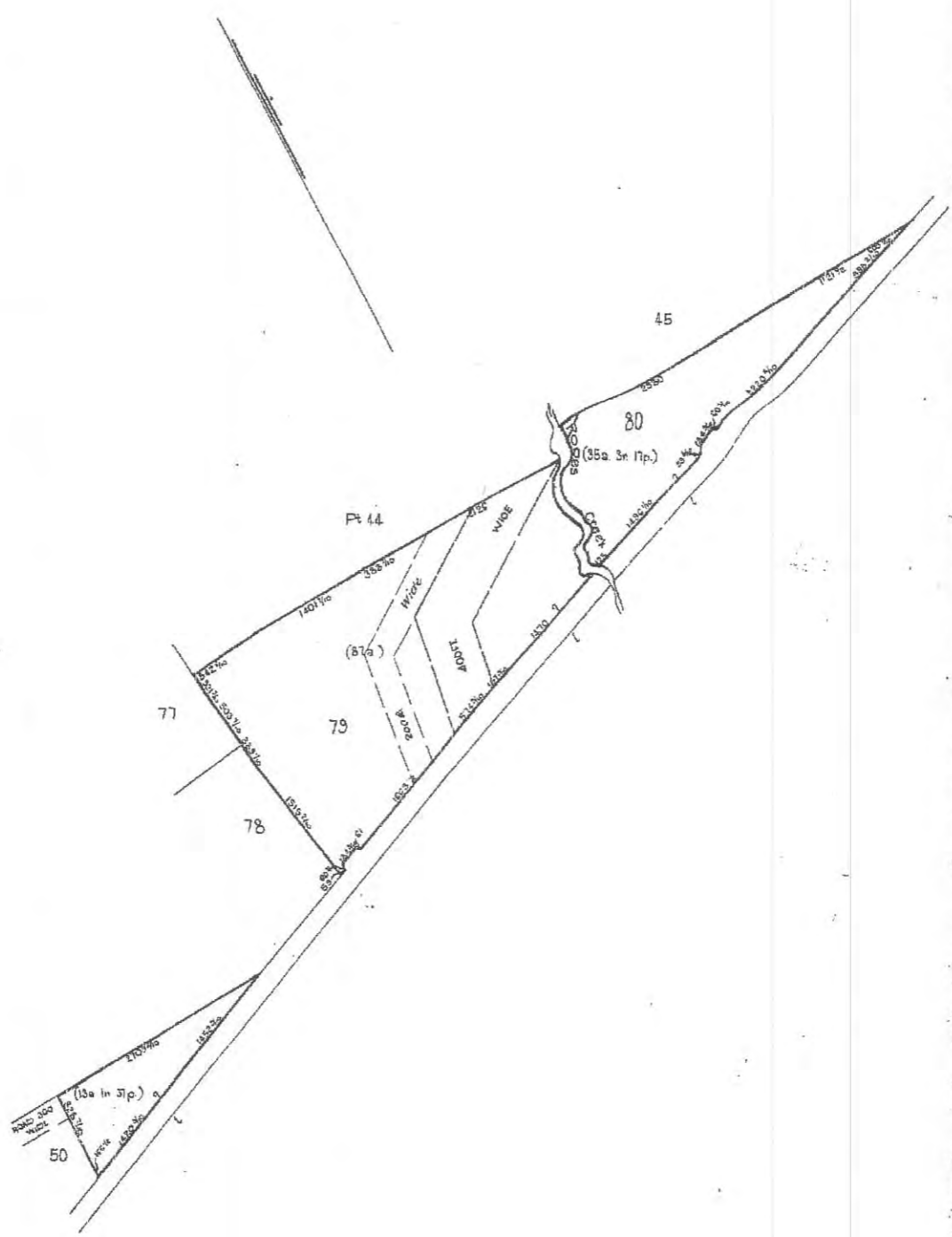


Persons are cautioned against altering or adding to this Certificate or any notification thereon.

L318651
23/10/67
6/3/69

J924492
O.P. 23/10/67
23/10/67
L318651
23/10/67
6/3/69
23/10/67
6/3/69

B



H392483

[Handwritten signature]
 1/16/08

Total Area included in Certificate.
 136 ac. 1 rd. 14 per.

All lengths shown hereon are in 1/4's.

Appendix B

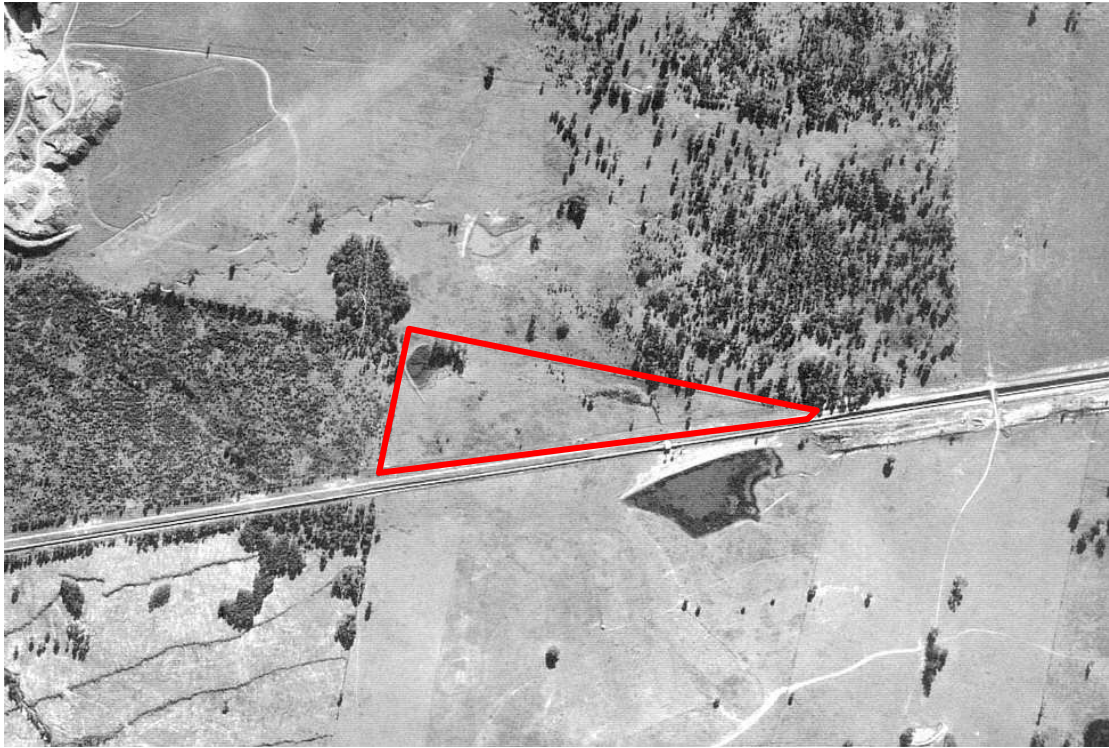
Historical Aerial Photographs



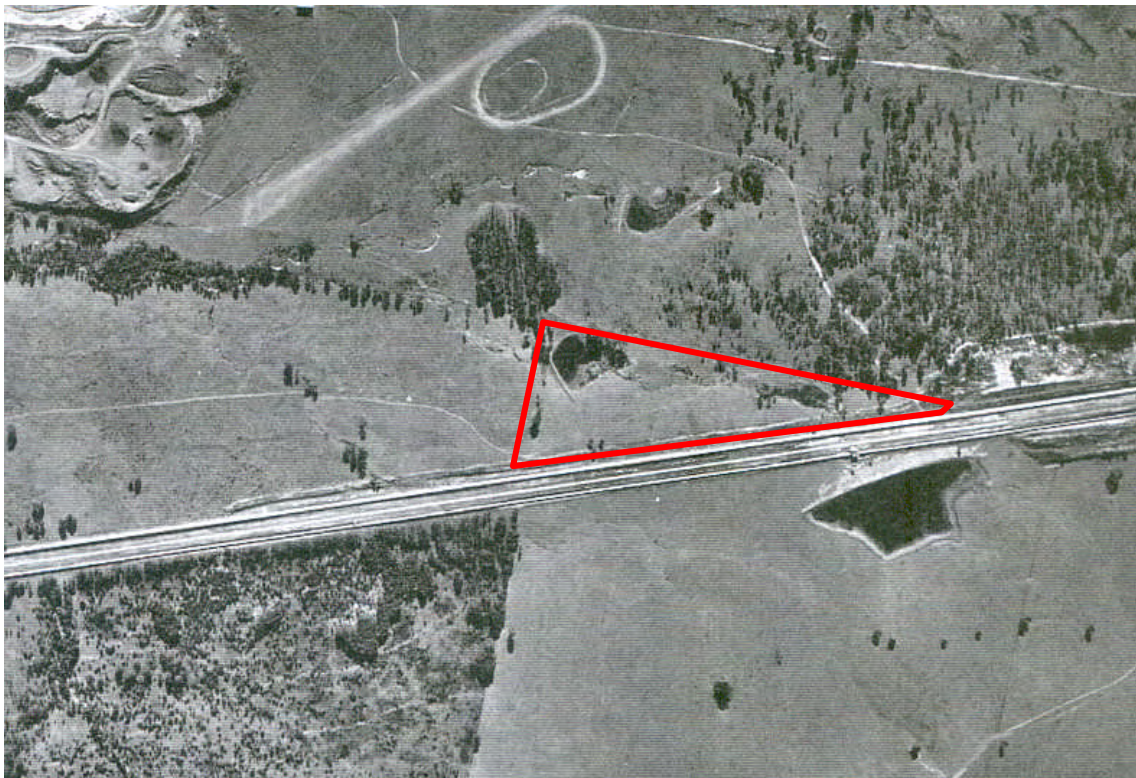
Photograph 1: 1947 aerial photograph of the site



Photograph 2: 1956 aerial photograph of the site



Photograph 3: 1961 aerial photograph of the site



Photograph 4: 1970 aerial photograph of the site



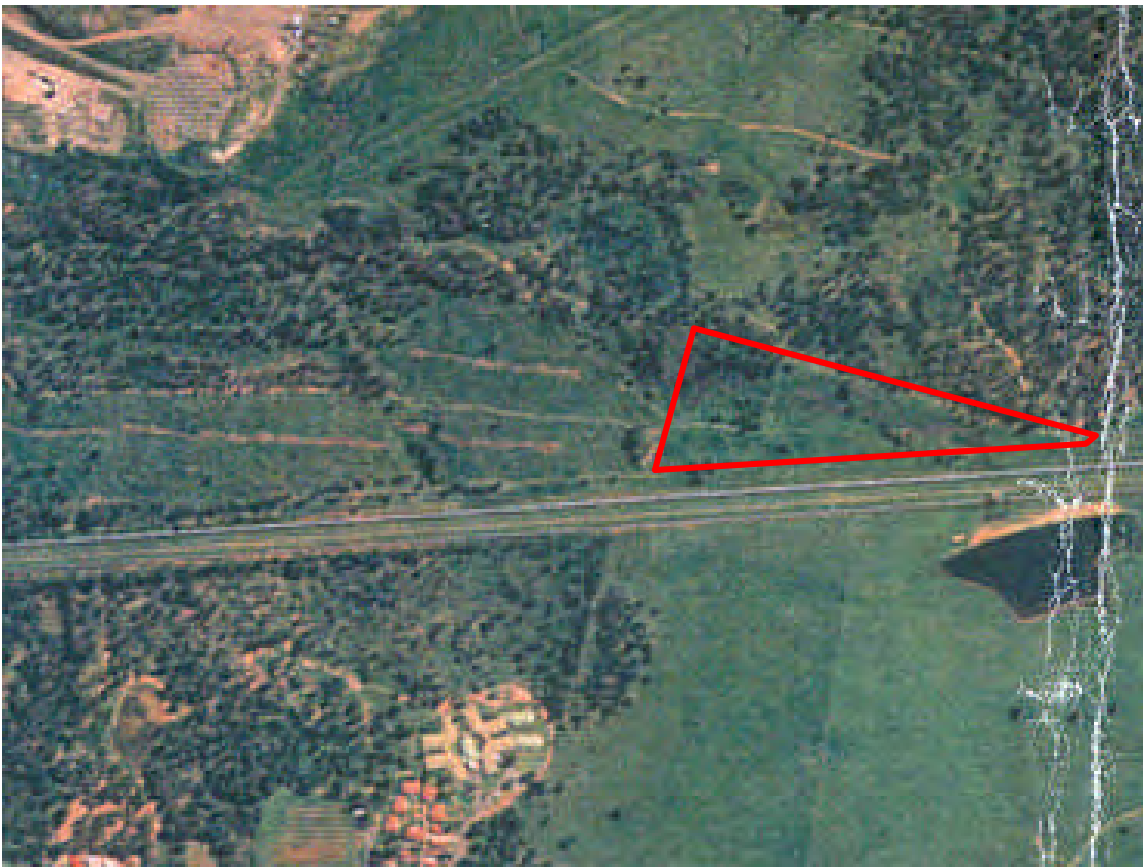
Photograph 5: 1978 aerial photograph of the site



Photograph 6: 1986 aerial photograph of the site



Photograph 7: 1994 aerial photograph of the site



Photograph 8: 2002 aerial photograph of the site



Photograph 9: 2005 aerial photograph of the site