ENVIRONMENTAL INVESTIGATION SERVICES

REPORT

TO

EG FUNDS MANAGEMENT

ON

PHASE 1 PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT

FOR

PROPOSED MEDIUM DENSITY RESIDENTIAL DEVELOPMENT

AT

166A EPPING ROAD
14 AND 16 DAVID AVENUE, NORTH RYDE

APRIL 2008 REF: E21873FJ-RPT

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1 INTRODUCTION

EGC Custodian Services Pty Ltd commissioned Environmental Investigation Services (EIS), a division of Jeffery & Katauskas Pty Ltd (J&K), to undertake a Phase 1 environmental site screening to assess the likelihood of contamination of the subsurface soils for a proposed residential development at North Ryde. At the time of the field investigation the site included three distinct properties at North Ryde; 166a Epping Road (Lot 6/DP 260000), 14 David Avenue (Lot 3/DP 25688) and 16 David Avenue (Lot 4/DP 25688). At the time of this investigation 166A Epping Road was occupied by residential / commercial building structures and grassed areas/paddock, 14 and 16 David Avenue was occupied by residential buildings. The site location is shown on Figure 1 and the investigation was confined to the site boundaries as shown on Figure 2.

The screening was undertaken generally in accordance with an EIS proposal of 8 January 2008 and EGC Custodian Services Pty Ltd written acceptance of 16 January 2008 via email correspondence.

The proposed development includes demolition of the existing buildings at the site, a construction of a multi-storey residential complex.

This report describes the investigation procedures and presents the results of the environmental site assessment, together with comments, discussion and recommendations.

A geotechnical investigation was performed concurrently with the environmental site screening by J&K and the results are presented in a separate report (Ref. 21873Z.rpt, dated 28 March, 2008).

2 ASSESSMENT OBJECTIVES

2.1 Investigation Objectives

The primary objective of the investigation was to assess the soil conditions at the site in relation to the suitability of the site for the proposed land use generally in accordance with the *Guidelines for Consultants Reporting on Contaminated Sites NSW DECC (formerly the EPA) 1997* and the *State Environmental Planning Policy No.55 – Remediation of Land* (SEPP55).

2.2 Scope of Work

The scope of work undertaken to achieve the objective included:

1. Assessment of historical site use, including review of historical aerial photographs, land title records search, review of the deposited plan and development applications/building approvals held by Council.

2. Review of regional geology and groundwater conditions, including the location of registered groundwater bores and major underground services in the vicinity of the site.
3. Search of WorkCover Dangerous Goods Licenses for underground fuel storage tanks (USTs), and investigation/remediation orders issued by the NSW DECC (EPA).
4. Design and implementation of a field sampling program.
5. Preparation of a report presenting the results of the assessment of potential soil contamination.

Field work for this investigation was undertaken on the 14 February 2008.

2.3 Data Quality Objectives

The purpose of Data Quality Objectives is to develop criteria to assess the reliability of the laboratory data. The Data Quality Objectives established for this project are summarised below:

- Collection and analysis of 10% of the field samples as intra-laboratory duplicates.
- Relative percentage differences (RPDs) were calculated for inter-laboratory and intra-laboratory duplicates. The RPD was calculated as the absolute value of the difference between the initial and repeat result divided by the average value, expressed as a percentage. The following acceptance criteria were used to assess the RPD results:
    - For results that were greater than 10 times the Practical Quantitation Limit (PQL) RPDs less than 50% were considered acceptable.
    - For results that were between 5 and 10 times PQL RPDs less than 75% were considered acceptable.
    - For results that were less than 5 times the PQL RPDs less than 100% were considered acceptable.
- Review of laboratory QA/QC data (including surrogate recovery, repeat analysis, duplicates, matrix spikes and method blanks).

The success of the Data Quality Objectives is based on assessment of the data set as a whole and not on individual acceptance or exceedance within the data set.

3 SITE INFORMATION

3.1 Site Description

At the time of the field investigation the site included three distinct properties as shown on Figure 2. Identification details are summarised in the following table:

Site Owner:	EGC Custodian Services P/L
Site Address:	166A Epping Road, North Ryde, NSW 2113
Lot & Deposited Plan:	Lot 6, Deposited Plan 260000
Site Address:	16 David Avenue, North Ryde, NSW 2113
Lot & Deposited Plan:	Lot 4, Deposited Plan 25688
Site Address:	14 David Avenue, North Ryde, NSW 2113
Lot & Deposited Plan:	Lot 3, Deposited Plan 25688
Local Government Authority:	Ryde City Council
Current Zoning:	Residential 2A
Site Area:	Approximately 15,000 m^2
AHD:	Approximately 64m
Geographical Location (MGA):	N: 6259772 E:325678
Site Locality Plan:	Refer to Figure 1
Site Layout Plan	Refer to Figure 2

The site is broadly bound by Whiteside Street to the west, Parklands Avenue to the south, David Avenue to the east and Epping Road to the north. At the time of inspection the site was occupied by two residential properties on David Avenue and a larger sized, semi-rural property on Epping Road with several buildings and grassed areas/paddock. The area south of Epping Road is mainly residential. The area north of Epping Road is mainly commercial / light industrial properties. The regional topography is undulating and the site is located on a moderately inclined west facing mid-slope of approximately 10^0. Surface water flow across the site would be to the west and be intercepted by the municipal storm water system. Drawings provided by the NSW Department of Lands indicate sewage & other services run along a north-south oriented easement through the western end of 166A Epping Road.

At the time of the inspection 14 David Avenue was situated at the east section of the site and bound by David Avenue to the east, residential properties to the north and south. The west property boundary was bound by the semi-rural property at 166A Epping Road. The site was occupied by a single level residential building constructed around the 1960's with tile gable roof, weatherboard wall cladding and fibre cement sheet (possibly asbestos containing) eaves and gable end infill panels. This property was also occupied by a concrete driveway, carport and garden shed at the rear. The perimeter of the property was

garden bedding and lawn areas at the front and rear, the front lawn was patchy from regular vehicle parking. A small raised herb/vegetable garden bed was situated along the south fence of the back yard. No phytotoxic stress was observed in vegetation on the property or nearby properties at the time of inspection.

Number 16 David Avenue was situated at the east section of the site and bound by David Avenue to the east and residential properties to the north and south. The west property boundary is bound by the semi-rural property at 166A Epping Road. The site was occupied by a single level residential building constructed around the 1960's with tile gable roof, sheet metal wall cladding and fibre cement sheet (possibly asbestos containing) eave lining. This property was also occupied by a concrete driveway, two-car garage with the roof and walls clad in fibre cement sheet (possibly asbestos containing) and a rear garden shed clad in weatherboard and fibre cement sheet (possibly asbestos) walls/roof. The perimeter of the property had garden bedding and lawn areas at the front and rear. A concrete slab and raised herb/vegetable garden beds were situated in the back yard, along the south and west perimeter fence. Fibre cement sheets (possibly asbestos containing) had been used for the walls of the garden bed along the west perimeter fence. An incinerator was found in the south west section of the backyard. Partially buried building rubble was identified under the fig tree in the north-west corner of the property. No phytotoxic stress was observed in vegetation on the property or nearby properties. Penetration points were observed on the exterior footpath around the perimeter of the building. These penetrations were presumed to be chemical injection points for termite treatment.

Number 166A Epping Road was situated at the central and west section of the site and bound on the north by a vacant strip of land running parallel to Epping Road, on the east by residential properties along David Avenue and on the south by residential properties along Parklands Road. Whiteside Street and residential properties were located along the west boundary. The site was occupied by paddock, grassed area, an overgrown orchard and the following single level residential and commercial building structures;

- Main residential building: constructed around the 1960's with tile gable roof, brick walls and fibre cement sheet (possibly asbestos containing) eave lining. The rear extension to the building is clad in fibre cement sheet (possibly asbestos containing). Stored bags containing fibre cement sheet (possibly asbestos containing) was found within the sub-floor of the building.
- Garage and adjacent animal enclosures (north-east of the main residential building); the garage was a brick building with tin gable roof and fibre cement sheet gable infill panels (possibly asbestos containing). The garage was used to store small volumes of fuel and paints. An attached animal enclosure to the west side of the garage was clad fibre cement sheet (possibly asbestos containing). The animal enclosure to the east side of the garage was clad in timber boards with sheet metal roof.
- Main shed: a timber framed structure with raised flooring, gable tin roof, fibre cement sheet (possibly asbestos containing) walls, eaves, gable infill panels and ceiling. The external fibre cement sheeting was damaged and in poor condition. The main shed

was used to store small volumes of fuel, paint, pesticides, herbicides and chemicals such as formaldehyde. Treated timber products were stored under the building.

- Common Room building: constructed around the 1960's with timber frame, tile gable roof, brick walls and fibre cement sheet (possibly asbestos containing) eave lining and gable infill panels. The animal enclosure at the rear of the building had a fibre cement sheet roof (possibly asbestos containing).
- Horse enclosure garden sheds: Two small sheds constructed from sheet metal and timber boards.

The level of the ground surface of the enclosed horse training pen situated at the north section of the site (adjacent to the common room building) had been raised and levelled approximately 1.5 m above the surrounding down-slope ground level. Fill and building rubble was identified along the north edge of the horse training pen. Building rubble was similarly identified along the south perimeters of the property. Fragments of flat fibre cement sheet (possibly asbestos containing) were identified near the eastern property boundary to 14 and 16 David Avenue. No phytotoxic stress was observed in vegetation on the property or nearby properties at the time of inspection.

Ms. Megan Macmillan, tenant at the time of the field investigation, commented on prior land use by the previous property owner Mr. William Briton (approximately 5 years ago);

- the main shed and adjacent enclosure near the centre of the property was utilised as a chicken hatchery;
- the eastern section of the site was open paddock; and
- the south west section of the site was an orchard;

The above comments by Ms. Megan Macmillan correspond to land title records and site observations.

3.2 Regional Geology and Hydrogeology

The 1:100,000 geological map of Sydney (Map 9130, 1:100,000 Department of Mineral Resources [now the Department of Primary Industries] – 1983) indicates the site to be in the vicinity of areas underlain by Ashfield Shale.

The Soil Landscapes of Sydney 1:100,000 Sheet (Chapman & Murphy, 1989) classifies the site area as Glenore soil landscape group, having shallow to moderately deep (<100cm) red Podzolic soils on crests; moderately deep (70-150cm) red and brown Podzolic soils on upper slopes; deep (>200cm) yellow Podzolic soils on lower slopes and humic gleys, yellow Podzolic soils and gleyed Podzolic soils along drainage lines. Limitations of the Glenore soil landscape group are the high erosion hazard, moderate reactivity and localised impermeable highly plastic subsoil.

Department of Water and Energy (DWE) records researched for the investigation indicated that one (1) registered groundwater bore lies within 1km of the site. The details are summarised below:

Ref No	Approx. distance from site(m)	Approx. direction from site	Depth(m)	Registered Purpose
GW011 296	900	North west	67	Private irrigation

4 SITE HISTORY ASSESSMENT

4.1 Aerial Photographs

Aerial photographs were reviewed as part of the assessment of the site history. The following information was obtained:

	166A Epping Road	14 & 16 David Avenue
Year	**1930**	
Site:	The photograph was of poor quality. The site area appeared identical to the current plan. Approximately three (3) building structures were visible on the site. The remaining area (approximately 90%) of the site was semi-rural paddock.	14 & 16 David Avenue was part of a larger semi-rural parcel of land. Two (2) building structures were visible on the site. The remaining area (approximately 90%) of the site was semi-rural with cultivated areas.
Surrounds:	Semi rural with cultivated areas, paddocks and roads.	
Year	**1951**	
Site and Surrounds	Similar to the 1930 aerial photograph except with increased density of building structures, cultivated areas and paddocks.	
Year	**1961**	
Site:	The site area was identical to current plan. Approximately four (4) building structures were visible on the site. The remaining area (approximately 85%) of the site is semi-rural paddock.	The site area is identical to current plan. Residential building structures occupy approximately 50% of site. Remaining site area occupied by grass/shrub cover.
Surrounds:	The area south of Epping Road was predominantly residential. The area north of Epping Road was a mix of semi-rural and commercial / light industrial properties.	
Year	**1970**	
Site:	As per 1961 aerial photograph.	
Surrounds:	Similar to the 1961 aerial photograph except earthworks directly west of site, appears to be associated with construction of Epping Road.	As per 1961 aerial photograph.

	166A Epping Road	14 & 16 David Avenue
Year	**1978**	
Site:	Similar to the 1970 aerial photograph except earthworks in SE corner of site.	As per 1970 aerial photograph.
Surrounds:	The area south of Epping Road was predominantly residential. The area north of Epping Road was predominantly commercial / light industrial properties.	
Year	**1986**	
Site: Surrounds:	Similar to the 1978 aerial photograph.	
Year	**1994**	
Site: Surrounds:	Similar to the 1986 aerial photograph.	
Year	**2005**	
Site: Surrounds:	Similar to the 1994 aerial photograph.	

4.2 Land Title Search

A limited historical land title search was performed on our behalf by the NSW Land Titles Office for the following lots:

- Lot 6 in DP 260000 (166A Epping Road, North Ryde); and
- Lot 4 in DP 25688 (14 David Avenue, North Ryde);

Details are presented in Appendix C and a summary of the relevant information is provided below:

Lot 6 in DP 260000 - 166A Epping Road, North Ryde

Registration Date	Proprietor
17/04/1803	William Kent Junior (Grantee)
13/07/1863	Henry Hill Osborne, Patrick Hill Osborne, Alick Osborne and Benjamin Marshall Osborne
18/01/1867	Henry Watton (Farmer)
16/01/1878	Samuel Henry Watton (Farmer) Lot 4 and Part of Lot 5
23/04/1894	Elizabeth Watton (Widow) Lot 4 and Part of Lot 5
23/05/1899	Albert Watton (Fruit grower)
22/06/1899	Gilbert Hunter Smith (Gentleman)
23/12/1929	Elizabeth Watton (Widow)
28/08/1930	Charles Joseph Kevin (Manly Speculator)
15/03/1939	Albert Watton (Fruit grower)
08/05/1962	William White Briton (Hatchery man)

31/03/2003	Paul Lawrence Briton and Peter William Briton (Executors of Will and Joint tenants)

The site has been subsequently purchased by EGC Custodian Services Pty Ltd.

Lot 4 in DP 25688 - 14 David Avenue, North Ryde

Registration Date	Proprietor
17/04/1803	William Kent Junior (Grantee)
08/01/1866	Herman Gerard Anton Geides (Fruit Farmer)
17/03/1871	Peter Ivenson (of Sydney Dealer)
18/12/1879	John Cawthorne (Fruit Grower)
17/7/1912	Sarah Jane Hull (wife of James Samuel Hull)
24/9/1914	Mary Joseph Gribbin (Spinster)
14/4/1915	James Samuel Hull Junior (Poultry farmer)
28/2/1930	Leham Joseph Kevin (Manly Realtor)
20/1/1955	William Holmes (Assurance Agent)
13/9/1956	Donald James Robb (Sales representative) and Nancy Lillian Robb
08/03/1971	Patrick James Kuder (Storeman) and Ivy Doreen Kuder (his wife)
28/01/1987	Nubar Hovagimion and Perus Hovagimion

The site has been subsequently purchased by EGC Custodian Services Pty Ltd.

Agricultural use of the site could potentially have resulted in contamination of the soil and groundwater at the site.

4.3 Council Records

A search of Development Application (DA) and Building Approval (BA) records held by City of Ryde Council was undertaken on behalf of EIS. The results of the search are summarised below:

Site	Application Type	Date
14 David Avenue	Building application for weatherboard Addition	8.8.1968
14 David Avenue	Building application for a steel Carport	2.8.1971
16 David Avenue	Building application for a Garage	12.4.1971

These Council records do not indicate significant sources of potential contamination.

4.4 WorkCover Database Records

A records search for underground storage tanks was undertaken on our behalf by WorkCover. The records did not indicate the existence of any licences for underground storage tanks at this site. Refer to Appendix C for WorkCover record.

4.5 NSW EPA Records

A search of the NSW DECC (formerly EPA) on-line database did not indicate the existence of any notices for the site under section 58 of the Contaminated Land Management Act (1997).

4.6 Summary of Historical Site Use

The search of historical information has indicated the following:

- Numbers 14 and 16 David Avenue, North Ryde were utilised as semi-rural land with cultivated sections until approximately 1960, after which these lots were changed to residential;

- Numbers 166A Epping Road, North Ryde was utilised as semi-rural land with cultivated sections until the time of the site inspection. The site has been used for agricultural cultivation and as a chicken hatchery since around the 1860s;
- There are no recorded notices listed on the NSW DECC CLM register for 166A Epping Road, 14 / 16 David Avenue, North Ryde; and
- WorkCover have no records of underground storage tank licenses issued for 14 David Avenue, North Ryde.

4.7 Potential Contamination Sources

4.7.1 General Contamination Processes

Contamination of surface and subsurface soils generally arises from previous land use that can include petroleum hydrocarbon and warehouse storage, manufacturing processes and pesticide and fertiliser usage. Imported fill soils may contain contaminants derived from unknown sources. Migration of contaminants can occur in permeable subsurface soil or fill materials and via man-made and natural drainage systems. The extent of contamination migration is dependent on the hydro-geological environment and the chemical and physical characteristics of the contaminants. Contamination migration in clayey soils can be expected to be limited, whilst sandy soils are conducive to greater spatial migration.

Backfill to service trenches can form contamination migration pathways via poorly compacted or permeable backfill. Backfill may also be contaminated.

The general history of contamination of sites in the Sydney region indicates that analysis for heavy metals including lead, copper and zinc should be incorporated in the schedule of laboratory testing. In addition screening tests should be performed on selected samples for polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCs), polychlorinated biphenyls (PCBs), petroleum hydrocarbons (TPH), asbestos monocyclic aromatic hydrocarbons (BTEX) and asbestos. Contaminants including cyanide, phenolic compounds, barium, beryllium, cobalt, manganese, vanadium and boron are generally associated with specific site industrial uses and so have not been considered in this investigation.

4.7.2 Potential Site Specific Contamination

Numbers 14 and 16 David Avenue, North Ryde were utilised as semi-rural land with cultivated sections to around the 1860s until approximately 1960. After this time these lots were changed to residential occupation. The use of these two properties for agricultural purposed prior to 1960 may have resulted in contamination by chemicals associated with these practices such as the use of pesticides, herbicides and fertilisers as well as chemicals associated with the use of farm equipment such as petroleum and diesel.

Number 166A Epping Road, North Ryde was occupied by paddock, grassed area, an overgrown orchard and several small residential and commercial building structures at the time of the site inspection. Until recently the site has been used for agricultural purposes and as a chicken hatchery since around the 1860s. These practices may indicate the presence of chemicals associated with agricultural practices such as pesticides, herbicides and fertilisers as well as chemicals associated with veterinary practices and cleaning/ disinfecting animal enclosures. Diesel/petroleum fuel contamination may also be present resulting from the use of farm machinery. Fill material was identified on the north and south perimeters of the property, the source and nature of this material is unknown and may potentially contain contaminants.

The building structures on all properties; 166A Epping Road, 14 and 16 David Avenue, North Ryde, were constructed using potentially asbestos containing materials. These building materials should be presumed to contain asbestos until further assessment is carried out.

4.8 Potential Receptors

The main potential contamination receptors are considered to include:

- Shrimptons Creek located approximately 200m to the west of the site.
- Site visitors, workers and adjacent property owners, who may come into contact with contaminated soil and/or be exposed to contaminated dust arising from construction activity.
- Future site occupants.

4.9 Contaminant Laydown and Transport Mechanisms

At this site, mobile contaminants would be expected to move down to the rock surface and migrate laterally down-slope from the source. The movement of contaminants would be expected to be associated with groundwater flow and seepage at the top of the bedrock.

5 ASSESSMENT CRITERIA DEVELOPMENT

5.1 Regulatory Background

In 1997 the NSW Government introduced the *Contaminated Land Management Act, 1997* (CLM Act). This act, associated regulations, State Environmental Planning Policy (SEPP) No.55 – Remediation of Land (1998) and associated NSW DECC (EPA) guidelines, were designed to provide uniform state-wide control of the management, investigation and remediation of contaminated land.

Prior to granting consent for any proposed rezoning or development, SEPP55 requires the consent authority to:

- consider whether the land is contaminated;

- consider whether the site is suitable, or if contaminated, can be made suitable by remediation, for the proposed land use;
- be satisfied that remediation works will be undertaken prior to use of the site for the proposed use.

Should the assessment indicate that the site poses a risk to human health or the environment, remediation of the site is required prior to commencement of the proposed development works. SEPP55 requires that the relevant local council be notified of all remediation works, whether or not development consent is required. Where development consent is not required, 30 days written notice of the proposed works must be provided to council. Details of validation of remediation work must also be submitted to Council within one month of completion of remediation works.

The consent authority may request that a site audit be undertaken during, or following the completion of the site assessment process. Under the terms of the CLM Act the NSW DECC (EPA) Site Auditor Scheme was developed to provide a system of independent review for assessment reports. An accredited Contaminated Site Auditor is engaged to review reports prepared by suitably qualified consultants to ensure that the investigation has been undertaken in accordance with the guidelines and confirm that the sites are suitable for their intended use.

Section 59(2) of the CLM Act states that specific notation relating to contaminated land issues must be included on S.149 planning certificates prepared by Council where the land to which the certificate relates is:

- within an investigation or remediation area.
- subject to an investigation or remediation order by the DECC (EPA).
- the subject of a voluntary investigation or remediation proposal.
- the subject of a site audit statement.

Submission of contaminated site investigation and validation reports to council as part of rezoning or development application submissions may also result in notation of actual or potential site contamination on future S.149 certificates prepared for the site.

Section 60 of the CLM Act sets out a positive duty on an owner, or person whose activities cause contamination, to notify the DECC if they are aware that the contamination presents a significant risk of harm.

Off-site disposal of fill, contaminated material and excess soil/rock excavated as part of the proposed development works is regulated by the provisions of the Protection of the Environment Operations Act (POEO Act 1997) and associated regulations and guidelines including the *NSW DECC (EPA) Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* (1999). All materials should be classified in accordance with these guidelines prior to disposal.

Section 143 of the *Protection of the Environment Operations Act 1997* states that if waste is transported to a place that cannot lawfully be used as a waste facility for that waste, then the transporter and owner of the waste are each guilty of an offence. The transporter and owner of the waste have a duty to ensure that the waste is disposed of in an appropriate manner.

5.2 Soil Contaminant Threshold Concentrations

The soil investigation levels adopted for this investigation are derived from the NSW DECC (EPA) document *Guidelines for the NSW Site Auditor Scheme (1998)* and the National Environmental Protection Council document *National Environmental Protection (Assessment of Site Contamination) Measure 1999*. The contaminant thresholds listed below are levels at which further investigation and evaluation is required to assess whether the site is considered suitable for the proposed urban land use.

To accommodate the range of human and ecological exposure settings, a number of generic settings are used on which the Health based Investigation Levels (HILs) can be based. Four categories of HILs are adopted for urban site assessments. Contaminant levels for a standard residential site with gardens and accessible soil (Column A in Table A-1) are based on protection of a young child resident at the site. The remaining categories (Columns D to F) present alternative exposure settings where there is reduced access to soil or reduced exposure time. These categories include residential land use with limited soil access, recreational and public open space and commercial/industrial use. Where the proposed land use will include more than one land use category (eg. mixed residential/commercial development) the exposure setting of the most "sensitive" land use is adopted for the site.

Threshold concentrations for petroleum hydrocarbon contaminants including total petroleum hydrocarbons (TPH) and monocyclic aromatic hydrocarbon (BTEX) compounds have previously been established in the *NSW DECC (EPA) Contaminated Sites: Guidelines for Assessing Service Station Sites* (1994) publication and this document is referenced in the 1998 Site Auditor Guidelines. Heavy fraction petroleum hydrocarbon aliphatic/aromatic component threshold concentrations have also been introduced in the *National Environmental Protection (Assessment of Site Contamination) Measure 1999* (NEPC Guidelines).

The urban interim Ecological Investigation Levels (EILs) are generic values based on phytotoxicity data for plant response to specific contaminants in a sandy loam matrix and are included in the contaminated site assessment where the proposed land use includes gardens and accessible soils.

The *National Environmental Protection (Assessment of Site Contamination) Measure 1999* (NEPC Guidelines) do not provide numeric guidelines for the assessment of asbestos in soil. NSW DECC (EPA) advice has indicated that based on health concerns there should

be no asbestos in soil at the surface, however the NSW DECC (EPA) have not published numerical guidelines for the assessment of asbestos in subsurface soils.

The WorkCover publication *Your Guide to Working with Asbestos: Safety Guidelines and Requirements for Work Involving Asbestos* (NSW WorkCover 2003) indicates that inappropriately buried asbestos materials are considered to be friable asbestos material. "Any asbestos cement product, which has been subjected to weathering, severely damaged by hail, damaged by heat/fire or other mechanical action, or illegal water blasting is (also defined as) a friable asbestos product". Under the *NSW Occupational Health and Safety (OHS) Regulations 2001* and WorkCover requirements all necessary disturbance works associated with asbestos containing materials must be conducted by a licensed AS-1 Asbestos Removal Contractor.

5.2.1 Site Assessment Criteria for Soil Contaminants

The 'residential with accessible soil' exposure setting has been adopted for this assessment and the appropriate soil criteria are listed in the following table:

Site Soil Assessment Criteria (mg/kg)			
Contaminant	**HIL Column A Exposure Setting**	**Guidelines for Assessing Service Station Sites (1994)**	**Ecological Investigation Levels**
Inorganics			
Arsenic (total)	100		20
Cadmium	20		3
Chromium (III)	12%		400
Copper	1000		100
Lead	300		600
Mercury (inorganic)	15		1
Nickel	600		60
Zinc	7000		200
Organic Contaminants			
TPH (C_6-C_9)		65	
TPH (C_{10}-C_{36})		1000	
Benzene		1	
Toluene		1.4	
Ethylbenzene		3.1	
Total Xylenes		14	
Total PAHs	20		
Benzo(a)pyrene	1		
Aldrin + Dieldrin	10		
Chlordane	50		
DDT+ DDD + DDE	200		
Heptachlor	10		
PCBs (Total)	10		

For the purpose of off-site disposal, the classification of soil into 'inert', 'solid', 'industrial' and 'hazardous' waste categories is defined by chemical contaminant criteria outlined in the *NSW DECC (EPA) Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes - 1999.* These chemical contaminant criteria are summarised in Table A-2.

5.3 Evaluation of Soil Analysis Data and Contaminant Threshold Concentrations

Assessment of the soil analytical data using the soil contaminant threshold concentrations has been undertaken in accordance with the methodology outlined in the *National Environmental Protection (Assessment of Site Contamination) Measure (1999) Schedule 7(a) Soil Investigation Levels* and the statistical analysis methods outlined in the *NSW EPA Contaminated Sites Sampling Design Guidelines (1995).*

Concentrations of contaminants above the guideline levels are a trigger for further assessment. If the individual concentrations are below the guideline levels, the site can be considered suitable for intended use.

Where contamination results exceed the site criteria developed above a method of remediating the site is to physically and selectively remove the contamination hotspots from the site. This process should be continued until statistical analysis of the data meets the above criteria. Validation of the remediated site is generally required to demonstrate that the site is suitable for the proposed land use.

Assessment of contamination results with respect to the ecological assessment criteria or phyto-toxicity based investigation levels (PPILs) are undertaken against individual data points rather than contaminant concentrations across the site. These valves have been adopted as a preliminary screening tool where exceedance of threshold concentrations warrants addition site specific assessment of contaminants and ecological communities.

6 ASSESSMENT PLAN AND METHODOLOGY

The *NSW DECC (EPA) Sampling Design Guidelines (1995)* for contaminated site investigations state a minimum of 25 evenly spaced sampling points should be undertaken for a site of this size (approximately 13,000m^2). A total of 7 sampling locations have been undertaken for this investigation. This density meets (is approximately 30% of) the minimum sampling density and was consicered adequate for a Phase 1 preliminary assessment.

The boreholes were drilled on a judgemental sampling plan with a spacing of up to 40m between sampling points. A judgemental sampling plan was considered most appropriate for this investigation as the site was divided into three separate properties and access within each property was limited.

Sampling was not undertaken beneath the existing buildings at the site as access was not possible during the field investigation.

7 INVESTIGATION PROCEDURE

7.1 Subsurface Investigation and Soil Sampling Methods

Subsurface investigations were undertaken using a truck/track mounted hydraulically operated drill rig equipped with spiral flight augers. Soil samples were obtained from a Standard Penetration Test (SPT) sampler or directly from the auger when conditions did not allow use of the SPT sampler.

The SPT sampler was washed with phosphate free detergent and rinsed following each sampling event. The spiral flight augers were decontaminated using a scrubbing brush and potable water and Decon 90 solution (phosphate free detergent) followed by rinsing with potable water. Sampling personnel used disposable Nylex gloves during sampling activities.

Soil samples were obtained at various depths, based on observations made during the field investigation. All samples were placed in glass jars with plastic caps and teflon seals with minimal headspace. During the investigation, samples were preserved by immediate storage in an insulated sample container with ice. Each sample was labelled with a unique job number, the sampling location, sampling depth and date. All samples were recorded on the borehole/testpit logs presented in Appendix A and on the chain of custody (COC) record presented in Appendix B.

On completion of the fieldwork, the samples were delivered in the insulated sample container to a NATA registered laboratory for analysis under standard chain of custody procedures. Detailed EIS field sampling protocols are included in Appendix D.

7.1.1 Photoionisation Detector (PID) Screening

A portable PID was used in this investigation to assist with selection of samples for laboratory hydrocarbon (TPH/BTEX) analysis. The PID is sensitive to volatile organic compounds. The sensitivity of the PID is dependent on the organic compound and varies for different mixtures of hydrocarbons. Some compounds give relatively high readings and some can be undetectable even though present in identical concentrations. The portable PID is best used semi-quantitatively to compare samples contaminated by the same hydrocarbon source.

The PID is calibrated before use by measurement of an isobutylene standard gas. All the PID measurements are quoted as parts per million (ppm) isobutylene equivalents.

Photoionisation detector (PID) screening of detectable volatile organic compounds (VOC) was undertaken on soil samples using the soil sample headspace method. VOC data was obtained from partly filled glass jar samples following equilibration of the headspace gases. The PID headspace data is included on the COC documents.

7.2 Laboratory Analysis

7.2.1 Soil Samples

Analysis of soil samples was undertaken by NATA registered laboratories using analytical methods detailed in the Schedule B(3) NEPC (1999) Guideline on Laboratory Analysis of Potentially Contaminated Soils. Laboratory analysis was undertaken by Envirolab Services Pty Ltd (NATA Accreditation No. 2901).

For this investigation selected soil samples were analysed for contaminants using the following laboratory techniques:

- Heavy metals – Nitric acid digestion. Analysis by ICP.
- Low level mercury – cold vapour AAS.
- OC pesticides and PCBs – Extracted with acetone/hexane. Analysis by GC/ECD.
- PAHs – Soil extracted with dichloromethane/acetone. Analysis by GC/MS.
- TPH (volatile) – Soil extracted with methanol. Analysis by P&T GC/PID.
- TPH – Soil extracted with dichloromethane/acetone. Analysis by GC/FID.
- BTEX – Soil extracted with methanol. Analysis by P&T PID. Confirmed with column flame ionisation detection.
- Asbestos – Polarizing light microscopy.

8 RESULTS OF INVESTIGATION

8.1 Subsurface Conditions

The investigations have revealed generalised subsurface profile comprising surficial topsoil and fill over residual silty clay, with shale and sandstone bedrock at moderate depth. Reference should be made to the attached borehole logs for detailed subsurface conditions at specific locations.

Site details and borehole locations are shown on Figure 2. For details of the subsurface soil profile reference should be made to the borehole logs in Appendix A. A summary of the subsurface conditions encountered by the boreholes is presented below:

- Fill (topsoil) comprising silty clayey sand approximately 0.3m thick was encountered at the surface of BH3;
- Igneous gravel (road base) 0.3m thick was encountered at the surface of BH2.
- Fill comprising clayey silty sand and silty sandy clay was encountered at the surface of BH1 and BH4, and extended to depths of 0.7m and 0.4m respectively;
- Natural silty clay was encountered beneath the fill/topsoil/road base in BH1 to BH4 inclusive, and from the surface in BH5 to BH7 inclusive;
- Weathered shale bedrock was encountered beneath the silty clay in BH1, BH2, BH3 and BH6 at depths between 1.8m (BH1) and 7.5m (BH6); and
- Weathered sandstone bedrock was encountered below the shale in BH2 and BH3 at depths of 5.4m and 5.3m respectively and extended to the borehole termination depths. Weathered sandstone bedrock was encountered below the silty clay in BH4, BH5 and BH7 at depths between 2.8m (BH4) and 4m (BH5), and extended to the borehole termination depths.

8.2 Laboratory Results - Soil

The laboratory analysis results for soil samples are summarised in Table B and analysis reports are presented in Appendix B. The site soil assessment criteria for this investigation are specified in the "Site Assessment Criteria for Soil Contaminants" section earlier in this report. The results of the analyses are summarised below.

Heavy Metals

Seven fill and three natural soil samples were analysed for heavy metals. The results of the analyses were below the health based site assessment criteria and Ecological Investigation Levels (EILs).

Petroleum Hydrocarbons (TPH) and Monocyclic Aromatic Hydrocarbons (BTEX)

PID soil sample headspace readings were all zero ppm equivalent isobutylene. These results indicate a lack of PID detectable volatile organic contaminants. Seven fill and three natural soil samples were analysed for petroleum hydrocarbons and BTEX compounds. The results of the analyses were below the site assessment criteria.

Polycyclic Aromatic Hydrocarbons (PAHs)

Seven fill and three natural soil samples were analysed for a range of PAHs including Benzo(a)pyrene. The results of the analyses were below the site assessment criteria.

Organochlorine (OC) Pesticides and Polychlorinated Biphenyls (PCBs)

Seven fill and three natural soil samples were analysed for a range of OC pesticides and PCBs. The results of the analyses were below laboratory practical quantitation limit and less than the site assessment criteria.

Asbestos

Seven fill and three natural soil samples were screened for asbestos. No asbestos or respirable fibres were detected in any of the samples.

8.3 Assessment of Analytical QA/QC

The objective of the assessment of the laboratory QA/QC is to ensure that the sample data is reliable. All laboratory reports for project E21873FJ have been checked and issued as final by Envirolab Services Pty Ltd, NATA Accreditation No. 2901, Report numbers: 17072 and 17542.

Chain of custody documentation and/or sample receipt advice notices were signed and dated by Envirolab Services laboratories stating that all samples were received cool, in good order and in suitable containers. Compliance of holding times was met for all analyses undertaken by the above laboratories. EIS and laboratory QA/QC procedures for the site screening are summarised in the following table:

Contaminant	QA/QC Procedure					
	Total no. of Samples	Intra-lab Duplicate	Repeat Analysis	Matrix Spike	Lab Blank	Surrogate Spike
Heavy metals	10	1	1	2	2	-
TPH	10	1	1	2	2	10
BTEX	10	1	1	2	2	10
PAH	10	1	1	2	2	10
PCB	10	1	1	2	2	10
OC Pesticides	10	-	1	2	2	10
Asbestos	10	-	-	-	-	-

Field QA/QC samples are specified below:
Intra-laboratory duplicate - DUP1 was a field duplicate of BH4 (0.4-0.5m)

The RPD results for the field QA/QC duplicate samples are summarised in Table F. The following comments are an overall summary of the quality of the analytical component of the project:

1. Sample integrity and container requirements were documented as satisfactory.
2. All sample extraction analyses were performed within the required holding times.
3. Matrix spike duplicate and surrogate recovery values indicated that the laboratory accuracy was very good, and that no outliers were reported.
4. Laboratory duplicate RPD results indicated that the sample precision was acceptable.
5. All method blanks were found to be free of analyte concentrations above the PQLs.
6. The intra -laboratory RPD values for chromium, copper, nickel and zinc exceeded the acceptance criteria. These results can be attributed to sample heterogeneity. However, both sets of results were below guideline concentrations therefore the results are not considered to have had a negative impact on the date set as a whole.

The QA/QC data reported by Envirolab Services laboratories for the documented soil samples were assessed to be of sufficient quality to be considered acceptable for the environmental assessment of EIS project E21873F.

The QA/QC data including the RPD results are considered to meet the Data Quality Objectives developed for this project.

9 COMMENTS AND RECOMMENDATIONS

The environmental site assessment undertaken for the proposed residential development at 166A Epping Road, 14 and 16 David Avenue, North Ryde was designed to assess the suitability of the site for the proposed land use. The proposed development includes demolition of the existing buildings at the site and construction of a multi-storey residential complex.

The site assessment included performance of a site inspection, review of historical site use, including examination of regional aerial photographs and review of geology and groundwater conditions. Historical information and inspection of the site and surrounding areas did not indicate any obvious on-site or nearby off-site activity that could be expected to generate significant soil contamination. The site soil/fill sampling was subsequently undertaken on the basis of a relatively uniform exploration spacing apart from specific investigation in the vicinity of the accessible fill material identified on the north perimeters of 166a Epping Road, North Ryde.

Historical information and inspection of the site and surrounding areas indicated that the site is located within a residential area and has formerly been used as semi-rural land with cultivated sections. Potentially contaminating activities/facilities at the site include the use of chemicals associated with agricultural and farming practices. The site soil/fill sampling was subsequently undertaken on the basis of a relatively uniform exploration spacing apart from specific investigation in the vicinity of the north section of 166a Epping Road, North Ryde.

The results of the laboratory tests on selected soils samples covered a range of contaminants commonly encountered in the Sydney region. Elevated levels of contaminants were not detected in the samples analysed. All results were less than Ecological Investigation Levels and the appropriate Health Investigation Levels. However, the sampling was preliminary in nature and only met 30% of the minimum sampling density.

As a result of potentially contaminating agricultural activities in the past EIS recommend further sampling and analysis so that the number of sampling locations meets the minimum sampling density recommended by the DECC.

Further analysis of samples for waste classification will be required if off-site disposal of excess soil is undertaken as part of the proposed development. Fill and contaminated soil disposal costs are significant and may affect project viability. These costs should be assessed at an early stage of the project development to avoid significant future unexpected additional costs.

The presence of potentially asbestos containing materials was noted on the site during the inspection. EIS recommends that a hazardous building materials survey is undertaken on all site buildings / structures prior to their demolition.

Groundwater is not considered to be a significant resource in the area and on this basis has not been considered in any further detail for this assessment.

The investigation undertaken by EIS included the analysis of 10 soil samples for the presence of asbestos fibres using NATA accredited microscopic screening techniques. Asbestos, neither apparent to the naked eye nor apparent using microscopic techniques were not detected within the samples. The scope of work undertaken was designed to assess widespread soil contamination and has not included an exhaustive assessment of the site for the presence of small scale asbestos contamination. EIS adopts no responsibility for small scale or buried asbestos features at the site which may be encountered during future earth or construction works at the site.

The boreholes drilled for the investigation have enabled an assessment to be made of the existence of significant, large quantities of contaminated soils. The conclusions based on this investigation are that, while major contamination of the site is not apparent, problems may be encountered with smaller scale features between boreholes. EIS adopts no responsibility whatsoever for any problems such as underground storage tanks, buried items or contaminated material that may be encountered between sampling locations at the site. The proposed construction activities at the site should be planned on this basis, and any unexpected problem areas that are encountered between boreholes should be immediately inspected by experienced environmental personnel. This should ensure that such problems are dealt with in an appropriate manner, with minimal disruption to the project timetable and budget.

During demolition works, the site should be inspected by experienced environmental personnel to assess any unexpected conditions or subsurface facilities that may be discovered between investigation locations. This should facilitate appropriate adjustment of the works programme and schedule in relation to the changed site conditions. Based on the scope of work undertaken EIS consider that the site can be made suitable for the proposed development provided that:

- An additional investigation is undertaken to increase the borehole density to the minimum sampling density recommended by the DECC;
- A hazardous building materials survey is undertaken on all site structures.
- The surface of the site is thoroughly inspected for the presence of asbestos cement fragments;
- All fill material that will be disposed off site is assigned an appropriate waste classification; and
- Any additional contamination issues that are discovered during subsequent investigation are addressed in an appropriate manner.

10 LIMITATIONS

The conclusions developed in this report are based on site conditions which existed at the time of the site assessment. They are based on investigation of conditions at specific locations, chosen to be as representative as possible under the given circumstances, and visual observations of the site and vicinity, together with the interpretation of available historical information and documents reviewed as described in this report.

Subsurface soil and rock conditions encountered between investigation locations may be found to be different from those expected. Groundwater conditions may also vary, especially after climatic changes.

Previous use of this site may have involved excavation for the foundations of buildings, services, and similar facilities. In addition, unrecorded excavation and burial of material may have occurred on the site. Backfilling of excavations could have been undertaken with potentially contaminated material that may be discovered in discrete, isolated locations across the site during construction work.

During construction at the site, soil, fill and any unsuspected materials that are encountered should be monitored by qualified environmental and geotechnical engineers to confirm assumptions made on the basis of the limited investigation data, and possible changes in site level and other conditions since the investigation. Soil materials considered to be suitable from a geotechnical point of view may be unsatisfactory from a soil contamination viewpoint, and vice versa.

This report has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose. Copyright in this report is the property of EIS. EIS has used a degree of care, skill and diligence normally exercised by consulting engineers in similar circumstances and locality. No other warranty expressed or implied is made or intended. Subject to payment of all fees due for the investigation, the client alone shall have a licence to use this report.

Should you require any further information regarding the above, please do not hesitate to contact us.

Yours faithfully
For and on behalf of
ENVIRONMENTAL INVESTIGATION SERVICES

Cameron Hollands
Environmental Scientist

Adrian Kingswell
Senior Associate

ABBREVIATIONS

AAS	Atomic Absorption Spectrometry
ADWG	Australian Drinking Water Guidelines
AGST	Above Ground Storage Tank
AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment Conservation Council
ASS	Acid Sulfate Soil
B(a)P	Benzo(a)pyrene
BH	Borehole
BTEX	Benzene, Toluene, Ethyl benzene, Xylene
COC	Chain of Custody documentation
CLM	Contaminated Land Management
DECC	Department of Environment and Climate Change (formerly DEC and EPA)
DNR	NSW Department of Natural Resources (now split between DWE and DECC)
DWE	NSW Department of Water and Energy
DP	Deposited Plan
DQO	Data Quality Objective
EC	Electrical Conductivity
EIL	Ecological Investigation Level
EPA NSW	Environment Protection Authority, New South Wales (now part of DECC)
GC-ECD	Gas Chromatograph-Electron Capture Detector
GC-FID	Gas Chromatograph-Flame Ionisation Detector
GC-MS	Gas Chromatograph-Mass Spectrometer
HIL	Health Based Investigation Level
HM	Heavy Metals
ICP-AES	Inductively Couple Plasma – Atomic Emission Spectra
NATA	National Association of Testing Authorities, Australia
NEPC.	National Environmental Protection Council
NHMRC	National Health and Medical Research Council
OCPs	Organochlorine Pesticides
OHS (OH&S)	Occupational Health and Safety
PAH	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PID	Photo-ionisation Detector
PPIL	Provisional Phyto-toxicity Investigation Levels
PQL	Practical Quantitation Limit
P&T	Purge & Trap
RAP	Remedial Action Plan
QA/QC	Quality Assurance and Quality Control
RPD	Relative Percentage Difference
SEPP	State Environmental Planning Policy
sPOCAS	Suspension Peroxide Oxidation Combined Acidity and Sulfate
SPT	Standard Penetration Test
SWL	Standing Water Level
TCLP	Toxicity Characteristic Leaching Procedure
TP	Test Pit
TPH	Total Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
UCL	Upper Confidence Limit
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WP	Work Plan

REFERENCE DOCUMENTS

- ANZECC/ARMCANZ (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (and updates).
- ASSMAC (1998) (Acid Sulfate Soils Management Advisory Committee) Acid Sulfate Soil Manual.
- Australian Government, National Occupational Health and Safety Commission (2005) Code of Practice for the Safe Removal of Asbestos.
- Australian Government, National Occupational Health and Safety Commission (2005) Code of Practice for the Management and Control of Asbestos in Workplaces.
- Australian Petroleum Institute Code of Practice (CP22) Removal and Disposal of Underground Storage Tanks.
- Australian Standard (2004) Storage and Handling of Flammable and Combustible Liquids. AS1940-2004.
- Chapman, G.A. and Murphy, C.L. (1989), Soil Landscapes of the Sydney 1:100000 sheet. Soil Conservation Service of N.S.W., Sydney.
- DUAP/NSW EPA (1998) (now NSW Department of Planning / NSW Department of Environment and Climate Change (DECC) incorporating the EPA) Managing Land Contamination: Planning Guidelines SEPP 55 - Remediation of Land.
- Dutch Ministry of Housing, Spatial Planning and the Environment (1994) Environmental Quality Standards in the Netherlands.
- NEPM. (1999) National Environmental Protection (Assessment of Site Contamination) Measure (NEPC. Guidelines).
- NSW EPA (1994) (now NSW DEC) Contaminated Sites: Guidelines for Assessing Service Station Sites.
- NSW EPA (1995) (now NSW DECC) Contaminated Sites: Sampling Design Guidelines.
- NSW EPA (1996) (now NSW DECC) Guidelines for Solid Waste Landfills.
- NSW EPA (1997) (now NSW DECC) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.
- NSW EPA (1998) (now DECC) Contaminated Sites: Guidelines for the NSW Site Auditor Scheme.
- NSW EPA (1999) (now NSW DECC) Contaminated Sites: Guideline son Significant Risk of Harm and the Duty to Report.
- NSW EPA (1999) (now NSW DECC) Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes.
- NSW Legislation (1948) Rivers and Foreshores Improvement Act.
- NSW Legislation (1975) Dangerous Goods Act.
- NSW Legislation (1994) Environmental Planning and Assessment Act (EP&AA) and associated Regulations.
- NSW Legislation (1997) Contaminated Land Management Act.
- NSW Legislation (1997) Protection of the Environment Operations Act No156 which includes Schedule 2 of the Clean Waters Regulations 1972 made under the Clean Waters Act (1970).
- NSW Legislation (2000) Occupational Health and Safety Act.
- NSW Regulation (2001) Occupation Health and Safety Regulation.
- NSW Regulation (1999) Abandoning Underground Storage Tanks for Flammable and Combustible Liquids (Ref: DG310 October 1999).
- NSW WorkCover (2003) Your Guide to Working With Asbestos: Safety Guidelines and Requirements for Work Involving Asbestos.
- NSW WorkCover Code of Practice (2005) Storage and Handling of Dangerous Goods.
- US EPA (2004) Region 9 Preliminary Remediation Goals.

ENVIRONMENTAL INVESTIGATION SERVICES

IMPORTANT INFORMATION ABOUT YOUR ENVIRONMENTAL SITE ASSESSMENT

These notes have been prepared by Environmental Investigation Services (EIS) to assist with the assessment and interpretation of this assessment report.

An Environmental Assessment Report is Based on a Unique Set of Project Specific Factors
This assessment report has been prepared in response to specific project requirements as stated in the EIS proposed document which may have been limited by instructions from the client. This report should be reviewed, and if necessary, revised if any of the following occur:

- the proposed land use is altered;
- the defined subject site is increased or subdivided;
- the proposed development details including size, configuration, location, orientation of the structures are modified;
- the proposed development levels are altered, eg addition of basement levels; or
- ownership of the site changes.

EIS/J&K will not accept any responsibility whatsoever for situations where one or more of the above factors have changed since completion of the assessment. If the subject site is sold, ownership of the assessment report should be transferred by EIS to the new site owners who will be informed of the conditions and limitations under which the assessment was undertaken. No person should apply an assessment for any purpose other than that originally intended without first conferring with the consultant.

Changes in Subsurface Conditions
Subsurface conditions are influenced by natural geological and hydrogeological process and human activities. Groundwater conditions are likely to vary over time with changes in climatic conditions and human activities within the catchment (eg. water extraction for irrigation or industrial uses, subsurface waste water disposal, construction related dewatering). Soil and groundwater contaminant concentrations may also vary over time through contaminant migration, natural attenuation of organic contaminants, ongoing contaminating activities and placement or removal of fill material. The conclusions of an assessment report may have been affected by the above factors if a significant period of time has elapsed prior to commencement of the proposed development.

This Assessment is Based on Professional Interpretations of Factual Data
Site assessments identify actual subsurface conditions at the actual sampling locations at the time of the investigation. Data obtained from the sampling and subsequent laboratory analyses, available site history information and published regional information is interpreted by geologists, engineers or environmental scientists and opinions are drawn about the overall subsurface conditions, the nature and extent of contamination, the likely impact on the proposed development and appropriate remediation measures. Actual conditions may differ from those inferred, because no professional, no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, but steps can be taken to help minimise the

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impact. For this reason, site owners should retain the services of their consultants throughout the development stage of the project, to identify variances, conduct additional tests which may be needed, and to recommend solutions to problems encountered on site.

Environmental Site Assessment Limitations
Although information provided by an environmental site assessment can reduce exposure to the risk of the presence of contamination, no environmental site assessment can eliminate the risk. Even a rigorous professional assessment may not detect all contamination on a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which showed no signs of contamination when sampled. Contaminant analysis cannot possibly cover every type of contaminant which may occur; only the most likely contaminants are screened.

Misinterpretation of Environmental Site Assessments by Design Professionals
Costly problems can occur when other design professionals develop plans based on misinterpretation of an environmental assessment report. To minimise problems associated with misinterpretations, the environmental consultant should be retained to work with appropriate professionals to explain relevant findings and to review the adequacy of plans and specifications relevant to contamination issues.

Logs should not be Separated from the Environmental Assessment Report
Borehole and test pit logs are prepared by environmental scientists, engineers or geologists based upon interpretation of field conditions and laboratory evaluation of field samples. Logs are normally provided in our reports and these should not be re-drawn for inclusion in site remediation or other design drawings, as subtle but significant drafting errors or omissions may occur in the transfer process. Photographic reproduction can eliminate this problems, however contractors can still misinterpret the logs during bid preparation if separated from the text of the assessment. If this occurs, delays, disputes and unanticipated costs may result. In all cases it is necessary to refer to the test of the report to obtain a proper understanding of the assessment.

To reduce the likelihood of borehole and test pit log misinterpretation, the complete assessment should be available to persons or organisations involved in the project, such as contractors, for their use. Denial of such access and disclaiming responsibility for the accuracy of subsurface information does not insulate an owner from the attendant liability. It is critical that the site owner provides all available site information to persons and organisations such as contractors.

Read Responsibility Clauses Closely
Because an environmental site assessment is based extensively on judgement and opinion, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, model clauses have been developed for use in written transmittals. These are definitive clauses designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the environmental site assessment, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to any questions.

TABLE A-1
ENVIRONMENTAL AND HEALTH-BASED SOIL INVESTIGATION LEVELS (mg/kg)

Substances	Health Investigation Levels (HILs)[1]				Interim Urban Ecological Investigation Levels (EILs)[1]	NSW EPA Guidelines for Assessing Service Station Sites[2]	Back-ground Ranges[1]
	A	D	E	F			
	'Standard' residential with garden/ accessible soil (home-grown produce contributing less than 10% of vegetable and fruit intake; no poultry); includes children's day-care centres, kindergartens, preschools and primary schools	Residential with minimal opportunities for soil access: includes dwellings with fully and permanently paved yard space such as high-rise apartments and flats	Parks, recreational open space and playing fields: includes secondary schools	Commercial/Industrial: includes premises such as shops and offices as well as factories and industrial sites			
METALS/METALLOIDS							
Arsenic (total)	100	400	200	500	20		1-50
Barium					300		100-3000
Beryllium	20	80	40	100			
Cadmium	20	80	40	100	3		1
Chromium(III)	12%	48%	24%	60%	400		
Chromium(VI)	100	400	200	500	1		
Chromium (total)							5-1000
Cobalt	100	400	200	500			1-40
Copper	1000	4000	2000	5000	100		2-100
Lead	300	1200	600	1500	600		2-200
Manganese	1500	6000	3000	7500	500		850
Methyl mercury	10	40	20	50			
Mercury (inorganic)	15	60	30	75	1		0.03
Nickel	600	2400	600	3000	60		5-500
Vanadium					50		20-500
Zinc	7000	28000	14000	35000	200		10-300
ORGANICS							
Aldrin + Dieldrin	10	40	20	50			
Chlordane	50	200	100	250			
DDT + DDD + DDE	200	800	400	1000			
Heptachlor	10	40	20	50			
Polycyclic aromatic hydrocarbons (PAHs)	20	80	40	100			
Benzo(a)pyrene	1	4	2	5			
Phenol	8500	34000	17000	42500			
PCBs (total)	10	40	20	50			
Petroleum Hydrocarbon Components (constituents):							
>C16 - C35 Aromatics	90	360	180	450			
>C16 - C35 Aliphatics	5600	22400	11200	28000			
>C35 Aliphatics	56000	224000	112000	280000			
C6-C9						65	
C10-C40						1000	
Benzene						1	
Toluene						1.4	
Ethyl Benzene						3.1	
Total Xylenes						14	
OTHER							
Boron	3000	12000	6000	15000			
Cyanides (complexed)	500	2000	1000	2500			
Cyanides (free)	250	1000	500	1250			
Phosphorus					2000		
Sulfur					600		
Sulfate					2000		

Reference should be made to the following guidelines for further details (as referenced in the above table):

1 National Environment Protection (Assessment of Site Contamination) Measure - 1999, National Environment Protection Council. Human exposure settings based on land use have been established for HILs and details are outlined in Taylor and Langley 1998.

2 NSW EPA Guidelines for Assessing Service station Sites - 1994.

TABLE A - 2
CHEMICAL CONTAMINANT CRITERIA FOR WASTE CLASSIFICATION
ENVIRONMENTAL GUIDELINES: ASSESSMENT, CLASSIFICATION AND MANAGEMENT OF LIQUID AND NON-LIQUID WASTES - NSW EPA 1999

INERT WASTE	SOLID WASTE	INDUSTRIAL WASTE	HAZARDOUS WASTE
IF SCC ≤ CT1, TCLP NOT NEEDED	IF SCC ≤ CT2, TCLP NOT NEEDED	IF SCC ≤ CT3, TCLP NOT NEEDED	IF TCLP > TCLP3 STORE OR TREAT AS APPROPRIATE
IF TCLP ≤ TCLP1 AND SCC ≤ SCC1 TREAT AS INERT WASTE	IF TCLP1 < TCLP ≤ TCLP2 AND SCC ≤ SCC2 TREAT AS SOLID WASTE	IF TCLP2 < TCLP ≤ TCLP3 AND SCC ≤ SCC3 OR IF TCLP ≤ TCLP3 AND SCC2 < SCC ≤ SCC3 TREAT AS INDUSTRIAL WASTE	
IF TCLP ≤ TCLP1 AND SCC > SCC1, IMMOBILISE (EPA APPROVED METHOD) OR RECLASSIFY WASTE	IF TCLP1 < TCLP ≤ TCLP2 AND SCC > SCC2, IMMOBILISE (EPA APPROVED METHOD) OR RECLASSIFY WASTE	IF TCLP2 < TCLP ≤ TCLP3 AND SCC > SCC3, IMMOBILISE (EPA APPROVED METHOD) OR RECLASSIFY WASTE	IF TCLP ≤ TCLP3 AND SCC > SCC3 AND IMMOBILISATION NOT EPA APPROVED, STORE OF TREAT WASTE AS APPROPRIATE

	INERT WASTE			SOLID WASTE			INDUSTRIAL WASTE		
CONTAMINANT	CT1 (mg/kg)	TCLP1 (mg/L)	SCC1 (mg/kg)	CT2 (mg/kg)	TCLP2 (mg/L)	SCC2 (mg/kg)	CT3 (mg/kg)	TCLP3 (mg/L)	SCC3 (mg/kg)
Arsenic	10	0.5	500	100	5[3]	500	400	20	2,000
Beryllium	2	0.1	100	20	1.0[10]	100	80	4	400
Cadmium	2	0.1	100	20	1.0[3]	100	80	4	400
Chromium (total)[5]	10	0.5	1,900	100	5[3]	1,900	400	20	7,600
Cyanide (total)[6]	32[2]	1.6	5,900	320	16	5,900	1280	64	23,600
Cyanide (Amenable)[6,8]	7[7]	0.35	300	70	3.5	300	280	14	1,200
Fluoride	300	15	10,000	3,000	150[4]	10,000	12,000	600	40,000
Lead	10	0.5	1,500	100	5[3]	1,500	400	20	6,000
Mercury	0.4	0.02	50	4	0.2[3]	50	16	0.8	200
Molybdenum	10	0.5	1,000	100	5[4]	1,000	400	20	4,000
Nickel	4	0.2	1,050	40	2[4]	1,050	160	8	4,200
Selenium	2	0.1	50	20	1[3]	50	80	4	200
Silver	10	0.5	180	100	5.0[3]	180	400	20	720
Benzene	1.0	0.05	18	10	0.5[3]	18	40	2	72
Toluene	28.8	1.44	518	288	14.4[3]	518	1,152	57.6	2,073
Ethylbenzene	60	3	1,080	600	30[6]	1,080	2,400	120	4,320
Total xylenes	100	5	1,800	1,000	50[14]	1,800	4,000	200	7,200
Total petroleum hydrocarbons (C6-C9)[11,13]	-	-	650	-	-	650	-	-	2,600
Total petroleum hydrocarbons (C10-C36)[11,13] (C10-C14, C15-C28, C29-C36)	-	-	5,000	-	-	10,000	-	-	40,000
Benzo(a)pyrene[4]	0.08	0.004	1	0.8	0.04[5]	10	3.2	0.16	23
Polycyclic aromatic hydrocarbons (Total)[4,11,12]	-	-	200	-	-	200	-	-	800
Polychlorinated biphenyls[8]	-	-	2	-	-	<50	-	-	<50
Phenol (nonhalogenated)	28.8	1.44	518	288	14.4[13]	518	1,152	57.6	2,073
Scheduled chemicals[7,8]	-	-	1	-	-	<50	-	-	<50

TABLE B
SUMMARY OF LABORATORY TEST DATA
FILL CHARACTERISATION ASSESSMENT
All data in mg/kg unless stated otherwise

ANALYTE	Sample Description	HEAVY METALS								PAHs		ORGANOCHLORINE PESTICIDES				PCBs	PETROLEUM HYDROCARBONS								Asbestos
																	Total Petroleum Hydrocarbons				Benzene	Toluene	Ethyl Benzene	Total Xylenes	
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	B(a)P	Aldrin and Dieldrin	Chlordane	DDT, DDD & DDE	Heptachlor		C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}					
PQL - Envirolab Services		4.0	1.0	1.0	1.0	1.0	0.1	1.0	1.0	-	0.05	0.1	0.1	0.1	0.1	0.1	25	50	100	100	1.0	1.0	1.0	3.0	
Guideline concentration-HIL *		100	20	12%	1000	300	15	600	7000	20	1	10	50	200	10	10	65	1000			1	4.1	3.1	14	
Guideline concentration -EIL *		20	3	400	100	600	1	60	200																
BH1 (0.0-0.25)	Fill	LPQL	LPQL	11	13	52	LPQL	2.9	54	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
BH2 (0.1-0.2)	Fill	10	LPQL	26	8.2	53	LPQL	4.1	34	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
BH3 (0.1-0.2)	Fill	8.8	LPQL	19	21	93	LPQL	5.5	91	4.6	0.3	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
BH4 (0.4-0.5)	Fill	4.4	LPQL	7.8	17	19	LPQL	9.4	45	1.6	0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	110	LPQL	LPQL	LPQL	LPQL	NIL
BH4 (1.3-1.5)	Silty Clay	10	LPQL	24	2.6	24	LPQL	1.2	3.3	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
BH5 (0.4-0.5)	Fill	9.1	LPQL	27	3.2	26	LPQL	1.9	4	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
BH5 (1.3-1.5)	Silty Clay	7.5	LPQL	18	9.8	25	LPQL	1.4	5.3	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
BH6 (0.3-0.5)	Fill	LPQL	LPQL	17	6.1	24	LPQL	2.6	4.7	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
BH6 (1.2-1.4)	Silty Clay	LPQL	LPQL	9.2	13	20	LPQL	LPQL	2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
BH7 (0.3-0.5)	Fill	12	LPQL	26	5	24	LPQL	2.2	10	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NIL
Total no. of samples		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
Maximum Value		12	0	27	21	93	0	9.4	91	4.6	0.3	0	0	0	0	0	0	0	0	110	0	0	0	0	

Explanation:
Guidelines: National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC Guidelines)
HIL - Column A: Residential with accessible soils
EIL - Interim Urban Ecological Investigation Levels (EILs)
NSW DECC (EPA) Guidelines for Assessing Service Station Sites

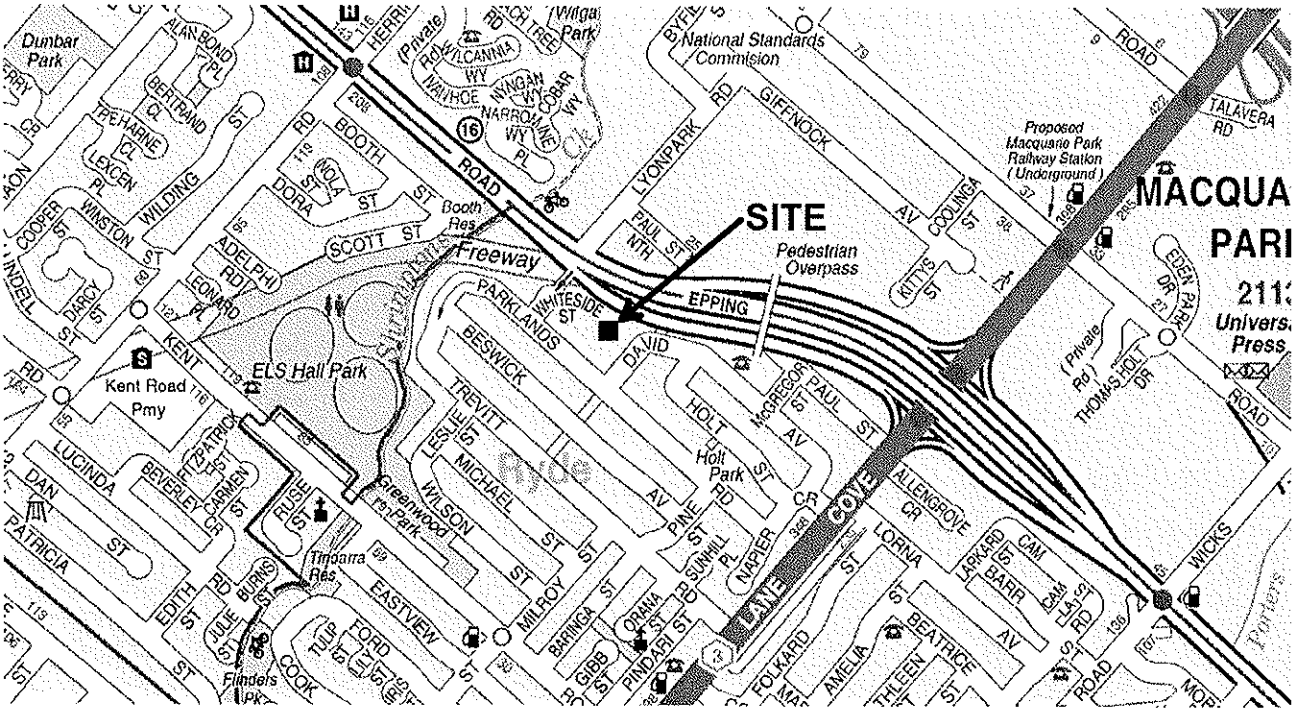
Concentration above HIL **100**
PQL: Practical Quantitation Limit
LPQL: Less than PQL
na: Not Analysed

TABLE C
QA/QC - RELATIVE PERCENTAGE DIFFERENCES

SAMPLE	ANALYSIS	INITIAL (mg/kg)	REPEAT (mg/kg)	MEAN (mg/kg)	RPD %
Intra-laboratory Soil sample ID = BH4 (0.4-0.5) Dup ID = DUP1	Arsenic	4.4	8.9	6.65	68
	Cadmium	LPQL	LPQL	NC	NC
	Chromium	7.8	27	17.4	110
	Copper	17	3	10	140
	Lead	19	26	22.5	31
	Mercury	LPQL	LPQL	NC	NC
	Nickel	9.4	2.2	5.8	124
	Zinc	45	3.6	24.3	170
	Naphthalene	LPQL	LPQL	NC	NC
	Acenaphthylene	LPQL	LPQL	NC	NC
	Acenaphthene	LPQL	LPQL	NC	NC
	Fluorene	LPQL	LPQL	NC	NC
	Phenanthrene	0.1	LPQL	0.1	NC
	Anthracene	LPQL	LPQL	NC	NC
	Fluoranthene	0.3	LPQL	0.3	NC
	Pyrene	0.3	LPQL	0.3	NC
	Benzo(a)anthracene	0.2	LPQL	0.2	NC
	Chrysene	0.2	LPQL	0.2	NC
	Benzo(b)&(k)fluorant	0.4	LPQL	0.4	NC
	Benzo(a)pyrene	0.2	LPQL	0.2	NC
	Indeno(123-cd)pyrene	0.3	LPQL	0.3	NC
	Dibenzo(ah)anthracene	LPQL	LPQL	NC	NC
	Benzo(ghi)perylene	0.2	LPQL	0.2	NC
	Total PAHs	2.2	LPQL	2.2	NC
	C_6-C_9 TPH	LPQL	LPQL	NC	NC
	C_{10}-C_{14} TPH	LPQL	LPQL	NC	NC
	C_{15}-C_{28} TPH	LPQL	LPQL	NC	NC
	C_{29}-C_{36} TPH	110	LPQL	110	NC
	Benzene	LPQL	LPQL	NC	NC
	Toluene	LPQL	LPQL	NC	NC
	Ethylbenzene	LPQL	LPQL	NC	NC
	Total Xylenes	LPQL	LPQL	NC	NC

Explanation

PQL: Practical Quantitation Limit
LPQL: Less than PQL
NA: Not Analysed
NC: Not Calculated



Recreated from UBD

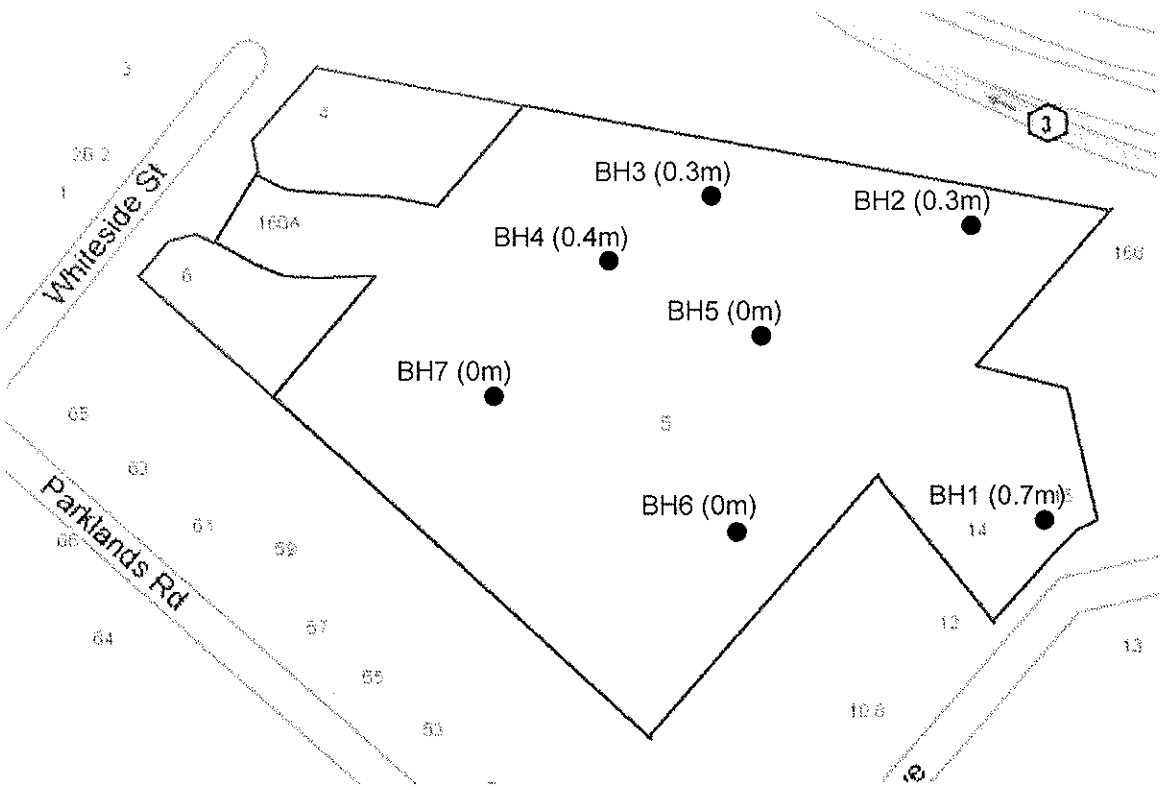
SITE LOCATION PLAN

166A Epping Road
14 & 16 David Avenue, North Ryde

Note: Reference should be made to the text for a full understanding of this plan

ENVIRONMENTAL INVESTIGATION SERVICES

Job No: E21873FJ
Figure: 1



BOREHOLE LOCATION PLAN

166A Epping Road
14 & 16 David Avenue, North Ryde

LEGEND

Approximate Scale (m)

0 10 20 30 40 50

BH5 (0m) ● Borehole location, number and depth of fill (m)

Note: Reference should be made to the text for a full understanding of this plan

ENVIRONMENTAL INVESTIGATION SERVICES

Job No: E21873FJ
Figure: 2

APPENDIX A

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Borehole No. 1 1/1

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

Job No. 21873Z **Method:** SPIRAL AUGER JK550 **R.L. Surface:** N/A

Date: 14-2-08 **Datum:**

Logged/Checked by: M.G./

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
						0			FILL: Clayey silty sand, fine to medium grained, brown, with fine to medium grained igneous gravel.	M	(L)		GRASS COVER
										MC > PL	(St)		APPEARS MODERATELY COMPACTED
					N = 13 2,6,7				FILL: Silty sandy clay, high plasticity, dark brown, with fine to medium grained igneous gravel.				
								CH	SILTY CLAY: high plasticity, dark orange red, with fine to medium grained gravel.	MC > PL	VSt	350 300	
						1		CL	SILTY CLAY: medium plasticity, grey, with ironstone bands.	MC < PL	H		
					N > 25 20,25/ 110mm			-	SHALE: dark grey, with iron indurated bands.	DW	L	-	VERY LOW TO LOW 'TC' BIT RESISTANCE
▼ AFTER 2 HRS						2							
						3							
						4				XW	VL		
					N > 25 13,25/ 120mm								
						5				DW	L		LOW RESISTANCE
						6							
▼ ON COMPLETION										SW	L-M		LOW TO MODERATE RESISTANCE
						7			END OF BOREHOLE AT 7.0m				

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Borehole No. **2** 1/1

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

Job No. 21873Z **Method:** SPIRAL AUGER JK550 **R.L. Surface:** N/A

Date: 14-2-08 **Datum:**

Logged/Checked by: M.G.

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
						0			FILL: Roadbase gravel.	M	MD		APPEARS WELL COMPACTED
					N = 13 5,4,9			CH	SILTY CLAY: high plasticity, orange red.	MC > PL	VSt	- 450 400 490	
						1		CL	SILTY CLAY: medium plasticity, grey mottled red, with ironstone bands.	MC < PL	H		
					N = 31 8,13,18							> 600 > 600 > 600	
						2							
					SPT 25/100mm	3							
						4							
					SPT 25/50mm			-	SHALE: dark grey, with iron indurated bands.	DW	L		LOW 'TC' BIT RESISTANCE
▼ AFTER 1 HR ▶						5				SW	M		MODERATE TO HIGH RESISTANCE
								-	SANDSTONE: fine to medium grained, light red brown.	DW			MODERATE TO LOW RESISTANCE
						6			END OF BOREHOLE AT 6.0m				
						7							

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Borehole No. 3 1/1

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

Job No. 21873Z **Method:** SPIRAL AUGER JK550 **R.L. Surface:** N/A

Date: 14-2-08 **Datum:**

Logged/Checked by: M.G./

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
						0			TOPSOIL: Silty clayey sand, fine to medium grained, light brown, with root fibres and igneous gravel.	M	(L)		
					N = 10 2,4,6			CH	SILTY CLAY: high plasticity, dark orange red, with a trace of root fibres.	MC > PL	VSt	- 480 490 420	
					N = 24 4,10,14	1		CL	SILTY CLAY: medium plasticity, grey red mottled, with ironstone bands.	MC < PL	H	> 600 > 600 > 600	
					N > 25 15,25/ 50mm	2							
						3							
						4							
						5		-	SHALE: dark grey, with iron indurated bands.	DW	L		LOW 'TC' BIT RESISTANCE
										SW	M		MODERATE RESISTANCE
								-	SANDSTONE: fine to medium grained, dark red and light grey banded.	DW	L		LOW RESISTANCE
						6			SANDSTONE: fine to medium grained, light grey.	SW	M		MODERATE TO HIGH RESISTANCE
						7			END OF BOREHOLE AT 7.0m				

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Borehole No. 4 1/1

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

Job No. 21873Z **Method:** SPIRAL AUGER JK300 **R.L. Surface:** N/A

Date: 4-3-08 **Datum:**

Logged/Checked by: M.G./

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
						0			FILL: Silty clayey sand, fine to medium grained, dark brown, with root fibres and fine to coarse grained igneous gravel.	M			MULCH COVER
								CH		MC > PL	VSt	-	APPEARS POORLY COMPACTED
					N = 10 4,4,6	1			SILTY CLAY: high plasticity, dark brown, with fine to medium grained sandstone gravel and root fibres.				
									SILTY CLAY: high plasticity, dark orange, with ironstone bands.				
					N = 27 7,12,15				SILTY CLAY: high plasticity, light grey mottled red, with ironstone bands.		H	>600 >600 >600	
▼ AFTER 4 HRS						2							
					SPT 25/50mm REFUSAL	3		-	SANDSTONE: fine to medium grained, light grey.	DW	L	-	LOW 'TC' BIT RESISTANCE
													MODERATE RESISTANCE
						4			SANDSTONE: fine to medium grained, grey, with orange staining and shale bands.	SW	L-M		
▼ ON COMPLET -ION											L		LOW RESISTANCE
						5							
									SANDSTONE: fine to medium grained, light grey and red.				
						6			END OF BOREHOLE AT 6.0m				
						7							

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Borehole No. 5 1/2

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

Job No. 21873Z **Method:** SPIRAL AUGER JK300 **R.L. Surface:** N/A

Date: 4-3-08 **Datum:**

Logged/Checked by: M.G./

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
						0		CH	SILTY CLAY: high plasticity, brown, with a trace of root fibres.	MC≈PL	VSt		GRASS COVER
									SILTY CLAY: high plasticity, dark orange, with ironstone bands and a trace of root fibres.		H	560	
					N = 12 3,6,6	1						>600 >600	
								CL	SILTY CLAY: medium plasticity, light grey, with ironstone bands.	MC<PL			
					N = 29 8,12,17	2						>600 >600 >600	
					N > 25 19,25/ 120mm REFUSAL	3						>600 >600 >600	
▼ ON COMPLETION						4		-	SANDSTONE: fine to medium grained, light grey and grey.	DW	L		LOW TO VERY LOW 'TC' BIT RESISTANCE
						5							
						6					L-M		LOW TO MODERATE RESISTANCE
						7							

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Borehole No. 5 2/2

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

Job No. 21873Z **Method:** SPIRAL AUGER JK300 **R.L. Surface:** N/A

Date: 4-3-08 **Datum:**

Logged/Checked by: M.G./

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
									SANDSTONE: fine to medium grained, light grey and grey.	DW	L-M		
									END OF BOREHOLE AT 7.5m				
						8							
						9							
						10							
						11							
						12							
						13							
						14							

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CONSULTING GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS

Borehole No. 6 1/2

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

Job No. 21873Z **Method:** SPIRAL AUGER JK300 **R.L. Surface:** N/A

Date: 4-3-08 **Datum:**

Logged/Checked by: M.G./

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■					0		CH	SILTY CLAY: high plasticity, dark brown, with ironstone gravel and a trace of root fibres.	MC > PL	H		GRASS COVER
				■	N = 15 3,6,9				SILTY CLAY: high plasticity, dark orange with ironstone bands.			>600 >600	
						1		CL	SILTY CLAY: medium plasticity, light grey, with ironstone bands.	MC < PL			
				■	N > 41 13,16 25/50mm REFUSAL							>600 >600 >600	
						2		-	SHALE: dark grey, with iron indurated bands.	DW	VL-L	-	VERY LOW TO LOW 'TC' BIT RESISTANCE
▼ AFTER 1 HR						3							
						4							
						5				SW	L-M		LOW TO MODERATE RESISTANCE
						6					L		LOW RESISTANCE
						7					L-M		MODERATE RESISTANCE

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Borehole No. 6 2/2

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

Job No. 21873Z **Method:** SPIRAL AUGER JK300 **R.L. Surface:** N/A

Date: 4-3-08 **Datum:**

Logged/Checked by: M.G./ AR

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
									SHALE: dark grey, with iron indurated bands.	SW	L-M		
									END OF BOREHOLE AT 7.5m				
						8							
						9							
						10							
						11							
						12							
						13							
						14							

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Borehole No. **7** 1/1

BOREHOLE LOG

Client: EG FUNDS

Project: PROPOSED DEVELOPMENT

Location: WHITESIDE STREET AND DAVID AVENUE, NORTH RYDE, NSW

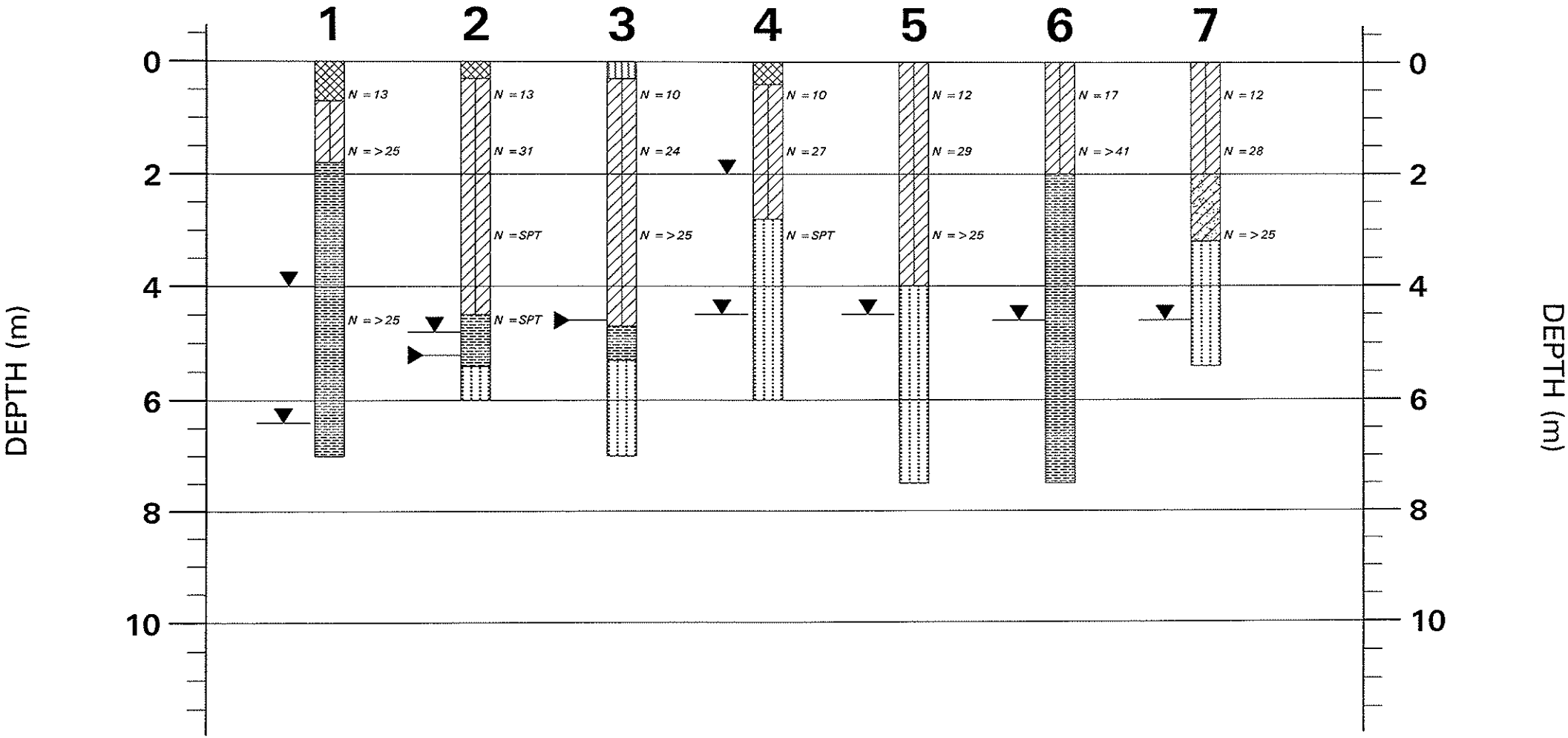
Job No. 21873Z **Method:** SPIRAL AUGER JK300 **R.L. Surface:** N/A

Date: 4-3-08 **Datum:**

Logged/Checked by: M.G./

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
						0		CL	SILTY CLAY: medium plasticity, dark brown, with fine to medium grained sandtone gravel and root fibres.	MC > PL	S		GRASS COVER
								CH	SILTY CLAY: high plasticity, grey mottled orange red.		VSt	210 290 350	
					N = 12 3,5,7	1							
								CL-CH	SILTY CLAY: medium to high plasticity, light grey mottled red.		H	>600 >600 >600	
					N = 28 7,10,18	2		CL	SANDY CLAY: low to medium plasticity, light grey, with fine to medium grained sand.	MC < PL			
					N > 25 15,25/ 50mm REFUSAL	3		-	SANDSTONE: fine to medium grained, light grey.	DW	L	-	LOW 'TC' BIT RESISTANCE
						4							VERY LOW TO LOW RESISTANCE
▼ ON COMPLET-ION													MODERATE RESISTANCE
						5			as above, but with iron indurated bands.	SW	L-M		
									END OF BOREHOLE AT 5.4m				'TC' BIT REFUSAL
						6							
						7							

GRAPHICAL BOREHOLE SUMMARY



Fill
Silty Clay
Shale
Sandstone
Topsoil
Sandy Clay
Observed water level
Groundwater seepage level
N SPT "N" VALUE
Nc SOLID CONE BLOW COUNTS PER 150mm

NOTE: REFER TO BOREHOLE LOGS

Scale: 1 : 100 (vert) ; NTS (horiz)

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Job No.: 21873Z

Figure No.: 2

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ABN 17 003 550 801

REPORT EXPLANATION NOTES

INTRODUCTION

These notes have been provided to amplify the geotechnical report in regard to classification methods, field procedures and certain matters relating to the Comments and Recommendations section. Not all notes are necessarily relevant to all reports.

The ground is a product of continuing natural and man-made processes and therefore exhibits a variety of characteristics and properties which vary from place to place and can change with time. Geotechnical engineering involves gathering and assimilating limited facts about these characteristics and properties in order to understand or predict the behaviour of the ground on a particular site under certain conditions. This report may contain such facts obtained by inspection, excavation, probing, sampling, testing or other means of investigation. If so, they are directly relevant only to the ground at the place where and time when the investigation was carried out.

DESCRIPTION AND CLASSIFICATION METHODS

The methods of description and classification of soils and rocks used in this report are based on Australian Standard 1726, the SAA Site Investigation Code. In general, descriptions cover the following properties – soil or rock type, colour, structure, strength or density, and inclusions. Identification and classification of soil and rock involves judgement and the Company infers accuracy only to the extent that is common in current geotechnical practice.

Soil types are described according to the predominating particle size and behaviour as set out in the attached Unified Soil Classification Table qualified by the grading of other particles present (eg sandy clay) as set out below:

Soil Classification	Particle Size
Clay	less than 0.002mm
Silt	0.002 to 0.06mm
Sand	0.06 to 2mm
Gravel	2 to 60mm

Non-cohesive soils are classified on the basis of relative density, generally from the results of Standard Penetration Test (SPT) as below:

Relative Density	SPT 'N' Value (blows/300mm)
Very loose	less than 4
Loose	4 – 10
Medium dense	10 – 30
Dense	30 – 50
Very Dense	greater than 50

Cohesive soils are classified on the basis of strength (consistency) either by use of hand penetrometer, laboratory testing or engineering examination. The strength terms are defined as follows.

Classification	Unconfined Compressive Strength kPa
Very Soft	less than 25
Soft	25 – 50
Firm	50 – 100
Stiff	100 – 200
Very Stiff	200 – 400
Hard	Greater than 400
Friable	Strength not attainable – soil crumbles

Rock types are classified by their geological names, together with descriptive terms regarding weathering, strength, defects, etc. Where relevant, further information regarding rock classification is given in the text of the report. In the Sydney Basin, 'Shale' is used to describe thinly bedded to laminated siltstone.

SAMPLING

Sampling is carried out during drilling or from other excavations to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on plasticity, grain size, colour, moisture content, minor constituents and, depending upon the degree of disturbance, some information on strength and structure. Bulk samples are similar but of greater volume required for some test procedures.

Undisturbed samples are taken by pushing a thin-walled sample tube, usually 50mm diameter (known as a U50), into the soil and withdrawing it with a sample of the soil contained in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Details of the type and method of sampling used are given on the attached logs.

INVESTIGATION METHODS

The following is a brief summary of investigation methods currently adopted by the Company and some comments on their use and application. All except test pits, hand auger drilling and portable dynamic cone penetrometers require the use of a mechanical drilling rig which is commonly mounted on a truck chassis.

Test Pits: These are normally excavated with a backhoe or a tracked excavator, allowing close examination of the insitu soils if it is safe to descend into the pit. The depth of penetration is limited to about 3m for a backhoe and up to 6m for an excavator. Limitations of test pits are the problems associated with disturbance and difficulty of reinstatement and the consequent effects on close-by structures. Care must be taken if construction is to be carried out near test pit locations to either properly recompact the backfill during construction or to design and construct the structure so as not to be adversely affected by poorly compacted backfill at the test pit location.

Hand Auger Drilling: A borehole of 50mm to 100mm diameter is advanced by manually operated equipment. Premature refusal of the hand augers can occur on a variety of materials such as hard clay, gravel or ironstone, and does not necessarily indicate rock level.

Continuous Spiral Flight Augers: The borehole is advanced using 75mm to 115mm diameter continuous spiral flight augers, which are withdrawn at intervals to allow sampling and insitu testing. This is a relatively economical means of drilling in clays and in sands above the water table. Samples are returned to the surface by the flights or may be collected after withdrawal of the auger flights, but they can be very disturbed and layers may become mixed. Information from the auger sampling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively lower reliability due to mixing or softening of samples by groundwater, or uncertainties as to the original depth of the samples. Augering below the groundwater table is of even lesser reliability than augering above the water table.

Rock Augering: Use can be made of a Tungsten Carbide (TC) bit for auger drilling into rock to indicate rock quality and continuity by variation in drilling resistance and from examination of recovered rock fragments. This method of investigation is quick and relatively inexpensive but provides only an indication of the likely rock strength and predicted values may be in error by a strength order. Where rock strengths may have a significant impact on construction feasibility or costs, then further investigation by means of cored boreholes may be warranted.

Wash Boring: The borehole is usually advanced by a rotary bit, with water being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from "feel" and rate of penetration.

Mud Stabilised Drilling: Either Wash Boring or Continuous Core Drilling can use drilling mud as a circulating fluid to stabilise the borehole. The term 'mud' encompasses a range of products ranging from bentonite to polymers such as Revert or Biogel. The mud tends to mask the cuttings and reliable identification is only possible from intermittent intact sampling (eg from SPT and U50 samples) or from rock coring, etc.

Continuous Core Drilling: A continuous core sample is obtained using a diamond tipped core barrel. Provided full core recovery is achieved (which is not always possible in very low strength rocks and granular soils), this technique provides a very reliable (but relatively expensive) method of investigation. In rocks, an NMLC triple tube core barrel, which gives a core of about 50mm diameter, is usually used with water flush. The length of core recovered is compared to the length drilled and any length not recovered is shown as CORE LOSS. The location of losses are determined on site by the supervising engineer; where the location is uncertain, the loss is placed at the top end of the drill run.

Standard Penetration Tests: Standard Penetration Tests (SPT) are used mainly in non-cohesive soils, but can also be used in cohesive soils as a means of indicating density or strength and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, "Methods of Testing Soils for Engineering Purposes" – Test F3.1.

The test is carried out in a borehole by driving a 50mm diameter split sample tube with a tapered shoe, under the impact of a 63kg hammer with a free fall of 760mm. It is normal for the tube to be driven in three successive 150mm increments and the 'N' value is taken as the number of blows for the last 300mm. In dense sands, very hard clays or weak rock, the full 450mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form:

- In the case where full penetration is obtained with successive blow counts for each 150mm of, say, 4, 6 and 7 blows, as

  N = 13
  4, 6, 7

- In a case where the test is discontinued short of full penetration, say after 15 blows for the first 150mm and 30 blows for the next 40mm, as

  N>30
  15, 30/40mm

The results of the test can be related empirically to the engineering properties of the soil.

Occasionally, the drop hammer is used to drive 50mm diameter thin walled sample tubes (U50) in clays. In such circumstances, the test results are shown on the borehole logs in brackets.

A modification to the SPT test is where the same driving system is used with a solid 60° tipped steel cone of the same diameter as the SPT hollow sampler. The solid cone can be continuously driven for some distance in soft clays or loose sands, or may be used where damage would otherwise occur to the SPT. The results of this Solid Cone Penetration Test (SCPT) are shown as "N_c" on the borehole logs, together with the number of blows per 150mm penetration.

Static Cone Penetrometer Testing and Interpretation: Cone penetrometer testing (sometimes referred to as a Dutch Cone) described in this report has been carried out using an Electronic Friction Cone Penetrometer (EFCP). The test is described in Australian Standard 1289, Test F5.1.

In the tests, a 35mm diameter rod with a conical tip is pushed continuously into the soil, the reaction being provided by a specially designed truck or rig which is fitted with an hydraulic ram system. Measurements are made of the end bearing resistance on the cone and the frictional resistance on a separate 134mm long sleeve, immediately behind the cone. Transducers in the tip of the assembly are electrically connected by wires passing through the centre of the push rods to an amplifier and recorder unit mounted on the control truck.

As penetration occurs (at a rate of approximately 20mm per second) the information is output as incremental digital records every 10mm. The results given in this report have been plotted from the digital data.

The information provided on the charts comprise:

- Cone resistance – the actual end bearing force divided by the cross sectional area of the cone – expressed in MPa.
- Sleeve friction – the frictional force on the sleeve divided by the surface area – expressed in kPa.
- Friction ratio – the ratio of sleeve friction to cone resistance, expressed as a percentage.

The ratios of the sleeve resistance to cone resistance will vary with the type of soil encountered, with higher relative friction in clays than in sands. Friction ratios of 1% to 2% are commonly encountered in sands and occasionally very soft clays, rising to 4% to 10% in stiff clays and peats. Soil descriptions based on cone resistance and friction ratios are only inferred and must not be considered as exact.

Correlations between EFCP and SPT values can be developed for both sands and clays but may be site specific.

Interpretation of EFCP values can be made to empirically derive modulus or compressibility values to allow calculation of foundation settlements.

Stratification can be inferred from the cone and friction traces and from experience and information from nearby boreholes etc. Where shown, this information is presented for general guidance, but must be regarded as interpretive. The test method provides a continuous profile of engineering properties but, where precise information on soil classification is required, direct drilling and sampling may be preferable.

Portable Dynamic Cone Penetrometers: Portable Dynamic Cone Penetrometer (DCP) tests are carried out by driving a rod into the ground with a sliding hammer and counting the blows for successive 100mm increments of penetration.

Two relatively similar tests are used:

- Cone penetrometer (commonly known as the Scala Penetrometer) – a 16mm rod with a 20mm diameter cone end is driven with a 9kg hammer dropping 510mm (AS1289, Test F3.2). The test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various Road Authorities.
- Perth sand penetrometer – a 16mm diameter flat ended rod is driven with a 9kg hammer, dropping 600mm (AS1289, Test F3.3). This test was developed for testing the density of sands (originating in Perth) and is mainly used in granular soils and filling.

LOGS

The borehole or test pit logs presented herein are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on the frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will enable the most reliable assessment, but is not always practicable or possible to justify on economic grounds. In any case, the boreholes or test pits represent only a very small sample of the total subsurface conditions.

The attached explanatory notes define the terms and symbols used in preparation of the logs.

Interpretation of the information shown on the logs, and its application to design and construction, should therefore take into account the spacing of boreholes or test pits, the method of drilling or excavation, the frequency of sampling and testing and the possibility of other than "straight line" variations between the boreholes or test pits. Subsurface conditions between boreholes or test pits may vary significantly from conditions encountered at the borehole or test pit locations.

GROUNDWATER

Where groundwater levels are measured in boreholes, there are several potential problems:

- Although groundwater may be present, in low permeability soils it may enter the hole slowly or perhaps not at all during the time it is left open.
- A localised perched water table may lead to an erroneous indication of the true water table.
- Water table levels will vary from time to time with seasons or recent weather changes and may not be the same at the time of construction.
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must be washed out of the hole or 'reverted' chemically if water observations are to be made.

More reliable measurements can be made by installing standpipes which are read after stabilising at intervals ranging from several days to perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from perched water tables or surface water.

FILL

The presence of fill materials can often be determined only by the inclusion of foreign objects (eg bricks, steel etc) or by distinctly unusual colour, texture or fabric. Identification of the extent of fill materials will also depend on investigation methods and frequency. Where natural soils similar to those at the site are used for fill, it may be difficult with limited testing and sampling to reliably determine the extent of the fill.

The presence of fill materials is usually regarded with caution as the possible variation in density, strength and material type is much greater than with natural soil deposits. Consequently, there is an increased risk of adverse engineering characteristics or behaviour. If the volume and quality of fill is of importance to a project, then frequent test pit excavations are preferable to boreholes.

LABORATORY TESTING

Laboratory testing is normally carried out in accordance with Australian Standard 1289 *'Methods of Testing Soil for Engineering Purposes'*. Details of the test procedure used are given on the individual report forms.

ENGINEERING REPORTS

Engineering reports are prepared by qualified personnel and are based on the information obtained and on current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal (eg. a three storey building) the information and interpretation may not be relevant if the design proposal is changed (eg to a twenty storey building). If this happens, the company will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical aspects and recommendations or suggestions for design and construction. However, the Company cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions – the potential for this will be partially dependent on borehole spacing and sampling frequency as well as investigation technique.
- Changes in policy or interpretation of policy by statutory authorities.
- The actions of persons or contractors responding to commercial pressures.

If these occur, the company will be pleased to assist with investigation or advice to resolve any problems occurring.

SITE ANOMALIES

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, the company requests that it immediately be notified. Most problems are much more readily resolved when conditions are exposed that at some later stage, well after the event.

REPRODUCTION OF INFORMATION FOR CONTRACTUAL PURPOSES

Attention is drawn to the document *'Guidelines for the Provision of Geotechnical Information in Tender Documents'*, published by the Institution of Engineers, Australia. Where information obtained from this investigation is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. The company would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

REVIEW OF DESIGN

Where major civil or structural developments are proposed or where only a limited investigation has been completed or where the geotechnical conditions/ constraints are quite complex, it is prudent to have a joint design review which involves a senior geotechnical engineer.

SITE INSPECTION

The company will always be pleased to provide engineering inspection services for geotechnical aspects of work to which this report is related.

Requirements could range from:

i) a site visit to confirm that conditions exposed are no worse than those interpreted, to

ii) a visit to assist the contractor or other site personnel in identifying various soil/rock types such as appropriate footing or pier founding depths, or

iii) full time engineering presence on site.

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GRAPHIC LOG SYMBOLS FOR SOILS AND ROCKS

SOIL


FILL


TOPSOIL


CLAY (CL, CH)


SILT (ML, MH)


SAND (SP, SW)


GRAVEL (GP, GW)


SANDY CLAY (CL, CH)


SILTY CLAY (CL, CH)


CLAYEY SAND (SC)


SILTY SAND (SM)


GRAVELLY CLAY (CL, CH)


CLAYEY GRAVEL (GC)


SANDY SILT (ML)


PEAT AND ORGANIC SOILS

ROCK


CONGLOMERATE


SANDSTONE


SHALE


SILTSTONE, MUDSTONE, CLAYSTONE


LIMESTONE


PHYLLITE, SCHIST


TUFF


GRANITE, GABBRO


DOLERITE, DIORITE


BASALT, ANDESITE


QUARTZITE

DEFECTS AND INCLUSIONS


CLAY SEAM


SHEARED OR CRUSHED SEAM


BRECCIATED OR SHATTERED SEAM/ZONE


IRONSTONE GRAVEL


ORGANIC MATERIAL

OTHER MATERIALS


CONCRETE


BITUMINOUS CONCRETE, COAL


COLLUVIUM

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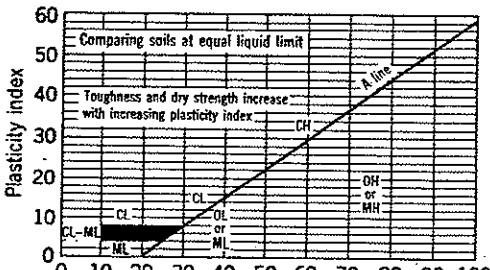
UNIFIED SOIL CLASSIFICATION TABLE

Field Identification Procedures (Excluding particles larger than 75 μm and basing fractions on estimated weights)					Group Symbols[a]	Typical Names	Information Required for Describing Soils	Laboratory Classification Criteria
Coarse-grained soils: More than half of material is *larger* than 75 μm sieve size[b] (The 75 μm sieve size is about the smallest particle visible to naked eye)	Gravels: More than half of coarse fraction is larger than 4 mm sieve size	Clean gravels (little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes		*GW*	Well-graded gravels, gravel-sand mixtures, little or no fines	Give typical name; indicate approximate percentages of sand and gravel; maximum size; angularity, surface condition, and hardness of the coarse grains; local or geologic name and other pertinent descriptive information; and symbols in parentheses For undisturbed soils add information on stratification, degree of compactness, cementation, moisture conditions and drainage characteristics Example: *Silty sand*, gravelly; about 20% hard, angular gravel particles 12 mm maximum size; rounded and subangular sand grains coarse to fine, about 15% non-plastic fines with low dry strength; well compacted and moist in place; alluvial sand; (*SM*)	Use grain size curve in identifying the fractions as given under field identification Determine percentages of gravel and sand from grain size curve Depending on percentage of fines (fraction smaller than 75 μm sieve size) coarse grained soils are classified as follows: Less than 5% *GW, GP, SW, SP* More than 12% *GM, GC, SM, SC* 5% to 12% *Borderline* cases requiring use of dual symbols $C_U = \frac{D_{60}}{D_{10}}$ Greater than 4 $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3
			Predominantly one size or a range of sizes with some intermediate sizes missing		*GP*	Poorly graded gravels, gravel-sand mixtures, little or no fines		Not meeting all gradation requirements for *GW*
		Gravels with fines (appreciable amount of fines)	Nonplastic fines (for identification procedures see *ML* below)		*GM*	Silty gravels, poorly graded gravel-sand-silt mixtures		Atterberg limits below "A" line, or *PI* less than 4 — Above "A" line with *PI* between 4 and 7 are *borderline* cases requiring use of dual symbols
			Plastic fines (for identification procedures, see *CL* below)		*GC*	Clayey gravels, poorly graded gravel-sand-clay mixtures		Atterberg limits above "A" line, with *PI* greater than 7
	Sands: More than half of coarse fraction is smaller than 4 mm sieve size	Clean sands (little or no fines)	Wide range in grain sizes and substantial amounts of all intermediate particle sizes		*SW*	Well graded sands, gravelly sands, little or no fines		$C_U = \frac{D_{60}}{D_{10}}$ Greater than 6 $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3
			Predominantly one size or a range of sizes with some intermediate sizes missing		*SP*	Poorly graded sands, gravelly sands, little or no fines		Not meeting all gradation requirements for *SW*
		Sands with fines (appreciable amount of fines)	Nonplastic fines (for identification procedures, see *ML* below)		*SM*	Silty sands, poorly graded sand-silt mixtures		Atterberg limits below "A" line or *PI* less than 5 — Above "A" line with *PI* between 4 and 7 are *borderline* cases requiring use of dual symbols
			Plastic fines (for identification procedures, see *CL* below)		*SC*	Clayey sands, poorly graded sand-clay mixtures		Atterberg limits below "A" line with *PI* greater than 7
Fine-grained soils: More than half of material is *smaller* than 75 μm sieve size (The 75 μm sieve size is about the smallest particle visible to naked eye)	Identification Procedures on Fraction Smaller than 380 μm Sieve Size							
	Silts and clays: liquid limit less than 50	Dry Strength (crushing characteristics)	Dilatancy (reaction to shaking)	Toughness (consistency near plastic limit)				
		None to slight	Quick to slow	None	*ML*	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands with slight plasticity	Give typical name; indicate degree and character of plasticity, amount and maximum size of coarse grains; colour in wet condition, odour if any, local or geologic name, and other pertinent descriptive information, and symbol in parentheses For undisturbed soils add information on structure, stratification, consistency in undisturbed and remoulded states, moisture and drainage conditions Example: *Clayey silt*, brown; slightly plastic; small percentage of fine sand; numerous vertical root holes; firm and dry in place; loess; (*ML*)	
		Medium to high	None to very slow	Medium	*CL*	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
		Slight to medium	Slow	Slight	*OL*	Organic silts and organic silty clays of low plasticity		
	Silts and clays: liquid limit greater than 50	Slight to medium	Slow to none	Slight to medium	*MH*	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
		High to very high	None	High	*CH*	Inorganic clays of high plasticity, fat clays		
		Medium to high	None to very slow	Slight to medium	*OH*	Organic clays of medium to high plasticity		
Highly Organic Soils	Readily identified by colour, odour, spongy feel and frequently by fibrous texture				*Pt*	Peat and other highly organic soils		



Plasticity chart
for laboratory classification of fine grained soils

NOTE: 1) Soils possessing characteristics of two groups are designated by combinations of group symbols (e.g. GW-GC, well graded gravel-sand mixture with clay fines).

2) Soils with liquid limits of the order of 35 to 50 may be visually classified as being of medium plasticity.

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LOG SYMBOLS

LOG COLUMN	SYMBOL	DEFINITION
Groundwater Record	▼	Standing water level. Time delay following completion of drilling may be shown.
	C	Extent of borehole collapse shortly after drilling.
	▶	Groundwater seepage into borehole or excavation noted during drilling or excavation.
Samples	ES	Soil sample taken over depth indicated, for environmental analysis.
	U50	Undisturbed 50mm diameter tube sample taken over depth indicated.
	DB	Bulk disturbed sample taken over depth indicated.
	DS	Small disturbed bag sample taken over depth indicated.
Field Tests	N = 17 4, 7, 10	Standard Penetration Test (SPT) performed between depths indicated by lines. Individual figures show blows per 150mm penetration. 'R' as noted below.
	N_c = 5 7 3R	Solid Cone Penetration Test (SCPT) performed between depths indicated by lines. Individual figures show blows per 150mm penetration for 60 degree solid cone driven by SPT hammer. 'R' refers to apparent hammer refusal within the corresponding 150mm depth increment.
	VNS = 25	Vane shear reading in kPa of Undrained Shear Strength.
	PID = 100	Photoionisation detector reading in ppm (Soil sample headspace test).
Moisture Condition (Cohesive Soils)	MC>PL	Moisture content estimated to be greater than plastic limit.
	MC≈PL	Moisture content estimated to be approximately equal to plastic limit.
	MC<PL	Moisture content estimated to be less than plastic limit.
(Cohesionless Soils)	D	DRY - runs freely through fingers.
	M	MOIST - does not run freely but no free water visible on soil surface.
	W	WET - free water visible on soil surface.
Strength (Consistency) Cohesive Soils	VS	VERY SOFT - Unconfined compressive strength less than 25kPa
	S	SOFT - Unconfined compressive strength 25-50kPa
	F	FIRM - Unconfined compressive strength 50-100kPa
	St	STIFF - Unconfined compressive strength 100-200kPa
	VSt	VERY STIFF - Unconfined compressive strength 200-400kPa
	H	HARD - Unconfined compressive strength greater than 400kPa
	( )	Bracketed symbol indicates estimated consistency based on tactile examination or other tests.
Density Index/ Relative Density (Cohesionless Soils)		**Density Index (Id) Range (%)** / **SPT 'N' Value Range (Blows/300mm)**
	VL	Very Loose <15 0-4
	L	Loose 15-35 4-10
	MD	Medium Dense 35-65 10-30
	D	Dense 65-85 30-50
	VD	Very Dense >85 >50
	( )	Bracketed symbol indicates estimated density based on ease of drilling or other tests.
Hand Penetrometer Readings	300 250	Numbers indicate individual test results in kPa on representative undisturbed material unless noted otherwise.
Remarks	'V' bit	Hardened steel 'V' shaped bit.
	'TC' bit	Tungsten carbide wing bit.
	T 60	Penetration of auger string in mm under static load of rig applied by drill head hydraulics without rotation of augers.

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LOG SYMBOLS

ROCK MATERIAL WEATHERING CLASSIFICATION

TERM	SYMBOL	DEFINITION
Residual Soil	RS	Soil developed on extremely weathered rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
Extremely weathered rock	XW	Rock is weathered to such an extent that it has "soil" properties, ie it either disintegrates or can be remoulded, in water.
Distinctly weathered rock	DW	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by ironstaining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores.
Slightly weathered rock	SW	Rock is slightly discoloured but shows little or no change of strength from fresh rock.
Fresh rock	FR	Rock shows no sign of decomposition or staining.

ROCK STRENGTH

Rock strength is defined by the Point Load Strength Index (Is 50) and refers to the strength of the rock substance in the direction normal to the bedding. The test procedure is described by the International Journal of Rock Mechanics, Mining, Science and Geomechanics. Abstract Volume 22, No 2, 1985.

TERM	SYMBOL	Is (50) MPa	FIELD GUIDE
Extremely Low:	EL	0.03	Easily remoulded by hand to a material with soil properties.
Very Low:	VL	0.1	May be crumbled in the hand. Sandstone is "sugary" and friable.
Low:	L	0.3	A piece of core 150mm long x 50mm dia. may be broken by hand and easily scored with a knife. Sharp edges of core may be friable and break during handling.
Medium Strength:	M	1	A piece of core 150mm long x 50mm dia. can be broken by hand with difficulty. Readily scored with knife.
High:	H	3	A piece of core 150mm long x 50mm dia. core cannot be broken by hand, can be slightly scratched or scored with knife; rock rings under hammer.
Very High:	VH	10	A piece of core 150mm long x 50mm dia. may be broken with hand-held pick after more than one blow. Cannot be scratched with pen knife; rock rings under hammer.
Extremely High:	EH		A piece of core 150mm long x 50mm dia. is very difficult to break with hand-held hammer. Rings when struck with a hammer.

ABBREVIATIONS USED IN DEFECT DESCRIPTION

ABBREVIATION	DESCRIPTION	NOTES
Be	Bedding Plane Parting	Defect orientations measured relative to the normal to the long core axis (ie relative to horizontal for vertical holes)
CS	Clay Seam	
J	Joint	
P	Planar	
Un	Undulating	
S	Smooth	
R	Rough	
IS	Ironstained	
XWS	Extremely Weathered Seam	
Cr	Crushed Seam	
60t	Thickness of defect in millimetres	

APPENDIX B

Envirolab Services Pty Ltd
ABN 37 112 535 645
54 Frenchs Rd Willoughby NSW 2068
ph 02 9958 5801 fax 02 9958 5803
email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 17072

Client:
Environmental Investigation Services
PO Box 976
North Ryde BC
NSW 1670

Attention: Cameron Hollands

Sample log in details:

Your Reference:	**E21873FJ, North Ryde**
No. of samples:	4 Soils
Date samples received:	15/02/08
Date completed instructions received:	15/02/08

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by:	22/02/08
Date of Preliminary Report:	Not Issued
Issue Date:	22/02/08

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Accredited for compliance with ISO/IEC 17025.
Tests not covered by NATA are denoted with *.

Results Approved By:

Jacinta Hurst
Operations Manager

Joshua Lim
Chemist

vTPH & BTEX in Soil				
Our Reference:	UNITS	17072-1	17072-3	17072-4
Your Reference	----------	BH1	BH2	BH3
Depth	----------	0.0-0.25	0.1-0.2	0.1-0.2
Date Sampled		14/02/2008	14/02/2008	14/02/2008
Type of sample		Soil	Soil	Soil
Date extracted	-	19/02/2008	19/02/2008	19/02/2008
Date analysed	-	20/02/2008	20/02/2008	20/02/2008
vTPH C_6 - C_9	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0
m + p-Xylene	mg/kg	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	106	96	98

sTPH in Soil (C10-C36)				
Our Reference:	UNITS	17072-1	17072-3	17072-4
Your Reference	----------	BH1	BH2	BH3
Depth	----------	0.0-0.25	0.1-0.2	0.1-0.2
Date Sampled		14/02/2008	14/02/2008	14/02/2008
Type of sample		Soil	Soil	Soil
Date extracted	-	19/02/2008	19/02/2008	19/02/2008
Date analysed	-	19/02/2008	19/02/2008	19/02/2008
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100
Surrogate o-Terphenyl	%	94	98	98

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	17072-1 BH1 0.0-0.25 14/02/2008 Soil	17072-3 BH2 0.1-0.2 14/02/2008 Soil	17072-4 BH3 0.1-0.2 14/02/2008 Soil
Date extracted	-	19/02/2008	19/02/2008	19/02/2008
Date analysed	-	19/02/2008	19/02/2008	19/02/2008
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.5
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	0.8
Pyrene	mg/kg	<0.1	<0.1	0.8
Benzo(a)anthracene	mg/kg	<0.1	<0.1	0.4
Chrysene	mg/kg	<0.1	<0.1	0.5
Benzo(b,k)fluoranthene	mg/kg	<0.2	<0.2	0.7
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.3
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	0.3
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	0.3
Surrogate p-Terphenyl-d_{14}	%	107	107	110

Total = 4.6

Organochlorine Pesticides in soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	17072-1 BH1 0.0-0.25 14/02/2008 Soil	17072-3 BH2 0.1-0.2 14/02/2008 Soil	17072-4 BH3 0.1-0.2 14/02/2008 Soil
Date extracted	-	19/02/2008	19/02/2008	19/02/2008
Date analysed	-	21/02/2008	21/02/2008	21/02/2008
HCB	mg/kg	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	107	108	117

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	17072-1 BH1 0.0-0.25 14/02/2008 Soil	17072-3 BH2 0.1-0.2 14/02/2008 Soil	17072-4 BH3 0.1-0.2 14/02/2008 Soil
Date extracted	-	19/02/2008	19/02/2008	19/02/2008
Date analysed	-	21/02/2008	21/02/2008	21/02/2008
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	107	108	117

Acid Extractable metals in soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ---------- 	17072-1 BH1 0.0-0.25 14/02/2008 Soil	17072-3 BH2 0.1-0.2 14/02/2008 Soil	17072-4 BH3 0.1-0.2 14/02/2008 Soil
Date digested	-	19/02/2008	19/02/2008	19/02/2008
Date analysed	-	20/02/2008	20/02/2008	20/02/2008
Arsenic	mg/kg	<4.0	10	8.8
Cadmium	mg/kg	<1.0	<1.0	<1.0
Chromium	mg/kg	11	26	19
Copper	mg/kg	13	8.2	21
Lead	mg/kg	52	53	93
Mercury	mg/kg	<0.10	<0.10	<0.10
Nickel	mg/kg	2.9	4.1	5.5
Zinc	mg/kg	54	34	91

Moisture Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	17072-1 BH1 0.0-0.25 14/02/2008 Soil	17072-3 BH2 0.1-0.2 14/02/2008 Soil	17072-4 BH3 0.1-0.2 14/02/2008 Soil
Date prepared	-	19/02/2008	19/02/2008	19/02/2008
Date analysed	-	19/02/2008	19/02/2008	19/02/2008
Moisture	%	12	20	18

Asbestos ID - soils				
Our Reference:	UNITS	17072-1	17072-3	17072-4
Your Reference	----------	BH1	BH2	BH3
Depth	----------	0.0-0.25	0.1-0.2	0.1-0.2
Date Sampled		14/02/2008	14/02/2008	14/02/2008
Type of sample		Soil	Soil	Soil
Date analysed	-	19/02/2008	19/02/2008	19/02/2008
Sample Description	-	20g soil	20g soil	20g soil
Asbestos ID in soil	-	No asbestos detected	No asbestos detected	No asbestos detected
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

Method ID	Methodology Summary
GC.16	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
GC.14	Soil samples extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
GC-5	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC-6	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals.20 ICP-AES	Determination of various metals by ICP-AES.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.
AS4964-2004	Qualitative identification of asbestos type fibres in bulk using Polarised Light Microscopy and Dispersion Staining Techniques.

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/2/08	[NT]	[NT]	LCS-1	19/2/08%
Date analysed	-			20/2/08	[NT]	[NT]	LCS-1	20/2/08%
vTPH C_6 - C_9	mg/kg	25	GC.16	<25	[NT]	[NT]	LCS-1	70%
Benzene	mg/kg	0.5	GC.14	<0.5	[NT]	[NT]	LCS-1	109%
Toluene	mg/kg	0.5	GC.14	<0.5	[NT]	[NT]	LCS-1	77%
Ethylbenzene	mg/kg	1	GC.14	<1.0	[NT]	[NT]	LCS-1	85%
m + p-Xylene	mg/kg	2	GC.14	<2.0	[NT]	[NT]	LCS-1	90%
o-Xylene	mg/kg	1	GC.14	<1.0	[NT]	[NT]	LCS-1	90%
Surrogate aaa-Trifluorotoluene	%		GC.14	92	[NT]	[NT]	LCS-1	68%
QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/2/08	[NT]	[NT]	LCS-1	19/2/08%
Date analysed	-			19/2/08	[NT]	[NT]	LCS-1	19/2/08%
TPH C_{10} - C_{14}	mg/kg	50	GC.3	<50	[NT]	[NT]	LCS-1	107%
TPH C_{15} - C_{28}	mg/kg	100	GC.3	<100	[NT]	[NT]	LCS-1	89%
TPH C_{29} - C_{36}	mg/kg	100	GC.3	<100	[NT]	[NT]	LCS-1	100%
Surrogate o-Terphenyl	%		GC.3	92	[NT]	[NT]	LCS-1	91%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/2/08	[NT]	[NT]	LCS-1	19/2/08%
Date analysed	-			19/2/08	[NT]	[NT]	LCS-1	19/2/08%
Naphthalene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	LCS-1	109%
Acenaphthylene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	LCS-1	107%
Phenanthrene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	LCS-1	105%
Anthracene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	LCS-1	106%
Pyrene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	LCS-1	108%
Benzo(a)anthracene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	LCS-1	119%
Benzo(b,k)fluoranthene	mg/kg	0.2	GC.12	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12	<0.05	[NT]	[NT]	LCS-1	100%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		GC.12	109	[NT]	[NT]	LCS-1	105%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/2/08	[NT]	[NT]	LCS-1	19/2/08%
Date analysed	-			21/2/08	[NT]	[NT]	LCS-1	21/2/08%
HCB	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	101%
gamma-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	98%
Heptachlor	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	78%
delta-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	92%
Heptachlor Epoxide	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	96%
gamma-Chlordane	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	94%
Dieldrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	97%
Endrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	82%
pp-DDD	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	90%
Endosulfan II	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-1	90%
Methoxychlor	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		GC-5	107	[NT]	[NT]	LCS-1	105%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/2/08	[NT]	[NT]	LCS-1	19/2/08%
Date analysed	-			21/2/08	[NT]	[NT]	LCS-1	21/2/08%
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	LCS-1	87%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		GC-6	107	[NT]	[NT]	LCS-1	116%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			19/2/08	[NT]	[NT]	LCS-2	19/2/08%
Date analysed	-			20/2/08	[NT]	[NT]	LCS-2	20/2/08%
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4.0	[NT]	[NT]	LCS-2	103%
Cadmium	mg/kg	1	Metals.20 ICP-AES	<1.0	[NT]	[NT]	LCS-2	103%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1.0	[NT]	[NT]	LCS-2	105%
Copper	mg/kg	1	Metals.20 ICP-AES	<1.0	[NT]	[NT]	LCS-2	104%
Lead	mg/kg	1	Metals.20 ICP-AES	<1.0	[NT]	[NT]	LCS-2	102%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.10	[NT]	[NT]	LCS-2	122%
Nickel	mg/kg	1	Metals.20 ICP-AES	<1.0	[NT]	[NT]	LCS-2	104%
Zinc	mg/kg	1	Metals.20 ICP-AES	<1.0	[NT]	[NT]	LCS-2	105%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			19/2/08
Date analysed	-			19/2/08
Moisture	%	0.1	LAB.8	<0.10
QUALITY CONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]

Report Comments:

Asbestos was analysed by Approved Identifier: Joshua Lim

INS: Insufficient sample for this test	NT: Not tested	PQL: Practical Quantitation Limit
RPD: Relative Percent Difference	NA: Test not required	LCS: Laboratory Control Sample
NR: Not requested	<: Less than	>: Greater than

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria:

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.

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54 Frenchs Rd Willoughby NSW 2068
ph 02 9958 5801 fax 02 9958 5803
email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 17542

Client:
Environmental Investigation Services
PO Box 976
North Ryde BC
NSW 1670

Attention: Cameron Hollands

Sample log in details:

Your Reference:	**E21873FJ, North Ryde**
No. of samples:	11 Soils
Date samples received:	05/03/08
Date completed instructions received:	05/03/08

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by:	12/03/08
Date of Preliminary Report:	Not Issued
Issue Date:	10/03/08

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Results Approved By:

Jacinta Hurst
Operations Manager

Joshua Lim
Chemist

vTPH & BTEX in Soil						
Our Reference:	UNITS	17542-1	17542-2	17542-3	17542-4	17542-5
Your Reference	----------	BH4	BH5	BH6	BH7	Dup1
Depth	----------	0.4-0.5	0.4-0.5	0.3-0.5	0.3-0.5	-
Date Sampled		4/03/2008	4/03/2008	4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	7/03/2008	7/03/2008	7/03/2008	7/03/2008	7/03/2008
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m + p-Xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	91	82	74	92	97

vTPH & BTEX in Soil				
Our Reference:	UNITS	17542-9	17542-10	17542-11
Your Reference	----------	BH4	BH5	BH6
Depth	----------	1.3-1.5	1.3-1.5	1.2-1.4
Date Sampled		4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	7/03/2008	7/03/2008	7/03/2008
vTPH C_6 - C_9	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0
m + p-Xylene	mg/kg	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	93	97	93

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	17542-1	17542-2	17542-3	17542-4	17542-5
Your Reference	----------	BH4	BH5	BH6	BH7	Dup1
Depth	----------	0.4-0.5	0.4-0.5	0.3-0.5	0.3-0.5	-
Date Sampled		4/03/2008	4/03/2008	4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	7/03/2008	7/03/2008	7/03/2008	7/03/2008	7/03/2008
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	110	<100	<100	<100	<100
Surrogate o-Terphenyl	%	83	82	83	80	89

sTPH in Soil (C10-C36)				
Our Reference:	UNITS	17542-9	17542-10	17542-11
Your Reference	----------	BH4	BH5	BH6
Depth	----------	1.3-1.5	1.3-1.5	1.2-1.4
Date Sampled		4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	7/03/2008	7/03/2008	7/03/2008
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100
Surrogate o-Terphenyl	%	82	80	82

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ---------- 	17542-1 BH4 0.4-0.5 4/03/2008 Soil	17542-2 BH5 0.4-0.5 4/03/2008 Soil	17542-3 BH6 0.3-0.5 4/03/2008 Soil	17542-4 BH7 0.3-0.5 4/03/2008 Soil	17542-5 Dup1 - 4/03/2008 Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	7/03/2008	7/03/2008	7/03/2008	7/03/2008	7/03/2008
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b,k)fluoranthene	mg/kg	0.4	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.2	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	106	108	105	102	102

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	17542-9 BH4 1.3-1.5 4/03/2008 Soil	17542-10 BH5 1.3-1.5 4/03/2008 Soil	17542-11 BH6 1.2-1.4 4/03/2008 Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	7/03/2008	7/03/2008	7/03/2008
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	103	104	103

Organochlorine Pesticides in soil						
Our Reference:	UNITS	17542-1	17542-2	17542-3	17542-4	17542-5
Your Reference	----------	BH4	BH5	BH6	BH7	Dup1
Depth	----------	0.4-0.5	0.4-0.5	0.3-0.5	0.3-0.5	-
Date Sampled		4/03/2008	4/03/2008	4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	8/03/2008	8/03/2008	8/03/2008	8/03/2008	8/03/2008
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	104	105	102	106	104

Organochlorine Pesticides in soil				
Our Reference:	UNITS	17542-9	17542-10	17542-11
Your Reference	----------	BH4	BH5	BH6
Depth	----------	1.3-1.5	1.3-1.5	1.2-1.4
Date Sampled		4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	8/03/2008	8/03/2008	8/03/2008
HCB	mg/kg	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	106	103	104

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	17542-1 BH4 0.4-0.5 4/03/2008 Soil	17542-2 BH5 0.4-0.5 4/03/2008 Soil	17542-3 BH6 0.3-0.5 4/03/2008 Soil	17542-4 BH7 0.3-0.5 4/03/2008 Soil	17542-5 Dup1 - 4/03/2008 Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	8/03/2008	8/03/2008	8/03/2008	8/03/2008	8/03/2008
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	104	105	102	106	104

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	17542-9 BH4 1.3-1.5 4/03/2008 Soil	17542-10 BH5 1.3-1.5 4/03/2008 Soil	17542-11 BH6 1.2-1.4 4/03/2008 Soil
Date extracted	-	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	8/03/2008	8/03/2008	8/03/2008
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	106	103	104

Acid Extractable metals in soil						
Our Reference:	UNITS	17542-1	17542-2	17542-3	17542-4	17542-5
Your Reference	----------	BH4	BH5	BH6	BH7	Dup1
Depth	----------	0.4-0.5	0.4-0.5	0.3-0.5	0.3-0.5	-
Date Sampled		4/03/2008	4/03/2008	4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	7/03/2008	7/03/2008	7/03/2008	7/03/2008	7/03/2008
Date analysed	-	7/03/2008	7/03/2008	7/03/2008	7/03/2008	7/03/2008
Arsenic	mg/kg	4.4	9.1	<4.0	12	8.9
Cadmium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	mg/kg	7.8	27	17	26	27
Copper	mg/kg	17	3.2	6.1	5.0	3.0
Lead	mg/kg	19	26	24	24	26
Mercury	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	9.4	1.9	2.6	2.2	2.2
Zinc	mg/kg	45	4.0	4.7	10	3.6

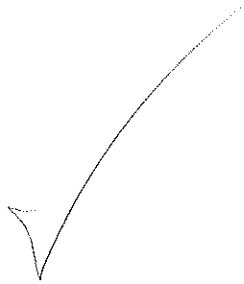
Acid Extractable metals in soil				
Our Reference:	UNITS	17542-9	17542-10	17542-11
Your Reference	----------	BH4	BH5	BH6
Depth	----------	1.3-1.5	1.3-1.5	1.2-1.4
Date Sampled		4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil
Date digested	-	7/03/2008	7/03/2008	7/03/2008
Date analysed	-	7/03/2008	7/03/2008	7/03/2008
Arsenic	mg/kg	10	7.5	<4.0
Cadmium	mg/kg	<1.0	<1.0	<1.0
Chromium	mg/kg	24	18	9.2
Copper	mg/kg	2.6	9.8	13
Lead	mg/kg	24	25	20
Mercury	mg/kg	<0.10	<0.10	<0.10
Nickel	mg/kg	1.2	1.4	<1.0
Zinc	mg/kg	3.3	5.3	2.0

Moisture						
Our Reference:	UNITS	17542-1	17542-2	17542-3	17542-4	17542-5
Your Reference	----------	BH4	BH5	BH6	BH7	Dup1
Depth	----------	0.4-0.5	0.4-0.5	0.3-0.5	0.3-0.5	-
Date Sampled		4/03/2008	4/03/2008	4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	6/03/2008	6/03/2008	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	6/03/2008	6/03/2008	6/03/2008	6/03/2008	6/03/2008
Moisture	%	21	24	24	24	24

Moisture				
Our Reference:	UNITS	17542-9	17542-10	17542-11
Your Reference	----------	BH4	BH5	BH6
Depth	----------	1.3-1.5	1.3-1.5	1.2-1.4
Date Sampled		4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil
Date prepared	-	6/03/2008	6/03/2008	6/03/2008
Date analysed	-	6/03/2008	6/03/2008	6/03/2008
Moisture	%	19	14	15

Asbestos ID - soils						
Our Reference:	UNITS	17542-1	17542-2	17542-3	17542-4	17542-9
Your Reference	----------	BH4	BH5	BH6	BH7	BH4
Depth	----------	0.4-0.5	0.4-0.5	0.3-0.5	0.3-0.5	1.3-1.5
Date Sampled		4/03/2008	4/03/2008	4/03/2008	4/03/2008	4/03/2008
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	10/03/2008	10/03/2008	10/03/2008	10/03/2008	10/03/2008
Sample Description	-	30g soil	30g soil	30g soil	30g soil	30g soil
Asbestos ID in soil	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

Asbestos ID - soils			
Our Reference:	UNITS	17542-10	17542-11
Your Reference	----------	BH5	BH6
Depth	----------	1.3-1.5	1.2-1.4
Date Sampled		4/03/2008	4/03/2008
Type of sample		Soil	Soil
Date analysed	-	10/03/2008	10/03/2008
Sample Description	-	30g soil	30g soil
Asbestos ID in soil	-	No asbestos detected	No asbestos detected
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected



Method ID	Methodology Summary
GC.16	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
GC.14	Soil samples extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
GC-5	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC-6	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals.20 ICP-AES	Determination of various metals by ICP-AES.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.
AS4964-2004	Qualitative identification of asbestos type fibres in bulk using Polarised Light Microscopy and Dispersion Staining Techniques.

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			6/3/08	17542-1	6/03/2008 || 6/03/2008	LCS-5	6/3/08%
Date analysed	-			7/3/08	17542-1	7/03/2008 || 7/03/2008	LCS-5	7/3/08%
vTPH C_6 - C_9	mg/kg	25	GC.16	<25	17542-1	<25 || <25	LCS-5	119%
Benzene	mg/kg	0.5	GC.14	<0.5	17542-1	<0.5 || <0.5	LCS-5	97%
Toluene	mg/kg	0.5	GC.14	<0.5	17542-1	<0.5 || <0.5	LCS-5	124%
Ethylbenzene	mg/kg	1	GC.14	<1.0	17542-1	<1.0 || <1.0	LCS-5	122%
m + p-Xylene	mg/kg	2	GC.14	<2.0	17542-1	<2.0 || <2.0	LCS-5	126%
o-Xylene	mg/kg	1	GC.14	<1.0	17542-1	<1.0 || <1.0	LCS-5	124%
Surrogate aaa-Trifluorotoluene	%		GC.14	97	17542-1	91 || 88 || RPD: 3	LCS-5	102%
QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			6/3/08	17542-1	6/03/2008 || 6/03/2008	LCS-5	6/3/08%
Date analysed	-			7/3/08	17542-1	7/03/2008 || 7/03/2008	LCS-5	7/3/08%
TPH C_{10} - C_{14}	mg/kg	50	GC.3	<50	17542-1	<50 || <50	LCS-5	101%
TPH C_{15} - C_{28}	mg/kg	100	GC.3	<100	17542-1	<100 || <100	LCS-5	86%
TPH C_{29} - C_{36}	mg/kg	100	GC.3	<100	17542-1	110 || <100	LCS-5	95%
Surrogate o-Terphenyl	%		GC.3	79	17542-1	83 || 86 || RPD: 4	LCS-5	84%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			6/3/08	17542-1	6/03/2008 || 6/03/2008	LCS-5	6/3/08%
Date analysed	-			7/3/08	17542-1	7/03/2008 || 7/03/2008	LCS-5	7/3/08%
Naphthalene	mg/kg	0.1	GC.12	<0.1	17542-1	<0.1 || <0.1	LCS-5	83%
Acenaphthylene	mg/kg	0.1	GC.12	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12	<0.1	17542-1	<0.1 || <0.1	LCS-5	104%
Phenanthrene	mg/kg	0.1	GC.12	<0.1	17542-1	0.1 || 0.2 || RPD: 67	LCS-5	108%
Anthracene	mg/kg	0.1	GC.12	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12	<0.1	17542-1	0.3 || 0.3 || RPD: 0	LCS-5	107%
Pyrene	mg/kg	0.1	GC.12	<0.1	17542-1	0.3 || 0.3 || RPD: 0	LCS-5	109%
Benzo(a)anthracene	mg/kg	0.1	GC.12	<0.1	17542-1	0.2 || 0.2 || RPD: 0	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12	<0.1	17542-1	0.2 || 0.2 || RPD: 0	LCS-5	118%
Benzo(b,k)fluoranthene	mg/kg	0.2	GC.12	<0.2	17542-1	0.4 || 0.3 || RPD: 29	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12	<0.05	17542-1	0.2 || 0.2 || RPD: 0	LCS-5	101%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12	<0.1	17542-1	0.3 || 0.2 || RPD: 40	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12	<0.1	17542-1	0.2 || 0.1 || RPD: 67	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		GC.12	106	17542-1	106 || 107 || RPD: 1	LCS-5	107%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			6/3/08	17542-1	6/03/2008 || 6/03/2008	LCS-5	6/3/08%
Date analysed	-			8/3/08	17542-1	8/03/2008 || 8/03/2008	LCS-5	8/3/08%
HCB	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	109%
gamma-BHC	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	108%
Heptachlor	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	95%
delta-BHC	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	101%
Heptachlor Epoxide	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	109%
gamma-Chlordane	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	102%
Dieldrin	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	108%
Endrin	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	109%
pp-DDD	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	101%
Endosulfan II	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	LCS-5	103%
Methoxychlor	mg/kg	0.1	GC-5	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%		GC-5	104	17542-1	104 || 108 || RPD: 4	LCS-5	111%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			6/3/08	17542-1	6/03/2008 || 6/03/2008	LCS-5	6/3/08%
Date analysed	-			8/3/08	17542-1	8/03/2008 || 8/03/2008	LCS-5	8/3/08%
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	17542-1	<0.1 || <0.1	LCS-5	77%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	17542-1	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%		GC-6	104	17542-1	104 || 108 || RPD: 4	LCS-5	108%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			7/3/08	17542-1	7/03/2008 || 7/03/2008	LCS-5	7/3/08%
Date analysed	-			7/3/08	17542-1	7/03/2008 || 7/03/2008	LCS-5	7/3/08%
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4.0	17542-1	4.4 || 5.3 || RPD: 19	LCS-5	101%
Cadmium	mg/kg	1	Metals.20 ICP-AES	<1.0	17542-1	<1.0 || <1.0	LCS-5	104%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1.0	17542-1	7.8 || 11 || RPD: 34	LCS-5	106%
Copper	mg/kg	1	Metals.20 ICP-AES	<1.0	17542-1	17 || 23 || RPD: 30	LCS-5	106%
Lead	mg/kg	1	Metals.20 ICP-AES	<1.0	17542-1	19 || 28 || RPD: 38	LCS-5	102%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.10	17542-1	<0.10 || <0.10	LCS-5	103%
Nickel	mg/kg	1	Metals.20 ICP-AES	<1.0	17542-1	9.4 || 12 || RPD: 24	LCS-5	105%
Zinc	mg/kg	1	Metals.20 ICP-AES	<1.0	17542-1	45 || 56 || RPD: 22	LCS-5	103%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			6/3/08
Date analysed	-			6/3/08
Moisture	%	0.1	LAB.8	<0.10
QUALITY CONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]

Report Comments:

Asbestos was analysed by Approved Identifier: Steven Dale

INS: Insufficient sample for this test	NT: Not tested	PQL: Practical Quantitation Limit
RPD: Relative Percent Difference	NA: Test not required	LCS: Laboratory Control Sample
NR: Not requested	<: Less than	>: Greater than

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria:

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.

TO:
Envirolab Services Pty Ltd
54 Frenchs Road Willoughby 2068

Phone: (02) 9958 5801
Fax: (02) 9958 5803

Attention: Aileen

Date Results Required:

SAMPLE AND CHAIN OF CUSTODY FORM

EIS Job Number: E21873FJ Sheet 1 / 2

FROM:
Environmental Investigation Services

Rear 115 Wicks Road
Macquarie Park NSW 2113

Phone: (02) 9888 5000
Fax: (02) 9888 5004

Contact:

Project: Residential Development
Location: Epping Rd, North Ryde
Sampler: CBH

Sample Preservation:
In esky on ice

Date Sampled	Time Sampled	Location	Sample/ Borehole Number	Depth (m)	Sample Container	PID (ppm/ Odour)	Sample Description	Tests Required: Combo #5	Combo #5a	Combo #12	Combo #12a	Asbestos	TCLP Prep +	Combo #3	Heavy Metals	TPH/BTEX	Comments/Detection Limits Required
4/3/08	AM	Nth Ryde 1	BH4	0.4 - 0.5	Glass jar Teflon seal & Asbestos Bag	0.0	Fill		X								
4/3/08	AM	Nth Ryde 2	BH5	0.4 - 0.5	Glass jar Teflon seal & Asbestos Bag	0.0	Fill		X								
4/3/08	AM	Nth Ryde 3	BH6	0.3 0.5	Glass jar Teflon seal & Asbestos Bag	0.0	Fill		X								
4/3/08	AM	Nth Ryde 4	BH7	0.3 0.5	Glass jar Teflon seal & Asbestos Bag	0.0	Fill		X								
4/3/08	AM	Nth Ryde 5	DUP1	—	Glass jar Teflon seal & Asbestos Bag	0.0	Fill	X									
4/3/08	AM	Nth Ryde 6	DUP2	—	Glass jar Teflon seal & Asbestos Bag	0.0	Fill										Please hold.

17542
5/3/08
2:00

Relinquished By:	Date:	Received By:
CBH	5/3/08	
	Time: AM	
Relinquished By:	Date:	Received By:
	Time:	

Remarks:
Please email to Cameron Hollands:
chollands@jkgroup.net.au
Thanks.

TO:
Envirolab Services Pty Ltd
54 Frenchs Road Willoughby 2068

Phone: (02) 9958 5801
Fax: (02) 9958 5803

Attention: Aileen

Date Results Required:

SAMPLE AND CHAIN OF CUSTODY FORM

EIS Job Number: E21873FJ Sheet 2 of 2

FROM:
Environmental Investigation Services

Rear 115 Wicks Road
Macquarie Park NSW 2113

Phone: (02) 9888 5000
Fax: (02) 9888 5004

Contact:

Project: Residential Development
Location: Epping Rd, North Ryde
Sampler: CBH

Sample Preservation:
In esky on ice

Date Sampled	Time Sampled	Location	Sample/ Borehole Number	Depth (m)	Sample Container	PID (ppm/ Odour)	Sample Description	Tests Required: Combo #5	Combo #5a	Combo #12	Combo #12a	Asbestos	TCLP Prep +	Combo #3	Heavy Metals	TPH/BTEX	Comments/Detection Limits Required
4/3/08	AM	Nth Ryde 7	BH4	1.5 1.7	Glass jar Teflon seal & Asbestos Bag	0.0	Silty clay										Please hold
4/3/08	AM	Nth Ryde 8	BH7	2.6 2.8	Glass jar Teflon seal & Asbestos Bag	0.0	Silty clay										Please hold
4/3/08	AM	Nth Ryde 9	BH4	1.3 1.5	Glass jar Teflon seal & Asbestos Bag	0.0	" "		X								
4/3/08	AM	Nth Ryde 10	BH5	1.3 1.5	Glass jar Teflon seal & Asbestos Bag	0.0	" "		X								
4/3/08	AM	Nth Ryde 11	BH6	1.2 1.4	Glass jar Teflon seal & Asbestos Bag	0.0	" "		X								
4/3/08	AM	Nth Ryde			Glass jar Teflon seal & Asbestos Bag	0.0											

Relinquished By:	Date: 5/3/08 Time: AM	Received By:
CBH		
Relinquished By:	Date: Time:	Received By:

Remarks:

TO:
Envirolab Services Pty Ltd
54 Frenchs Road Willoughby 2068

Phone: (02) 9958 5801
Fax: (02) 9958 5803

Attention: Aileen

Date Results Required: Std T/O.

SAMPLE AND CHAIN OF CUSTODY FORM

EIS Job Number: E21873FJ Sheet 1 / 1

FROM:
Environmental Investigation Services

Rear 115 Wicks Road
Macquarie Park NSW 2113

Phone: (02) 9888 5000
Fax: (02) 9888 5004

Contact: Cameron Hollands

Project: Residential Development
Location: Epping Rd, North Ryde
Sampler: CBH

Sample Preservation:
In esky on ice

	Date Sampled	Time Sampled	Location	Sample/ Borehole Number	Depth (m)	Sample Container	PID (ppm/ Odour)	Sample Description	Tests Required: Combo #5	Combo #5a	Combo #12	Combo #12a	Asbestos	TCLP Prep +	Combo #3	Heavy Metals	TPH/BTEX	Comments/Detection Limits Required
1	14/2/08	AM		BH1	0.0 - 0.25	Glass jar Teflon seal & Asbestos Bag	0	Fill		X								
2	14/2/08	AM		BH1	0.6 - 0.7	Glass jar Teflon seal & Asbestos Bag	0	" "										Hold
3	14/2/08	AM		BH2	0.1 - 0.2	Glass jar Teflon seal & Asbestos Bag	0	" "		X								
4	14/2/08	AM		BH3	0.1 - 0.2	Glass jar Teflon seal & Asbestos Bag	0	" "		X								
	14/2/08	AM				Glass jar Teflon seal & Asbestos Bag												
						Glass jar Teflon seal & Asbestos Bag												

Envirolab Services
54 Frenchs Rd
Willoughby NSW 2068
Ph: 9958 5801
Job No: 17072
Date Received: 15/2
Received By: GS
Temp: Cool/Ambient
Security: Intact/Broken/None

Relinquished By: CBH	Date: 15/2/08 Time: AM	Received By: GS
Relinquished By:	Date: Time:	Received By:

Remarks:

Envirolab Services Pty Ltd
ABN 37 112 535 645
54 Frenchs Rd Willoughby NSW 2068
ph 02 9958 5801 fax 02 9958 5803
email: tnotaras@envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

Environmental Investigation Services
PO Box 976
North Ryde BC NSW 1670

ph: 02 9888 5000
Fax: 02 9888 5001

Attention: Cameron Hollands

Sample log in details:

Your reference:	**E21873FJ, North Ryde**
Envirolab Reference:	**17072**
Date received:	15/02/08
Date results expected to be reported:	**22/02/08**

Samples received in appropriate condition for analysis:	YES
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice Pack
Completed documentation received:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9958 5801 fax: 02 9958 5803
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

Envirolab Services Pty Ltd
ABN 37 112 535 645
54 Frenchs Rd Willoughby NSW 2068
ph 02 9958 5801 fax 02 9958 5803
email: tnotaras@envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:
Environmental Investigation Services
PO Box 976
North Ryde BC NSW 1670

ph: 02 9888 5000
Fax: 02 9888 5001

Attention: Cameron Hollands

Sample log in details:

Your reference:	**E21873FJ, North Ryde**
Envirolab Reference:	**17542**
Date received:	05/03/08
Date results expected to be reported:	**12/03/08**

Samples received in appropriate condition for analysis:	YES
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice Pack
Completed documentation received:	YES

Comments:
Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:
Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9958 5801 fax: 02 9958 5803
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

APPENDIX C

CH -1 APR 2008

WorkCover
NEW SOUTH WALES

Our Ref: D08/029589
Your Ref: Cameron Hollands

28 March 2008

Attention: Cameron Hollands
EIS
115 Wicks Rd
MACQUARIE PARK NSW 2113

Dear Cameron,

RE SITE: 14 David Ave, North Ryde

I refer to your search request of 25th March 2008 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 has not located any records pertaining to the above-mentioned premises.

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

Naomi James
A/Senior Licensing Officer
Dangerous Goods

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Friday, February 1, 2008

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW011296

Works Details (top)

GROUNDWATER NUMBER	GW011296
LIC-NUM	10BL004479
AUTHORISED-PURPOSES	IRRIGATION
INTENDED-PURPOSES	IRRIGATION
WORK-TYPE	Bore open thru rock
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Cable Tool
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1953-09-01
FINAL-DEPTH (metres)	67.00
DRILLED-DEPTH (metres)	67.10
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	603 - SYDNEY BASIN
GW-ZONE	- ZONE 7 BLAND CREEK SYSTEM
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT	
CMA-MAP	9130-3N
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6260865.00
EASTING	324904.00
LATITUDE	33 46' 40"
LONGITUDE	151 6' 32"
GS-MAP	0055A4

AMG-ZONE	56
COORD-SOURCE	GD.,PR. MAP
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	HUNTERS HILL
PORTION-LOT-DP	631

Licensed (top)

COUNTY	CUMBERLAND
PARISH	HUNTERS HILL
PORTION-LOT-DP	631

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	(Unknown)	0.00	1.80	203			(Unknown)

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
58.20	58.20	0.00	(Unknown)	4.50		0.30			501-1000 ppm

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	58.21	58.21	Sandstone		
58.21	65.22	7.01	Shale Water Supply		
65.22	67.05	1.83	Sandstone		

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 6/260000

SEARCH DATE	TIME	EDITION NO	DATE
4/2/2008	12:46 PM	8	15/1/2008

LAND

LOT 6 IN DEPOSITED PLAN 260000
AT NORTH RYDE
LOCAL GOVERNMENT AREA RYDE
PARISH OF HUNTERS HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP260000

FIRST SCHEDULE

EGC CUSTODIAN SERVICES PTY LIMITED (T AB149012)

SECOND SCHEDULE (9 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 B979441 EASEMENT FOR WATERMAIN PIPES AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
3 F71687 EASEMENT FOR ELECTRICITY TRANSMISSION LINE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
X51250 THE SYDNEY COUNTY COUNCIL IS NOW THE REGISTERED PROPRIETOR OF THE EASEMENT
4 G403543 EASEMENT FOR WATER SUPPLY WORKS AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
5 DP260000 EASEMENT FOR WATER DRAINAGE PURPOSES OVER EXISTING LINE OF PIPES APPURTENANT TO THE LAND ABOVE DESCRIBED
6 DP260000 EASEMENT FOR SEWERAGE PURPOSES AFFECTING THE EXISTING LINE OF PIPES SHOWN SO BURDENED IN DP260000
7 DP260000 RESTRICTION(S) ON THE USE OF LAND
8 DP260000 EASEMENT FOR BATTER APPURTENANT TO THE LAND ABOVE DESCRIBED
9 AB533298 MORTGAGE TO ST. GEORGE BANK LIMITED
AC94768 VARIATION OF MORTGAGE AB533298
AC545608 VARIATION OF MORTGAGE AB533298
AD168279 VARIATION OF MORTGAGE AB533298
AD589911 VARIATION OF MORTGAGE AB533298
AD701195 VARIATION OF MORTGAGE AB533298

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

MI/MI PRINTED ON 4/2/2008

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
4/2/2008 12:48PM

FOLIO: 6/260000

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 14254 FOL 215

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
9/9/1987		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
22/3/1988	X51250	APPLICATION	
2/4/2003	9499558	TRANSMISSION APPLICATION	EDITION 1
9/12/2004	AB149012	TRANSFER	EDITION 2
6/6/2005	AB533298	MORTGAGE	EDITION 3
6/2/2006	AC94768	VARIATION OF MORTGAGE	EDITION 4
24/8/2006	AC545608	VARIATION OF MORTGAGE	EDITION 5
4/6/2007	AD168279	VARIATION OF MORTGAGE	EDITION 6
26/11/2007	AD589911	VARIATION OF MORTGAGE	EDITION 7
15/1/2008	AD701195	VARIATION OF MORTGAGE	EDITION 8

*** END OF SEARCH ***

MI/MI PRINTED ON 4/2/2008

Form: 03TA
Release: 1
www.lpi.nsw.gov.au

TRANSMISS APPLICATI

New South Wales
Section 93 Real Property Act 1900

9499558F

PRIVACY NOTE: this information is legally required and will become part of the public record

STAMP DUTY — Office of State Revenue use only

(A) **LAND** — Torrens Title: 6/260000 and 73/31825

(B) **REGISTERED DEALING** — Number: | Torrens Title:

(C) **LODGED BY** — Delivery Box: 124E | Name, Address or DX and Telephone: LEGALINK PARALEGAL SUPPORT SERVICES LTO BOX 124E Reference: J-PAID-014556 | CODE: TA

(D) **DECEASED REGISTERED PROPRIETOR** — WILLIAM WHITE BRITON

(E) **APPLICANT** — PAUL LAURENCE BRITON and PETER WILLIAM BRITON as JOINT TENANTS JL

(F) The applicant, being entitled as Executors of the will of the deceased registered proprietor (who died on 14 Nov 2002) pursuant to probate No. 104169/03 granted on 18 Mar 2003 to us, Paul Laurence Briton and Peter William Briton (a certified copy of which is lodged herewith) applies to be registered as proprietor of the estate or interest of the deceased registered proprietor in the abovementioned land

DATE 31st March 2003

(G) I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness: D.R. PAISLEY
Address of witness: 46 LANGSTON PLACE EPPING SOLICITOR

Certified correct for the purposes of the Real Property Act 1900 by the Applicant.

Signature of Applicant:

(H) **CONSENT OF EXECUTOR, ADMINISTRATOR OR TRUSTEE**

I, of the deceased registered proprietor, hereby consent to this application.

Signature of witness:

Name of witness:

Address of witness:

Signature of

CT SIGHTED CANC. & RET.

All handwriting must be in block capitals.
Office use only—
Evidence sighted/sighted and returned:

ITLE

14254215

NEW SOUTH WALES

Vol. 14254 Fol. 215

Appln. No.195

Prior Title Vol.9173 Fol.138

EDITION ISSUED

13 10 1980

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.

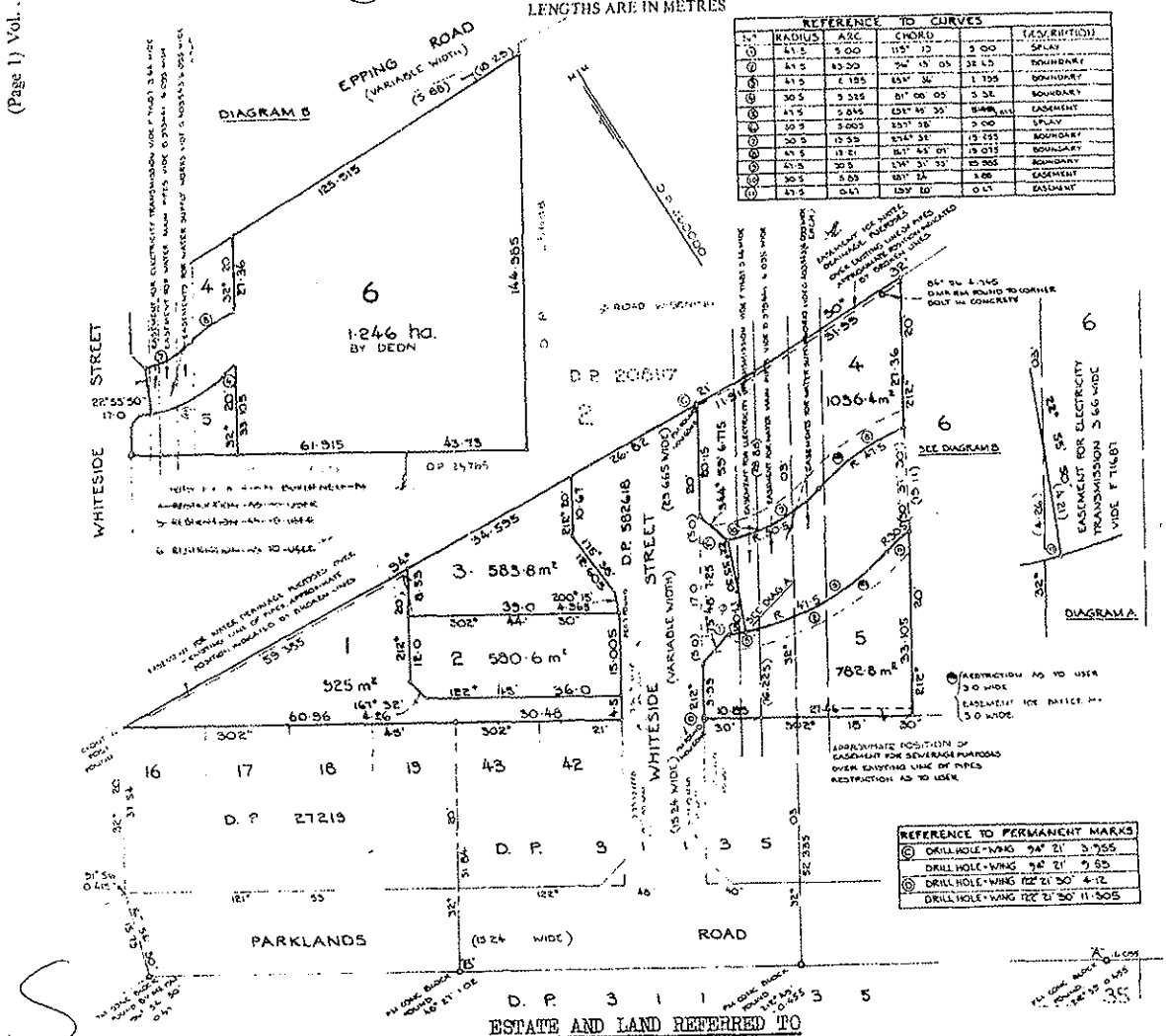
CANCELLE.

Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 6 in Deposited Plan 260000 at North Ryde in the Municipality of Ryde Parish of Hunters Hill and County of Cumberland being part of Portion 139 granted to William Kent Junior on 17-4-1803.

FIRST SCHEDULE

WILLIAM WHITE BRITON of Epping, Hatcheryman.

SECOND SCHEDULE

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

EA(SB) 2. B979441 Easement for watermain pipes affecting the part of the land above described shown so burdened in Deposited Plan 260000.

EA(SB) 3. F71687 Easement for electricity transmission line affecting the part of the land above described shown so burdened in Deposited Plan 260000.

EA(SB) 4. G403543 Easement for water supply works affecting the parts of the land above described shown so burdened in Deposited Plan 260000.

EA 5. DP260000 Easement for water drainage purposes over existing line of pipes appurtenant to the land above described.

EA 6. DP260000 Easement for sewerage purposes affecting the existing line of pipes shown so burdened in Deposited Plan 260000.

RU 7. DP260000 Restriction as to user.

EBZ 8. DP260000 Easement for batter appurtenant to the land above described.

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

Vol. 14254 Fol. 215

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT		REGISTERED	Signature of Registrar General
	NATURE	NUMBER		

SECOND SCHEDULE (continued)

INSTRUMENT		PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
NATURE	NUMBER					

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

[redacted]

IFICATE OF TITLE
ERTY ACT, 1900, as amended.

NEW SOUTH WALES

(For Grant and title reference prior to first edition see Deposited Plan.)

Vol. 9173 Fol. 138

CANCELLED

1st Edition issued 8-5-1962

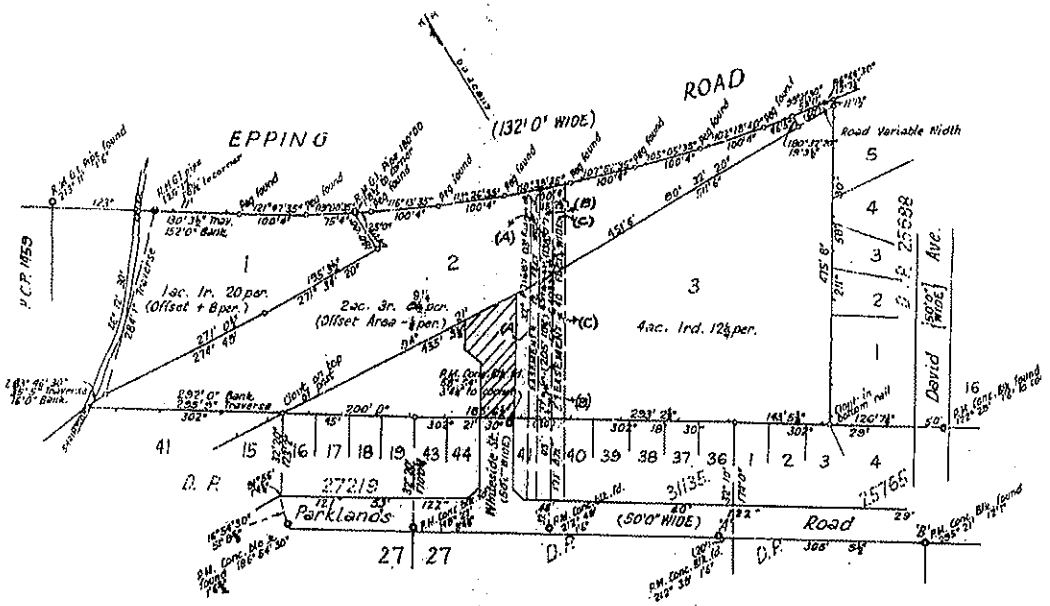
(Page 1) Vol. 9173 Fol. 138

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 A Tennuy

Registrar-General.

PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 3 in Deposited Plan 208117 in the Municipality of Ryde Parish of Hunters Hill and County of Cumberland.

FIRST SCHEDULE (Continued overleaf)

WILLIAM WHITE BRITTON, of Epping, Hatcheryman.

Registrar General

SECOND SCHEDULE (Continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant(s) referred to in the said Deposited Plan.
2. Easement for Watermain pipes created by Transfer No.B979441 affecting the part of the land above described 20 feet wide designated (B) in the plan hereon.
3. Easement for Electricity transmission line created by Resumption No.F71687 affecting the part of the land above described 12 feet wide designated (A) in the plan hereon.
4. Easement for Water supply works created by Transfer No. G403543 affecting the parts of the land above described each 20 feet wide designated (B) and (C) in the plan hereon.

Registrar General

DP 582617

CT 10/11/78
Q981774E
DP 260000 R
24/7

70929, 1 62 ST 1609 V. C. N. BLIGHT, GOVERNMENT PRINTER

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
NEW CERTIFICATE(S) OF TITLE ISSUING ON DP 260000 NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH					

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION
Transfer	Q981774	–	The land hatched black in the plan hereon being Lot 1 in DP 582618 is now road vested in the Commissioner for Main Roads	25.1.1979		
	DP 260000		The interest of the Council of the Municipality of Ryde in the addition to existing road shown on DP 260000	24.9.1980		
	DP 260000		Interests created pursuant to Section 88B Conveyancing Act, 1919, by the registration of Deposited Plan 260000	24.9.1980		

This deed is cancelled as to Whole Ex Road
New certificates of Title have issued on 13-10-1980
for lots in Deposited Plan No. 260000 as follows:
Lots 1 to 6 Vol. 14254 Fols 210 to 215 respectively.

REGISTRAR GENERAL

The residue of land in this folio comprises road being Lot 1 in DP 582618 + road widening shown in DP 260000

REGISTRAR GENERAL

[redacted]

Appn. No. 195

Reference to last certificate

Vol. 323 Fol. 168

New South Wales.

72913—1 8.34

[CERTIFICATE OF TITLE.]

ORDER NO.C738922

Register Book.

Vol. 5025 Fol. 150

CANCELLED

ALBERT WATTON, of North Ryde, Fruitgrower, by virtue of Certificate of Title Volume 323 Folio 168 now surrendered 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 That piece of land situated in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland containing Ten acres one rood one perch or thereabouts as shown in the plan hereon and therein edged red being Lot 4 and part of Lot 5 in Deposited Plan No.21 and being also part of 570 acres (Portion 139 of Parish) originally granted to William Kent, Junior by Crown Grant dated the 17th day of April 1803. Excepting out of the said piece of land the land colored yellow in plan hereon being 1 acre 2 roods 39 perches transferred to The Commissioner for Main Roads by Instrument of Transfer No.C738921 the area of which is not included in the abovestated area of 10 acres 1 rood 1 perch.

In witness whereof I have hereunto signed my name and affixed my Seal, this Fifteenth day of March 1939.

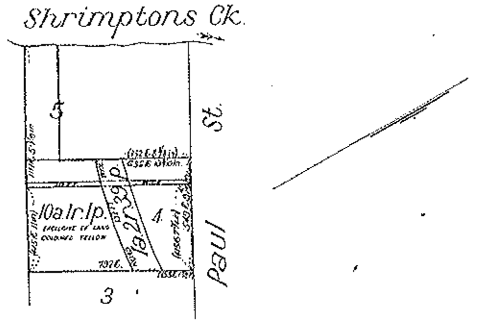
Signed in the presence of J.W.Ledgard

Roy W. Willis

Registrar General

No. D45031 TRANSFER dated 18th July 1941
from the said Albert Watton to John Russell Jones and Marjorie Lorna Russell Jones as joint tenants of part of the land within described
Produced 7th August 1941 and entered 10th September 1941
at 12 o'clock in the noon.
As to land in this transfer this Certificate cancelled and new Certificate issued Vol. 5265 Fol. 148
Roy W. Willis
REGISTRAR GENERAL.

No. D45032 TRANSFER dated 18th July 1941
from the said Albert Watton to Raymond Lisle Clift of part of the land within described
Produced 7th August 1941 and entered 10th September 1941
at 12 o'clock in the noon.
As to land in this transfer this Certificate cancelled and new Certificate issued Vol. 5265 Fol. 149
Roy W. Willis
REGISTRAR GENERAL.



Scale:- 50ft. to one inch.

C738922.

NOTIFICATION REFERRED TO

No.B979441 Grant of Easement to The Metropolitan Water Sewerage and Drainage Board over the pieces of land 20 feet wide colored blue in plan hereon.

Roy W. Willis

Registrar General.

No. D98168 TRANSFER dated 1st May 1942
from the said Albert Watton to William ... Britton of the residue of the land within described
Produced 8th May 1941 and entered 8th April 1942

CANCELLED

ALBERT WATTON, of North Ryde, Fruitgrower, by virtue of Certificate of Title Volume 323 Folio 168 now surrendered 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 That piece of land situated in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland containing Ten acres one rood one perch or thereabouts as shown in the plan hereon and therein edged red being Lot 4 and part of Lot 5 in Deposited Plan No.21 and being also part of 570 acres (Portion 139 of Parish) originally granted to William Kent, Junior by Crown Grant dated the 17th day of April 1803.

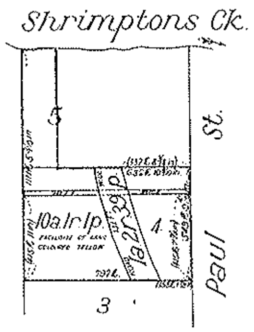
Excepting out of the said piece of land the land colored yellow in plan hereon being 1 acre 2 roods 39 perches transferred to The Commissioner for Main Roads by Instrument of Transfer No.C738921 the area of which is not included in the abovestated area of 10 acres 1 rood 1 perch.

In witness whereof I have hereunto signed my name and affixed my Seal, this Fifteenth day of March 1939.

Signed in the presence of J.Hedgard

Ray W. Willis

Registrar General



Scale 50ft to one inch.

NOTIFICATION REFERRED TO

No.B979441 Grant of Easement to The Metropolitan Water Sewerage and Drainage Board over the pieces of land 20 feet wide colored blue in plan hereon.

Ray W. Willis

Registrar General.

No. D45030 TRANSFER dated 18th July 1941 from the said Albert Watton to Marjorie Lorna Russell Jones of part of the land within described Produced 7th August 1941 and entered 10th September 1941 at 12 o'clock in the noon. As to land in this transfer this Certificate cancelled and new Certificate issued Vol. 5265 Fol. 147

Ray W. Willis

REGISTRAR GENERAL.

No. D45031 TRANSFER dated 18th July 1941 from the said Albert Watton to John Russell Jones and Marjorie Lorna Russell Jones as joint tenants of part of the land within described Produced 7th August 1941 and entered 10th September 1941 at 12 o'clock in the noon. As to land in this transfer this Certificate cancelled and new Certificate issued Vol. 5265 Fol. 148

Ray W. Willis

REGISTRAR GENERAL.

No. D45032 TRANSFER dated 18th July 1941 from the said Albert Watton to Raymond Lisle Clifton of part of the land within described Produced 7th August 1941 and entered 10th September 1941 at 12 o'clock in the noon. As to land in this transfer this Certificate cancelled and new Certificate issued Vol. 5265 Fol. 149

Ray W. Willis

REGISTRAR GENERAL.

No. D98168 TRANSFER dated 6th May 1942 from the said Albert Watton to William Robert Britton of the residue of the land within described Produced 8th May 1941 and entered 8th April 1942 at 10 o'clock in the fore noon. As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 5317 Fol. 43 (43)

Ray W. Willis

REGISTRAR GENERAL.

D14352 D45030 part

B.A. 195

New South Wales.

REGISTRAR-GENERAL NEW-SOUTH-WALES

(A.)

195

APPLICATION TO BRING LANDS UNDER THE PROVISIONS OF THE REAL PROPERTY ACT (26 VICTORIA, No. 9.)

I, We Henry Hill Osborne, Patrick Hill Osborne Alick Osborne and Benjamin Marshall Osborne do declare that we are seised of an Estate of Inheritance in all that piece of land situated in the Parish of Hunters Hill in the County of Cumberland and Colony of New South Wales and commencing at a point being the North East corner of William Kent's Grant for Five hundred and seventy acres known as Tudor and bounded on South East by a line bearing West thirty two degrees South thirty four chains eighty links dividing it from the Field of Mars Common and a Government Road one chain wide on bounding James Weavers one hundred acre grant now the property of Allen on the South West by the properties of Jean Brown Henry Wells and George Buckham by a line partially fenced bearing North fifty eight degrees forty three chains fifty links to Shrimptons Creek on the North West by that Creek downwards to the common aforesaid on the North East by said Common and a line bearing South fifty eight degrees East thirty one chains on the South East North East and North West by fenced lines bearing respectively West thirty two degrees South four chains twenty five links South fifty eight degrees east thirteen chains forty five links to the said Field of Mars Common and dividing it from the portion occupied by Mr Eggberry and lastly on the North East by said Common and a line bearing South fifty eight degrees East five chains sixty links to the commencing point and containing by admeasurement one hundred and fifty six acres two roods

which piece of land is of the value of Three hundred and fifty pounds and no more, and is

originally granted to William Kent Junior by land grant, under the Hand and Seal of

~~formerly Governor of the Colony, dated the~~ seventeenth ~~day of~~ April 1803 ~~numbered~~ in the plan of the of

as delineated on the public maps of the Colony deposited in the Survey Office Sydney: And we do further declare that I am not aware of any mortgage, encumbrance, or claim affecting the said land, or that any person hath any claim, estate, or interest in the said land at law or in equity, in possession or in expectancy, other than is set forth and stated as follows, that is to say—

An agreement dated 13th June 1863 for sale to Mr Paul Brown —

We / our

And I further declare that there is no person in possession or occupation of the said lands adversely to my estate

Certificate issued Vol II Folio 161 9.11.1864

for 112.0.34

or interest therein, and that the said land is now in the occupation of our agent. Mr Paul Benoni.

and that Paul Benoni Henry Wells and George Buckham are Owners and occupiers of the Land on the South west side of the and Mr William Eggberry on the North East side and the Field of Mare Common on the East side and Shrimpton Creek on the West and a Government Road and the Fields of Mare Common on the East side.

and that there are no deeds or instruments of title affecting such land in ~~my~~ our possession or under ~~my~~ our control, other than those enumerated in the Schedule hereto or at foot hereof: And ~~I~~ We make this solemn declaration, conscientiously believing the same to be true.

DATED at Sydney this day of 1863.

H.H. Osborne
Alick Osborne
P.H. Osborne by his attorney
Wm H Billyard

MADE and subscribed by the abovenamed H.H. Osborne Alick Osborne P.H. Osborne this Thirtieth day of July 1863 in the presence of me

J.P. Macabe J.P.

Made and subscribed by the above named Patrick Hill Osborne by his Attorney William Whaley Billyard this day of 1863 in the presence of

H.H. Osborne Alick Osborne B.H. Osborne the and Patrick Hill Osborne the above declarants do hereby apply to have the piece of land described in the above declaration brought under the provisions of the Real Property Act.

DATED at Melbourne this Thirtieth day of July 1863.

Witness to Signature
J.P. Macabe J.P.

H.H. Osborne
Alick Osborne
B.H. Osborne
P.H. Osborne by his attorney Wm H Billyard

Witness to signature of Patrick Hill Osborne by his Attorney William Whaley Billyard

To The Registrar General—

We the abovenamed declarants hereby request you to issue the Certificate of Title for the above-mentioned of land, in the name of Ourselves

H.H. Osborne
P.H. Osborne by his attorney Wm H Billyard

Witness to Signature—
J.P. Macabe J.P.

Witness to signature of Patrick Hill Osborne by his Attorney William Whaley Billyard

SCHEDULE REFERRED TO.

17 April 1803 Grant to William Hunt (certified copy Memorial)
7 & 8 August 1835 Hunt to Baker (copy Memorial)
2 & 3 March 1836 Baker to J. T. Hughes (copy Memorial)
22 Feb 1851 J. Stirling to H. Osborne
Probate of the Will of Henry Osborne

– Plan and description –

F. G. K. Osborne
Alick Osborne
B. M. Osborne
Patrick Hill Osborne
by his attorney
Thos. H. Billyard

(4)

Received Probate of Will of Henry Osborne
25-11-63 – T. de K. Billyard

Received Conveyance of 22 Feb. 1851. Stirling to Osborne
11/7/64 T. de K. Billyard
Received the three memorials mentioned above
13/7/64 T. de K. Billyard

We the within named and undersigned, Benjamin Marshall Osborne & Patrick Hill Osborne

do hereby certify that the within application is correct for the purposes of the Real Property Act.

B. M. Osborne
P H Osborne
by his attorney
Wm W. Billyard

These Presents Witness that in order to give further effect to the within application We the within named Applicants hereby release convey and assure All that piece or parcel of land situate lying and being in the Parish of Hunters Hill in the County of Cumberland Colony of New South Wales and containing fifty acres or thereabouts being part of John Hay Hughes' one hundred and sixty two acres and thirty four perches forming part of William Kent's Grant of five hundred and seventy acres commencing at the Eastern corner of the said W. Kent's Grant and bounded on the South East by a line bearing South thirty two degrees South ten chains On the South West by other part of aforesaid one hundred and sixty two acres and thirty four perches by a line bearing North fifty eight degrees West and parallel to the North Eastern boundary of Kent's Grant of five hundred and seventy acres forty nine chains fifty links more or less to Shrimpton's Creek on the North West by that Creek bearing North Easterly to the North East boundary of aforesaid Grant and on the North East by part of said boundary bearing South fifty eight degrees East fifty chains five links to the commencing point part of the with the appurtenances Unto and to the use of Mary Ann Eggleton her heirs and assigns for ever and request that a certificate of the same may issue in her name and that a certificate for the residue may issue in the name of ourselves

Witness to the signature of Benjamin Marshall Osborne
Arch. J. Irvine

Witness to the signature of Henry Hill Osborne
F. P. MacCabe JP

Witness to the signature of Patrick Hill Osborne
[illegible] J.P.

Witness to the signature of Alick Osborne
F. P. MacCabe J.P.

B. M. Osborne
H. H. Osborne
P. H. Osborne
Alick Osborne

Included in Certificate dated [illegible]
in Coal 64 Vol Fol

Borrowed from the Land Titles Office the Plan and Contract for Sale mentioned within and the description
J. de K. Billyard
26/7/64

4th February 2008

(C.)

New South Wales.

CERTIFICATE OF TITLE.

[*Reference to last Certificate*]
[*Vol.* 9 *Folio* 47]

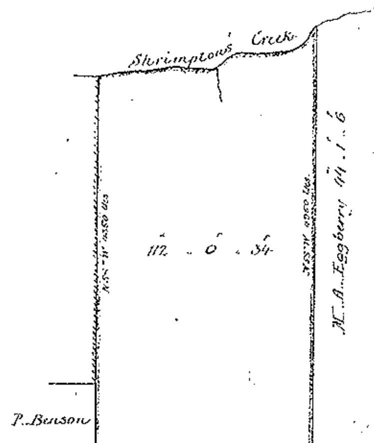
REGISTER BOOK
VOL. IX FOLIO 208
656 W

Paul Benson of Kissing Point in the Colony of New South Wales Transferee under Instrument of Transfer from Henry Hill Osborne, Benjamin Marshall Osborne, Patrick Hill Osborne and Alick Osborne numbered Two hundred and thirty two, is now the proprietor of an Estate in Fee Simple, Subject nevertheless to the reservations, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances liens and interests as are notified hereon in **That Piece of Land** situated in the **Parish of Hunter's Hill County of Cumberland and Colony** aforesaid containing **One hundred and twelve acres and thirty four perches** or thereabouts, Commencing on Shrimpton's Creek at the South Western Corner of Mary Ann Eggberry's measured portion of Forty four acres one rood and six perches and bounded on the North East by the South West boundary of that Land bearing South Easterly about Forty nine Chains fifty links to the Field of Mars Common, on the South East by said Common and a continued line along a Government Road bearing South Westerly twenty four chains eighty links to Benson's Land, On the South West by that Land and a continued Line along a fenced boundary bearing North Westerly in all Forty three Chains fifty links to Shrimpton's Creek aforesaid and on the North West by that Creek downwards to the point of commencement as shewn on the plan hereon and therein edged Red, being part of Five hundred and seventy Acres delineated in the public Map of the said Parish deposited in the Office of the Surveyor General as originally granted to William Kent Junior by Crown Grant dated the seventeenth day of April One thousand eight hundred and three.

IN witness whereof, I have hereunto signed my name and affixed my seal, this First day of December One thousand eight hundred and sixty four.

Signed the 1st day of December 1864,
in the presence of Alex. Arthur

Registrar General.



NOTIFICATION REFERRED TO.

No 324 Transfer dated 14th day July 1866 from the above named Paul Benson to John George Schweikert of Kissing Point Farmer of portion of the land above described being Lots 9 & 10 in deposited Plan No 21. Consideration money paid £2. Produced and entered 21st day July 1866 at 10 o'clock in the forenoon.

E G Ward. Dep. Regr Genl

E G Ward Dep. Regr Genl

No [illegible] Transfer dated 31st day July 1866 from the above named Benson to William Borthwick of Sydney Stone Mason of portion of the land above described, being Lot 1 in deposited Plan No 21. Consideration money paid £96.0.0. Produced and entered 31st day July 1866 at a quarter past 12 o'clock in the afternoon.

E G Ward Dep. Regr Genl

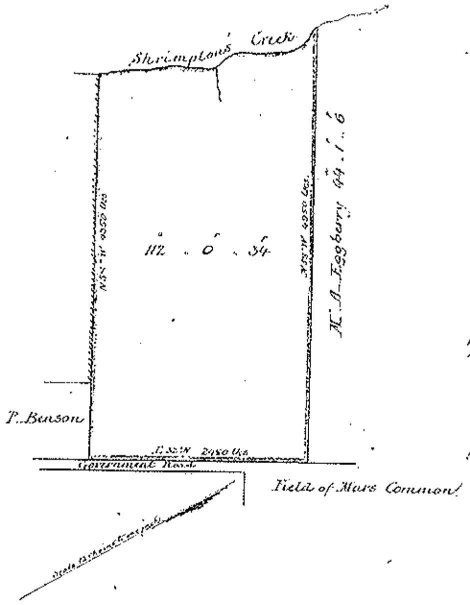
Cancelled as regards the land comprised in the above Transfers for which a fresh Certificate of Title is issued [illegible]

[illegible] measuring [illegible] [illegible] of Forty four acres one rood and six perches and is bounded on the North East by the South West boundary of that land bearing South Easterly about Forty nine chains [illegible] links to the Field of Mars Common, on the South East by said Common and a continued line along a Government Road bearing South Westerly twenty four chains eighty links to Benson's land On the South West by that land and a continued line along a fenced boundary bearing North Westerly in all Forty three chains fifty links to Shrimpton's Creek aforesaid and on the North West by that Creek downwards to the point of commencement as shown on the plan hereon and therein edged Red, being part of Two hundred and seventy Acres delineated in the Public Map of the said Parish deposited in the Office of the Surveyor General as originally granted to William Kent Junior by Crown Grant dated the seventeenth day of April One thousand eight hundred and three (S.A. [illegible])

In witness whereof, I have hereunto signed my name and affixed my seal, this First day of December One thousand eight hundred and sixty four.

Signed the 1st day of December 1864, in the presence of [illegible signature]

[signature]
Registrar General.



NOTIFICATION REFERRED TO.

No. 224 Transfer dated 14th day July 1866 from the above named Paul Benson to John George Schweikert of Rising Point Farmer of portion of the land above described being Lots 9 & 10 in deposited Plan No. 21. Consideration money paid £22. Produced and entered 21st day July 1866 at 10 o'clock in the forenoon.

E. G. Ward. Dep. Regr. Genl.

[illegible]

E. G. Ward Dep. Regr. Genl.

No. 4 [illegible] Transfer dated 31st day July 1866 from the above named Paul Benson to William Borthwick of Sydney Stone Mason of portion of the land above described, being Lot 1 in deposited Plan No. 21. Consideration money paid £96.0.0. Produced and entered 31st day July 1866 at a quarter past 12 o'clock in the afternoon.

E. G. Ward Dep. Regr. Genl.

Cancelled as regards the land comprised in the above Transfer [illegible] for which a fresh Certificate of Title is issued Vol. [illegible]

E. G. Ward. Dep. Regr. Genl.

25071 : 1210

[redacted]

dated 1st day August 1866 from the within named Paul Benson to Herman Gebhard Stutori Gardener of Kissing Point Farmer of portion of the land within described being Lot 3 in deposited Plan No 21. Consideration money paid £60.0.0 Produced and entered 2nd day August 1866 at 2 o'clock in the afternoon

W Ward Dep Regr Genl

W Ward Dep. Regr Genl

No 1246 Transfer dated 21st day December 1866 from the within named Paul Benson to Henry Watton of Kissing Point Farmer of portion of the land within described being Lots 4 and 5 in deposited Plan No 21. Consideration money paid £100.0.0. Produced and entered 21st day December 1866 at half past 2 o'clock in the afternoon

W Ward Dep. Regr Genl

Cancelled as regards the land comprised in the above Transfer No 1246 of which fresh Certificate of title is issued Vol XXXVI Folio 177

W Ward Dep. Reg Genl

No 4453 Transfer dated 14th February 1870 from the within named Paul Benson to William Thorn of Sydney, Fruiterer, of portion of the land within described, being Lot 2 in deposited Plan No 21. Produced and entered 15th Feby 1870 at half past 12 o'clock in the afternoon

W Ward Dep Regr Genl

Cancelled as to the land in above Transfer No 4453 Certificate of title issued Vol XCVII Folio 128.

W Ward Dep Regr Genl

No 5081 Transfer dated 9th August 1870 from the within named Paul Benson to Edwin Marks of Five Dock Garden Labourer of portion of the land within described, being Lots 6 and 7 in deposited Plan No 21. Produced and entered 9th August 1870 at half past 2 o'clock in the afternoon

W Ward Dep Regr Genl

Cancelled as regards the land in above Transfer 5081 see Certificate of Title Vol CV Fol. 70 being the residue

W Ward Dept Regr Genl

OP/SP 1116493 Registered 4·10·2007
This folio is cancelled as to whole/part upon creation of computer folios for lots in the abovementioned plan.

Paul Benson to Henry Watton of Sydney Parish 4th February 2008 portion of the land within described being Lots 4 and 5 in deposited Plan No 21. Consideration money paid £100.0.0. Produced and entered 21st day December 1869 at half past 2 o'Clock in the afternoon

E. W. Ward Dep. Regr Genl

Cancelled as regards the land comprised in the above Transfer No 2490 for which fresh Certificate of title is issued Vol XXXVI Folio 177

E. W. Ward Dep. Regr Genl

No 4453 Transfer dated 14th February 1870 from the within named Paul Benson to William Thorn of Sydney, Fruiterer, of portion of the land within described, being Lot 2 in deposited Plan No 21. Produced and entered 15th Feby 1870 at half past 12 o'Clock in the afternoon

E. W. Ward Dep. Regr Genl

Cancelled as to the land in above Transfer No 4453 Certificate of title issued Vol XCVIII Folio 128.

E. W. Ward Dep. Regr Genl

No 5081 Transfer dated 9th August 1870 from the within named Paul Benson to Edwin Marke of Dock Garden Labourer of portion of the land within described, being Lots 6 and 7 in deposited Plan No 21. Produced and entered 9th August 1870 at half past 2 o'Clock in the afternoon

E. W. Ward Dep. Regr Genl

Cancelled as regards the land in above Transfer No 5081 see Certificate of Title Vol CV Fol. 70 being the residue

E. W. Ward Dep. Regr Genl

DP/SP 1116493 Registered 4·10·2007
This folio is cancelled as to whole/part upon creation of computer folios for lots 1 in the abovementioned plan.

[redacted]

4th February 2008

CERTIFICATE OF TI

(C.)

New South Wales.

REGISTER BOOK

Vol. XXXVI Folio 177

[Reference to last Certificate]

[Vol. IX Folio 208]

Henry Watton of Kissing Point Farmer Transferee under Instrument of Transfer from Paul Benson numbered 1246 is now the proprietor of an Estate in fee simple subject nevertheless to the reservations if any contained in the Grant hereinafter referred to and also subject to such encumbrances liens and interests as are notified hereon in That piece of Land situated in the Parish of Hunters Hill and County of Cumberland containing Twenty Acres or thereabouts as shown in the plan hereon and thereon edged Red, being Lots 4 and 5 on a plan deposited in the Land Titles Office Sydney numbered 21 and part of five hundred and seventy acres delineated in the public Map of the said Parish deposited in the Office of the Surveyor General originally granted to William Kent Esquire by Crown Grant dated the seventeenth day of April one thousand eight hundred and three

In witness whereof, I have hereunto signed my name and affixed my Seal, this Eighth day of January One thousand eight hundred and sixty Seven

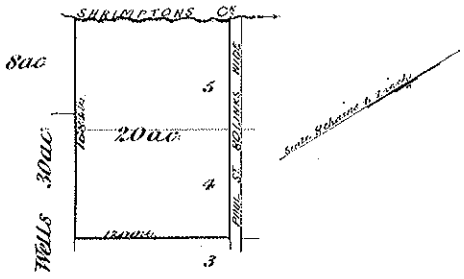
Signed the 8th day of January 1867, in the presence of Robert M. Pearson

Registrar General.

NOTIFICATION REFERRED TO.

No 1247 Mortgage dated 21st day December 1866 from the named Henry Watton to Paul Benson of Kissing Point Farmer to secure the sum of £190.0.0. Produced 27th day December 1866 at half past 2 O'Clock in the afternoon Entered 8th day January 1867 at 10 O'Clock in the forenoon

W. Ward Dep. Regr Genl



DISCHARGE OF THE above MORTGAGE No 1247
DATED 20th Dec 1877 PRODUCED & ENTERED
27 Dec 1877
O'CLOCK IN THE afternoon
W. Ward DEP REGR GENL

No 26503 TRANSFER DATED Dec 1877
FROM THE above NAMED Henry Watton
TO named Henry Watton of Sydney of Farm OF THE LAND above DESCRIBED
PRODUCED & ENTERED 27 Dec 1877 AT
3 O'CLOCK IN THE afternoon
DEP REG. GEN.

26503

Henry Watton 4th February 2008 [of] Kissing Point Farmer Transferree under Instrument of Transfer from Paul Benson numbered 1246 is now the proprietor of an Estate in fee simple subject nevertheless to the reservations, if any, contained in the Grant hereinafter referred to; and also subject to such incumbrances liens and interests as are notified hereon in That piece of Land situated in the Parish of Hunters Hill and County of Cumberland containing Twenty Acres or thereabouts as shown in the plan hereon and therein edged Red, being Lots 4 and 5 on a plan deposited in the Land Titles Office Sydney numbered 21; and part of five hundred and seventy acres delineated on the public Map of the said Parish deposited in the Office of the Surveyor General originally granted to William Kent, junior, by Crown Grant dated the seventeenth day of April one thousand eight hundred and three

In witness whereof, I have hereunto signed my name and affixed my Seal, this Eighth day of January One thousand eight hundred and sixty seven

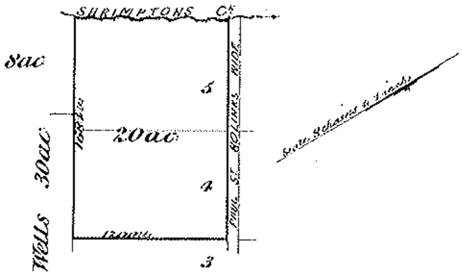
Signed the 8th day of January 1867, in the presence of Robert McPearson

Thos. H. Dayles
Registrar General.

NOTIFICATION REFERRED TO.

No 1247 Mortgage dated 21st day December 1866 from the named Henry Watton to Paul Benson of Kissing Point Farmer to secure the sum of £190.0.0. Produced 21st day December 1866 at half past 2 O'Clock in the afternoon entered 8th day January 1867 at 10 O'Clock in the forenoon

H. Ward Dep. Regr Genl



DISCHARGE OF THE above MORTGAGE No 1247
DATED 20th Dec 1877 PRODUCED & ENTERED 27th Dec 1877 AT 3
O'CLOCK IN THE afternoon
G. Muir DEP. REGR GENL

No 26503 TRANSFER DATED Dec 1877
FROM THE above named Henry Watton
TO Samuel Henry Watton of Sydney [illegible] OF THE LAND above DESCRIBED
PRODUCED & ENTERED 27th Dec 1877 AT 3 O'CLOCK IN THE afternoon
G. Muir DEP REGR GENL

[illegible] the land in above Transfer 26503 [illegible] Vol 323 Fol 167
G. Muir
Dep. Regr [illegible]

Cancelled and Certificate of Title issued Vol 323 Fol 168 Residue
G. Muir
Dep. Regr

4th February 2008

(C.) **New South Wales.** CERTIFICATE OF TITLE.

[Appⁿ No. 195]

REGISTER BOOK

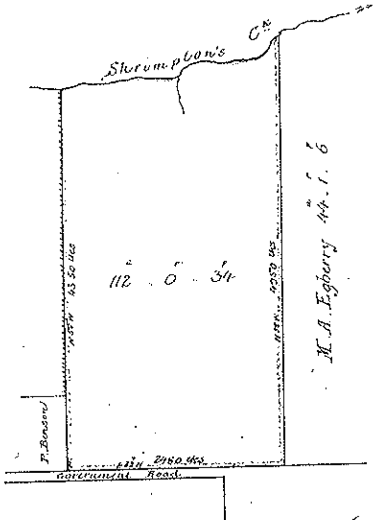
Vol. IX Folio 47

Henry Hill Osborne Avondale Dapto Benjamin Marshall Osborne Brickendon
Wagga Wagga Patrick Hill Osborne Avondale Dapto and Alick Osborne, Marshall
Mount, Dapto, all in the Colony of New South Wales Esquires are now the Proprietors of an Estate in Fee
Simple, Subject nevertheless to the reservations, if any, contained in the Grant hereinafter referred to,
and also subject to such encumbrances liens and interests as are notified hereon, in That Piece of
Land situated in the Parish of Hunters Hill, County of Cumberland and Colony
aforesaid containing One hundred and twelve acres and thirty four perches or there
abouts. Commencing on Shrimpton's Creek at the South Western corner of Mary Ann Egberry's
measured portion of Forty four acres one rood and six perches and bounded on the North East by
the South West boundary of that Land bearing South Easterly about Forty nine Chains fifty
links to the Field of Mars Common, on the South East by said Common and a continued
Line along a Government Road bearing South Westerly twenty four Chains eighty links to
Benson's Land On the South West by that Land and a continued Line along a fenced
boundary bearing North Westerly in all Forty three Chains fifty links to Shrimpton's Creek
aforesaid and on the North West by that Creek downwards to the point of commencement.
as shown on the plan hereon and therein edged Red being part of Five hundred and seventy
acres delineated on the public Map of the said parish deposited in the Office of the Surveyor
General as originally granted to William Hart Junior by Crown Grant dated the seventeenth
day of April One thousand eight hundred and three, (W.f.Gok)

In witness whereof, I have hereunto signed my name and affixed my seal, this Ninth day of November
One thousand eight hundred and sixty four

Signed the 9th day of November 1864,
in the presence of Chas. Arthur

[signature]
Registrar General.



NOTIFICATION REFERRED TO.

No 232 Transfer dated the 28th day of November 1864
produced the same day at 11 o'Clock in the forenoon from the above
named Henry Hill Osborne, Benjamin Marshall Osborne, Patrick Hill
Osborne and Alick Osborne to Paul Benson of Rising Sun
of the abovedescribed land. Consideration money paid £300. Entered
28th day of November 1864 at 11 o'Clock in the forenoon.

W. G. Ward. Dep. Regʳ Genˡ

This Certificate of Title is cancelled and fresh Certificate of
Title issued Vol IX Folio 208

W. G. Ward. Dep. Regʳ G.

4th February 2008

CERTIFICATE OF TITLE

(C.) Issued to last Certificate Vol XXXVI Folio 171

[App^n No.]

New South Wales.

Residue after Transfer 26503.

REGISTER BOOK

Vol. 323 Folio 168

Henry Watton of Kissing Point, Farmer, 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 That piece of land situated in the Parish of Hunters Hill and County of Cumberland containing Twelve acres or thereabouts commencing on the south western side of Paul Street at the north western corner of Lot three and bounded thence on the north east by that street bearing north westerly eight chains thirty three links to Lot five on the north west by part of that lot bearing south westerly nine chains sixty five links again on the north east by a line bearing north westerly to Shrimpton's Creek again on the north west by that Creek upwards to George Backham's eight acres on the south west by that land and part of Henry Wells thirty acres bearing south easterly sixteen chains eighty four links to Lot three aforesaid and on the south east by that lot bearing north easterly twelve chains to the point of commencement as shown on the plan hereon and therein edged red being Lot 4 and part of Lot 5 on a plan deposited in the Land Titles Office Sydney numbered 27 and also part of Five hundred and seventy acres delineated on the public map of the said Parish deposited in the Office of the Surveyor General originally granted to William Kent, Junior, by Crown Grant dated the seventeenth day of April one thousand eight hundred and three.

In witness whereof, I have hereunto signed my name and affixed my Seal, this Sixteenth day of January one thousand eight hundred and seventy eight.

Signed the 16th day of January 1878 in the presence of Cha. H. Kell

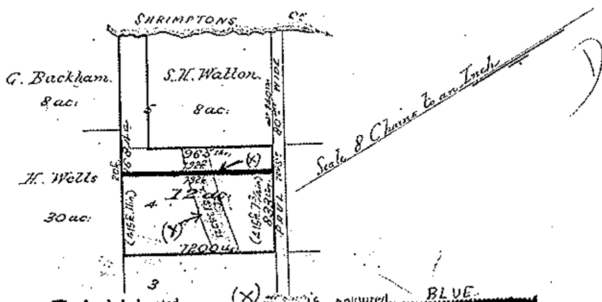
[signature] Dep: Registrar General.

REGISTRAR GENERAL NEW SOUTH WALES

NOTIFICATION REFERRED TO.

No 226227 MORTGAGE DATED 23 April 1894 FROM THE above NAMED Henry Watton TO The Australian Joint Stock Bank Limited PRODUCED & ENTERED 5 June 1894 AT 5 Mts Past 11 O'CLOCK IN THE Fore NOON [signature] Dep. REG. GENL

No 11166 APPLICATION BY TRANSMISSION Elizabeth Watton of North Ryde Widow NOW THE REGISTERED PROPRIETOR OF THE LAND WITHIN DESCRIBED IN PURSUANCE OF THE ABOVE APPLICATION PRODUCED 22 June 1899 AND ENTERED 7 July 1899 AT 10 O'CLOCK IN THE fore NOON [signature]



The land designated (X) is coloured BLUE

The land designated (Y) is coloured PINK

... in ... said parish of ... thereabouts commencing on the south western side of Cumberland containing Fifty 4th February 2008 of Paul Street at the north western corner of Lot three and bounded thence on the north east by that street bearing north westerly eight chains thirty three links to Lot five on the north west by part of that lot bearing south westerly nine chains sixty five links again on the north east by a line bearing north westerly to Shrimpton's Creek again on the north west by that creek upwards to George Buckham's eight acres on the south west by that land and part of Henry Wells' thirty acres bearing south easterly sixteen chains eighty four links to Lot three aforesaid and on the south east by that Lot bearing north easterly twelve chains to the point of commencement as shown on the plan hereon and therein edged red being Lot 4 and part of Lot 5 on a plan deposited in the Land Titles Office Sydney numbered 27 and also part of Five hundred and seventy acres delineated on the public map of the said Parish deposited in the Office of the Surveyor General originally granted to William Kent, Junior, by Crown Grant dated the seventeenth day of April one thousand eight hundred and three

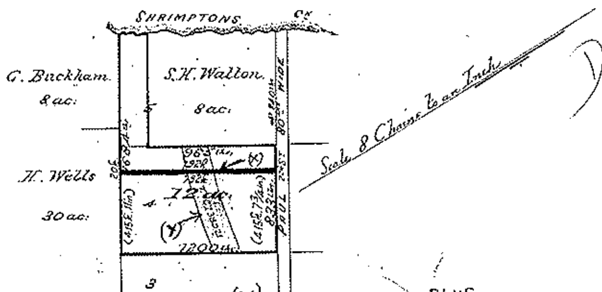
In witness whereof, I have hereunto signed my name and affixed my Seal, this Sixteenth day of January one thousand eight hundred and seventy eight.

Signed the 16th day of January 1878 in the presence of

Chas H. Kelly

J G Meddes
Dep: Registrar General.

REGISTRAR GENERAL NEW SOUTH WALES



The land designated (X) is coloured BLUE

The land designated (Y) is coloured PINK

NOTIFICATION REFERRED TO.

No 226227 MORTGAGE DATED 23 April 1894 FROM THE above NAMED Henry Watton TO The Australian Joint Stock Bank Limited PRODUCED & ENTERED 5 June 1894 AT 5 Mi Past 11 O'CLOCK IN THE fore NOON
... Dep REG GENL

No 11166 APPLICATION BY TRANSMISSION Elizabeth Watton of North Ryde Widow IS NOW THE REGISTERED PROPRIETOR OF THE LAND WITHIN DESCRIBED IN PURSUANCE OF THE ABOVE APPLICATION PRODUCED 22 June 1899 AND ENTERED 7 July 1899 AT 10 O'CLOCK IN THE fore NOON
E Weare
Dep Reg Genl

DISCHARGE OF THE above MORTGAGE No 226227 DATED 16 June 1899 PRODUCED & ENTERED 10 July 1899 ... 10 O'CLOCK IN THE fore NOON
E Weare DEP REG GENL

4th February 2008

No 293662 TRANSFER DATED 23 May 1899
FROM THE within NAMED Elizabeth Watton To Albert Watton of North Ryde Gardener
OF THE LAND within DESCRIBED
PRODUCED & ENTERED 7 July 1899
AT 10 O'CLOCK in the fore NOON
[signature] for REGR GENL

No 296508 MORTGAGE DATED 22nd June 1899
FROM THE above NAMED Albert Watton To Gilbert Hunter Smith of Parramatta Gentleman
PRODUCED & ENTERED 12th September 1899
AT 11 mts to one O'CLOCK in the after NOON
[signature] for REGR GENL

No A212721 Transfer of Mortgage No 296508 Dated 13th October 1915
from the said Richard Albert and Eric Randall Bowden (Mortgagees) To Eric Randall Bowden of Parramatta Solicitor
16th November 1915
Produced and entered 6th June 1916
at 12 o'clock in the noon
[signature]
REGISTRAR GENERAL.

No. A 254776 DISCHARGE of within Mortgage
No. 296508 dated 18th July 1916
Produced 18th July 1916 and entered 18th July 1916
at 56 mts pt 2 o'clock in the after noon
[signature]
REGISTRAR GENERAL.

No. A 254777 MORTGAGE dated 9th October 1915
from the said Albert Watton to Robert Hamilton Mathews of Parramatta Surveyor
Produced and entered 18th July 1916
at 56 mts pt 2 o'clock in the after noon
[signature]
REGISTRAR GENERAL.

No. A 641887 DISCHARGE of within Mortgage
No. A 254777 dated 31st August 1920
Produced 4th November 1920 and entered 4th December 1920
at 11 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. A 641888 MORTGAGE dated 8th November 1920
from the said Albert Watton to Aubrey Charles Hunt of Dural Orchardist
4th November 1920
Produced and entered 4th December 1920
at 11 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B141653 DISCHARGE of within Mortgage
A641888 dated 19th October 1934
Produced 22nd October 1934 and entered 22nd October 1934
at 57 mts pt 2 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B141654 MORTGAGE dated 30th August 1934
from the said Albert Watton to Cecilia Mary Lily Floyd wife of William Gordon Floyd of Sydney Salesman
Produced and entered 22nd October 1934
at 57 mts pt 2 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B564599 DISCHARGE of within Mortgage
B141654 dated 20th September 1927
Produced 22nd September 1927 and entered 22nd September 1927
at 10 mts pt 12 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B564600 MORTGAGE dated 21st September 1927
from the said Albert Watton to Jean Marie Dowling of Bondi Spinster
Produced and entered 22nd September 1927
at 10 mts pt 12 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B 998921 DISCHARGE of within Mortgage
B564600 dated 22nd February 1930
Produced 2nd June 1930 and entered 2nd June 1930
at 39 mts pt 12 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B 979441 Transfer and Grant dated 3rd June 1930 from said Albert Watton to The Metropolitan Water Sewerage and Drainage Board of an Easement over that part of the land within described now shown by blue color in the plan hereon.
Produced 3rd June 1930 and entered 13th June 1930 at 12 o'clock noon.
[signature]
Registrar General

No. C 738921 TRANSFER dated 7th September 1938
from the said Albert Watton to The Commissioner for Main Roads of part
of the land within described
Produced 20th December 1938 and entered 7th March 1939
at 10 o'clock in the fore noon.
[signature]

PRODUCED & ENTERED 12th September 18[illegible] 4th February 2008
AT 14 mts to one O'CLOCK IN THE after NOON.
[signature] REGISTRAR GENERAL

No A212721 Transfer of Mortgage No 296508 Dated 13th October 1915 from the said Richard Hunt and Eric Randall Bowden to Eric Randall Bowden of Parramatta Solicitor
11th November 1915
Produced and entered 6th June 1916
at 12 o'clock in the noon
[signature]
REGISTRAR GENERAL.

No. A 254476 DISCHARGE of within Mortgage
No. 296508 dated 18th July 1916
Produced 18th July 1916 and entered 18th July 1916
at 56 mts pt 2 o'clock in the after noon
[signature]
REGISTRAR GENERAL.

No. A 254477 MORTGAGE dated 9th October 1915
from the said Albert Watton to Robert Hamilton Mathews of Parramatta Surveyor
Produced and entered 18th July 1916
at 56 mts pt 2 o'clock in the after noon
[signature]
REGISTRAR GENERAL.

No. A641887 DISCHARGE of within Mortgage
No. A254477 dated 31st August 1920
Produced 8th November 1920 and entered 8th December 1920
at 11 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. A641888 MORTGAGE dated 8th November 1920
from the said Albert Watton to Aubrey Charles Hunt of Dural Orchardist
Produced and entered 8th December 1920
at 11 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

Produced and entered 22nd October 1924
at 5 mts pt 2 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B564599 DISCHARGE of within Mortgage
B141654 dated 20th September 1927
Produced 22nd September 1927 and entered 22nd September 1927
at 10 mts pt 12 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B564600 MORTGAGE dated 21st September 1927
from the said Albert Watton to Jean Marie Dowling of Bondi Spinster
Produced and entered 22nd September 1927
at 10 mts pt 12 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B948921 DISCHARGE of within Mortgage
B564600 dated 22nd February 1930
Produced 2nd June 1930 and entered 2nd June 1930
at 39 mts pt 12 o'clock in the after noon.
[signature]
REGISTRAR GENERAL.

No. B979441 Transfer and Grant dated 3rd June 1930 from said Albert Watton to The Metropolitan Water Sewerage and Drainage Board of an Easement over that part of the land within described now shown by blue color in the plan hereon.
Produced 3rd June 1930 and entered 13th June 1930 at 12 o'clock noon.
[signature]
Registrar General

No. C738921 TRANSFER dated 7th September 1938
from the said Albert Watton to The Commissioner for Main Roads of part
of the land within described
Produced 20th December 1938 and entered 7th March 1939
at 10 o'clock in the fore noon.
[signature]
REGISTRAR GENERAL

This Deed is Cancelled and Certificate of Title issued
Vol. 5023 Fol. 150
for the Residue
[signature]
C738922 Registrar General

D 13460
A641887R / 888R
B979441 R
C738921 (R)
C738922

[redacted]

CERTIFICATE OF TI

(C.)

New South Wales.

[*Reference to last Certificate*]
[*Vol.* XXXVI *Folio* 177]

REGISTER BOOK
VOL. 323 FOLIO 167

DIEU ET MON DROIT

Samuel Henry Walton of the City of Sydney, Landowner, Transferee under Instrument of Transfer from Henry Walton numbered 26503 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 That piece of Land situated in the Parish of Hunters Hill and County of Cumberland containing Eight acres or thereabouts commencing on the south western side of Paul Street at the north western corner of Lot four and bounded thence on the south east by part of that Lot bearing south westerly nine chains sixty five links on the south west by a line bearing north westerly to Shrimptons Creek on the north west by that Creek downwards to Paul Street aforesaid and on the north east by that street bearing south easterly about eight chains forty links to the point of commencement as shown on the plan hereon and thereon edged red being part of Lot 5 on a plan deposited in the Land Titles Office Sydney numbered 27 and also part of Five hundred and seventy acres delineated in the public map of the said Parish deposited in the Office of the Surveyor General, originally granted to William Kent, junior, by Crown Grant dated the seventeenth day of April one thousand eight hundred and three &c.

In witness whereof, I have hereunto signed my name and affixed my Seal, this Sixteenth day of January one thousand eight hundred and seventy-eight.

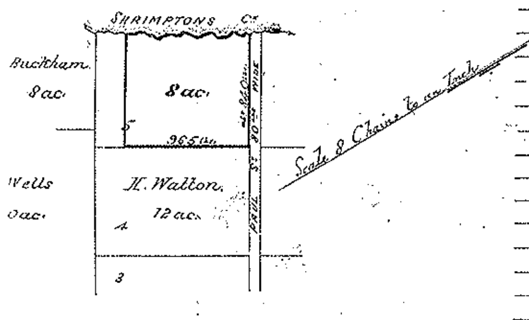
Signed the 16th day of January 1878.
in the presence of

[illegible]

[illegible]
Deputy Registrar General.

REGISTRAR GENERAL NEW SOUTH WALES

NOTIFICATION REFERRED TO.



No. B 910541 APPLICATION BY TRANSMISSION
[illegible] of North Ryde Widow
B9
is now the registered Proprietor of the Land within described in pursuance of the above Application. Produced 26th November 1929 and entered 23rd December 1929 at 10 o'clock in the fore noon.

[illegible]
REGISTRAR GENERAL

REGISTRAR GENERAL NEW SOUTH WALES

No. B 910542 CAVEAT dated 26th November 1929 by the Registrar General. Produced and entered 23rd December 1929

Samuel Henry Watton of the City of Sydney Landowner, Transferee under Instrument of Transfer from Henry Watton numbered 26503 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 That piece of Land situated in the Parish of Hunters Hill and County of Cumberland containing Eight acres or thereabouts commencing on the south western side of Paul Street at the north western corner of lot four and bounded thence on the south east by part of that lot bearing south westerly nine chains sixty five links on the south west by a line bearing north westerly to Shrimptons Creek on the north west by that Creek downwards to Paul Street aforesaid and on the north east by that street bearing south easterly about eight chains forty links to the point of commencement as shown on the plan hereon and thereon edged red being part of lot 5 on a plan deposited in the Land Titles Office Sydney numbered 275 and also part of Five hundred and seventy acres delineated in the public map of the said Parish deposited in the Office of the Surveyor General, originally granted to William Kent junior by Crown Grant dated the seventeenth day of April one thousand eight hundred and three.

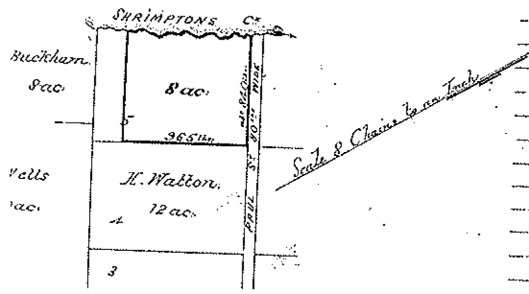
In witness whereof, I have hereunto signed my name and affixed my Seal, this Sixteenth day of January one thousand eight hundred and seventy-eight.

Signed the 16th day of January 1878 in the presence of

Chas. H. Kelly [signature]

[signature]
Deputy Registrar General.

NOTIFICATION REFERRED TO.



No. B 910541 APPLICATION BY TRANSMISSION
Ethel Watton of North Ryde Widow
is now the registered Proprietor of the Land within described in pursuance of the above Application. Produced 26th November 1929 and entered 23rd December 1929 at 10 o'clock in the fore noon.
[signature]
REGISTRAR GENERAL.

No. B 910542 CAVEAT dated 26th November 1929 by the Registrar General. Produced and entered 23rd December 1929 at 10 o'clock in the fore noon.
[signature]
REGISTRAR GENERAL.

B910541 Part

304

No. C 2482 TRANSFER dated 12 February 1930
from the said Ethelin Walton to Charles Joseph Howen of part

of the land within described
Produced 2nd May 1930 and
entered 15th August 1930.
at 12 o'clock in the noon.

As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 4432 Fol. 124.

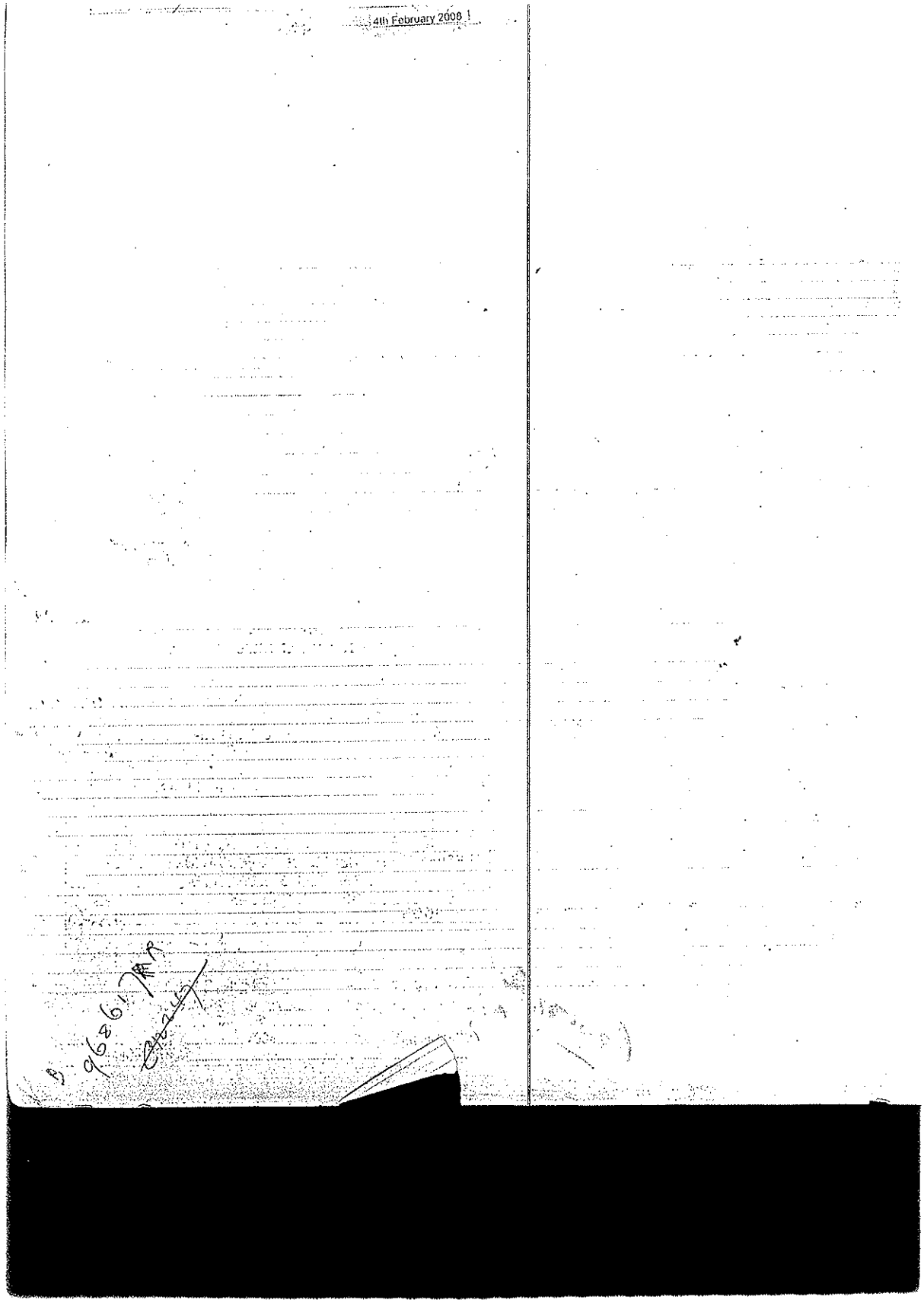
(signed) [illegible]
REGISTRAR GENERAL

REGISTRAR GENERAL NEW SOUTH WALES

This Deed is Cancelled and Certificate of Title issued
Vol. 4449 Fol. 187 for the Residue

(signed) [illegible]

O.C12247 Registrar General.



Appn. No. 195
Reference to last certificates
Vol. 5025 Fol. 150
" 5149 " 65

New South Wales.

[CERTIFICATE OF TITLE.]

CANCELLED R

REGISTER BOOK.
Vol. 5317 Fol. 43

WILLIAM WHITE BRITON, of Epping, Hatcheryman, Transferee as to part under Instrument of Transfer No. D98168 and as to the other part by virtue of Certificate of Title Volume 5149 Folio 65, now surrendered for consolidation 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 That piece of land situated in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland containing eight acres two roods fifteen and one half perches or thereabouts as shown in the plan hereon and therein edged red and also shown in plan annexed to the said Instrument of Transfer No. D98168 being part of Lots 4 and 5 in Deposited Plan No. 21 and being also part of 570 acres (Portion 139 of Parish) originally granted to William Kent, Junior by Crown Grant dated the 17th day of April 1803.

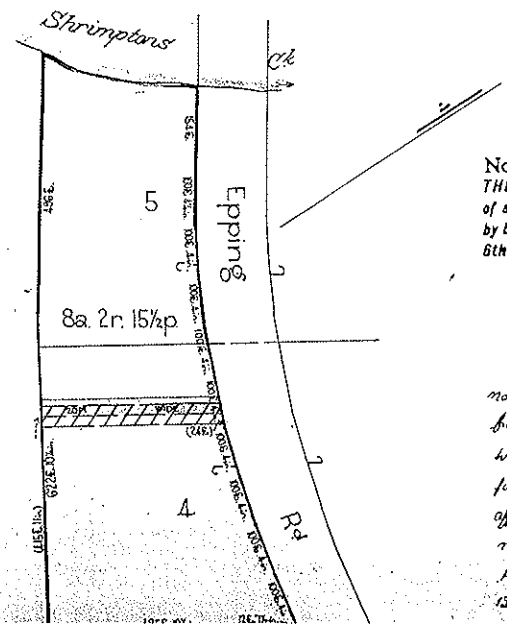
In witness whereof I have hereunto signed my name and affixed my Seal, this Fourteenth day of April, 1942.

Signed in the presence of J. Hodgson

Registrar General.

feet wide coloured blue in the plan hereon.

Registrar General.



No. F 71687 NOTICE OF RESUMPTION
THE COUNCIL OF THE MUNICIPALITY OF EASTWOOD is the proprietor of an easement affecting that part of the land within described shown by brown colour on the plan hereon, freed from all other interests. Produced 6th September 1949 and entered 9th May 1950 at 12 o'clock noon.

J. W. Pells
Registrar General.

No G 403543 Transfer and Grant dated 25th October 1955 from the said William White Briton to The Metropolitan Water Sewerage and Drainage Board of an easement for water pipe line (as fully set out in the said instrument) affecting that part of the land within described shown by red hatching and blue colour hatched red in the plan hereon. Produced 14th November 1955 and entered 27th February 1956 at 12 o'clock

4th February 2008

ILLIAM WHITE BRITON, of Epping, Hatcheryman, Transferee as to part under Instrument of Transfer No. D98168 nd as to the other part by virtue of Certificate of Title Volume 5149 Folio 65, now surrendered for consolidation 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 That piece of land situated
n the Municipality of Eastwood Parish of Hunters Hill , and County of Cumberland
containing Eight acres two roods fifteen and one half perches or thereabouts as shown in the plan hereon nd therein edged red and also shown in plan annexed to the said Instrument of Transfer No. D98168 being art of Lots 4 and 5 in Deposited Plan No. 81 and being also part of 570 acres (Portion 139 of Parish) riginally granted to William Kent, Junior by Crown Grant dated the 17th day of April 1803.

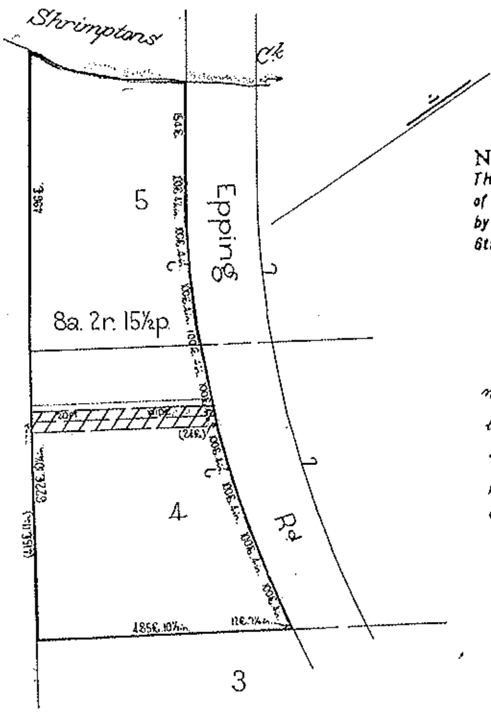
n witness whereof I have hereunto signed my name and affixed my Seal, this Fourteenth day of April, 1942.

Signed in the presence of J.H. Ledgard

Registrar General.

feet wide coloured blue in the plan hereon.

Registrar General.



Scale:- 200ft to one inch.

No. F 71687 ***NOTICE OF RESUMPTION***
THE COUNCIL OF THE MUNICIPALITY OF EASTWOOD is the proprietor of an easement affecting that part of the land within described shown by brown colour on the plan hereon, freed from all other interests. Produced 6th September 1949 and entered 9th May 1950 at 12 o'clock noon.

J. Wells
Registrar General.

No G403543 Transfer and Grant dated 25th October 1955 from the said William White Briton to The Metropolitan Water Sewerage and Drainage Board of an easement for water pipe line (as fully set out in the said instrument) affecting that part of the land within described shown by red hatching and blue colour hatched red in the plan hereon. Produced 14th November 1955 and entered 27th February 1956 at 12 o'clock noon

J. Wells
Registrar General

NOTIFICATION REFERRED TO

B979441 Grant of Easement to The Metropolitan Water rage and Drainage Board over the piece of land 20

F71687 KR

14th February 2008

The interest of the Council of the Municipality of Ryde
in the addition to existing road

Shown on DP 208117

Endorsed 15th May 1962

J. Watson
Registrar General

REGISTRAR GENERAL NEW SOUTH WALES

new c/t issuing on DP 208117

This deed is cancelled as to whole ex road

[illegible] Certificates of Title have issued for lots in
Deposited Plan No. 208117 [illegible]
1 to 3 Vol. 9173 Fol. 136 to 138 respectively

J. Watson
REGISTRAR GENERAL

REGISTRAR GENERAL NEW SOUTH WALES

REGISTRAR GENERAL

Image prepared for this 1283 #914

DP 208117 whole ex road.

[redacted]

[redacted]

Appn. No. 195

Reference to last Certificate,

Vol. 323 Fol. 167

New South Wales

20805 6.30

[CERTIFICATE OF TITLE.]

CANCELLED

REGISTER BOOK.

VOL. 4432 FOL. 124

CHARLES JOSEPH KEVIN of Manly, Speculator, Transferee under Instrument of Transfer No.C 2482 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 that piece of land situated

in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland

containing Two acres or thereabouts,

as shown in the Plan hereon and therein edged red, being also shown in plan annexed to the said Instrument of Transfer No.C 2482 being part of lot 5 in Deposited Plan No.21 and being also part of 570 acres (Portion 139 of Parish) delineated in the Public Map of the said Parish in the Department of Lands originally granted to William Kent, Junior, by Crown Grant dated the 17th day of April 1803.

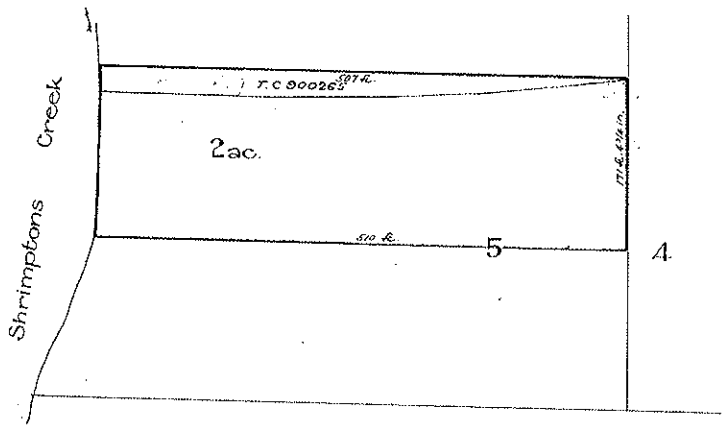
In witness whereof I have hereunto signed my name and affixed my Seal, this twenty eighth day of August 1930.

Signed in the presence of [illegible]

[illegible]

Registrar General.

REGISTRAR GENERAL NEW SOUTH WALES



No. C 214755 CAVEAT by the Registrar General dated 10th November 1933 Produced 10th November 1933 and entered 7th December 1933 at 12 o'clock noon.

[illegible]

Registrar General.

Scale: 100 L to one inch.

No. C 214754. APPLICATION BY TRANSMISSION

PUBLIC TRUSTEE is now the [illegible]

No. C 900265 TRANSFER dated 24th April 1931

from the said Public Trustee

CHARLES JOSEPH KEVIN of Manly, Speculator, Transferee under Instrument of Transfer No.C 2482 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 that piece of land situated

in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland

containing Two acres or thereabouts,

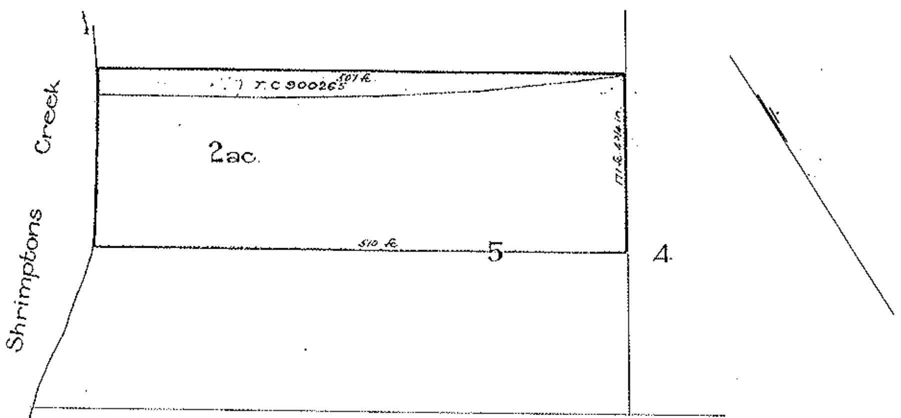
as shown in the Plan hereon and therein edged red, being also shown in plan annexed to the said Instrument of Transfer No.C 2482 being part of lot 5 in Deposited Plan No.21 and being also part of 570 acres (Portion 139 of Parish) delineated in the Public Map of the said Parish in the Department of Lands originally granted to William Kent, Junior, by Crown Grant dated the 17th day of April 1803.

In witness whereof I have hereunto signed my name and affixed my Seal, this *twenty eighth* day of *August* 1930.

Signed in the presence of *[signature]*

[signature]

Registrar General.



Scale: 100 ft to one inch.

notification referred to

Nº C 214754. APPLICATION BY TRANSMISSION PUBLIC TRUSTEE is now the registered proprietor of the land within described in pursuance of the above application. Produced 10th, November 1933 and entered 7th, December 1933 at 12 o'clock noon.

Roy W. Willis

Registrar General.

Nº C 214755 CAVEAT by the Registrar General dated 10th November 1933 Produced 10th, November 1933 and entered 7th, December 1933 at 12 o'clock noon.

Roy W. Willis

Registrar General.

No. C *900265* TRANSFER dated *24th April* 19*39* from the said *Public Trustee to The Commissioner for Main Roads of part that part of the land within described shown by pink colouring in Copy plan hereon* ~~of the land within described~~ Produced *12 September* 1939 and entered *21st June 1940* at *12* o'clock in the noon.

Roy W. Willis

REGISTRAR GENERAL

TMW C 900265

C830945 part

A83350 1/10

This Deed is Cancelled and Certificate of Title issued
Vol. 5149 Fol. 65 for the
Residue (excluding [illegible])
[signature]
Registrar General.
[illegible]

REGISTRAR GENERAL'S OFFICE NEW SOUTH WALES

[redacted]

Appn. No. 195
Reference to last Certificate
Vol. 4432 Fol. 124

New South Wales.

[CERTIFICATE OF TITLE.]

Order No. C 900267
Residue after Transfer No. C900265

REGISTER BOOK.
Vol. 5149 Fol. 65

Public Trustee by virtue of Certificate of Title Volume 4432 Folio 124 now surrendered as to Residue after Transfer No. C 900265 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 That piece of land situated in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland containing One acre two roods thirty nine and one half perches or thereabouts as shown in the plan hereon and therein edged red being part of Lot 5 in deposited plan No 21 and being also part of 870 acres (Portion 139 of Parish) originally granted to William Hunt junior by Crown Grant dated the 17th day of April 1803.

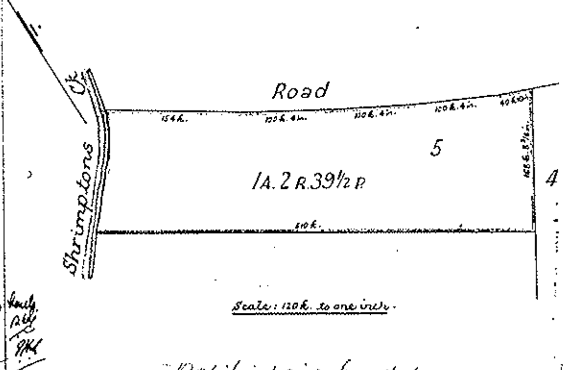
In witness whereof I have hereunto signed my name and affixed my Seal, this Twenty sixth day of June 1940

Signed in the presence of J.H. Ledgard

Roy W. Willis
Registrar General.

No. D22766 TRANSFER dated 29th May 1941
from the said Public Trustee to William White Britton of Epping Hatchery man
of the land within described
Produced 3rd June 1941 and entered 12th June 1941
at 10 o'clock in the fore noon.
Roy W. Willis
REGISTRAR GENERAL

This Deed is Cancelled and Certificate of Title issued
Vol. 5317 Fol. 43
Roy W. Willis
T D98168 REGISTRAR GENERAL.



Scale: 120k. to one inch.

10261(2) Verify. RW 9.M.

Notification referred to

No C 214736 lodged by the Registrar General dated the 10th day of November 1933 Produced the 10th day of November 1933 and entered the 7th day of December 1933 at 12 o'clock noon

Roy W. Willis

Public Trustee by virtue of Certificate of Title Volume 4432 Folio 124 now surrendered as to residue after Transfer No C 900265 is now the proprietor of an estate in fee simple

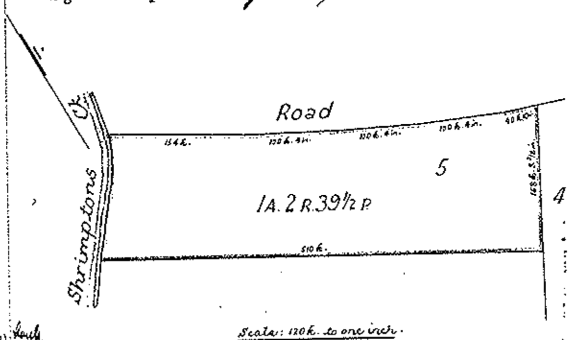
subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances, liens, and interests as are notified hereon, in That piece of land situated in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland

containing One acre two roods thirty nine and one half perches or thereabouts as shown in the plan hereon and therein edged red being part of Lot 5 in deposited plan No 21 and being also part of 570 acres (Portion 139 of Parish) originally granted to William Hart Junior by Crown Grant dated the 17th day of April 1800.

In witness whereof I have hereunto signed my name and affixed my Seal, this Twenty sixth day of June 1940

Signed in the presence of J.H. Ledgard

Roy W. Willis
Registrar General.



Scale: 120ft. to one inch.

C900267(2)

No. D22766. TRANSFER dated 29th May 1941. from the said Public Trustee to William White Britton of Epping Hatcheryman of the land within described

Produced 3rd June 1941 and entered 12th June 1941 at 10 o'clock in the fore noon.

Roy W. Willis
REGISTRAR GENERAL

This Deed is Cancelled and Certificate of Title issued Vol. 5317 Fol. 43

Roy W. Willis
T D98168 REGISTRAR GENERAL.

Notification referred to

No C 214755 Caveat by the Registrar General dated the 10th day of November 1933 produced the 10th day of November 1933 and entered the 7th day of December 1933 at 12 o'clock noon

Roy W. Willis
Registrar General

The within Caveat No. C214755 is hereby withdrawn.
Dated 12th June 1941.

Roy W. Willis
REGISTRAR GENERAL.

22766

Vide D98168

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
4/2/2008 12:48PM

FOLIO: 4/25688

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 6914 FOL 245

Recorded	Number	Type of Instrument	C.T. Issue
23/11/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
18/4/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
12/6/1991	Z702179	DISCHARGE OF MORTGAGE	
12/6/1991	Z702180	MORTGAGE	EDITION 1
3/12/1999	6392945	DISCHARGE OF MORTGAGE	
3/12/1999	6392946	DISCHARGE OF MORTGAGE	EDITION 2
11/8/2000	7016224	NOTICE OF DEATH	
11/8/2000	7016225	MORTGAGE	EDITION 3
2/11/2005	AB882237	DISCHARGE OF MORTGAGE	
2/11/2005	AB882238	TRANSFER	
2/11/2005	AB882239	MORTGAGE	EDITION 4
7/12/2006	AC794037	DISCHARGE OF MORTGAGE	
7/12/2006	AC794039	MORTGAGE	EDITION 5

*** END OF SEARCH ***

MI/MI PRINTED ON 4/2/2008

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 4/25688

SEARCH DATE	TIME	EDITION NO	DATE
4/2/2008	12:46 PM	5	7/12/2006

LAND

LOT 4 IN DEPOSITED PLAN 25688
LOCAL GOVERNMENT AREA RYDE
PARISH OF HUNTERS HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP25688

FIRST SCHEDULE

JIAN PING KANG (T AB882238)

SECOND SCHEDULE (3 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 G200237 COVENANT
3 AC794039 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

MI/MI PRINTED ON 4/2/2008

Appn. No. 195

Reference to last certificate

Vol. 2567 Fol. 40

New South Wales.

[CERTIFICATE OF TITLE.]

ORDER NO.D1558.

REGISTER BOOK.

Vol. 5223 Fol. 157

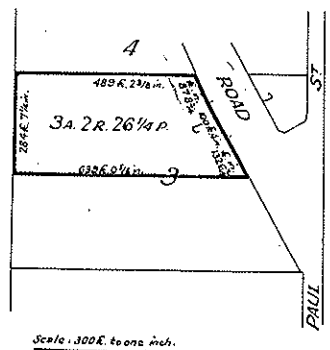
CANCELLED

PUBLIC TRUSTEE, by virtue of Certificate of Title Volume 2567 Folio 40 now surrendered 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 That piece of land situated in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland containing Three acres two roods twenty six and one quarter perches or thereabouts as shown in the plan hereon and therein edged red being part of Lot 3 in Deposited Plan No.21 and being also part of 570 acres (Portion 139 of Parish) originally granted to William Kent Junior by Crown Grant dated the 17th day of April 1803.

In witness whereof I have hereunto signed my name and affixed my Seal, this Seventh day of April, 1941.

Signed in the presence of J.M. Sedgard

Registrar General.



NOTIFICATION REFERRED TO

No.B948184 Mortgage dated the 28th day of February 1930 from Charles Joseph Kevin to James Samuel Hull (Junior) of North Ryde, Printer Produced and entered the 5th day of March 1930 at 11 minutes past 3 o'clock in the afternoon.

Registrar General.

No.C214755 Caveat dated the 10th day of November 1933 by the Registrar General Produced the 10th day of November 1933 and entered the 7th day of December 1933 at 12 o'clock noon.

No. D4816o DISCHARGE of within mortgage No. B948184 dated 28th July 1933 Produced 15th August 1941 and entered 29th August 1941 at 12 o'clock in the noon.

REGISTRAR GENERAL

The within Caveat No. C214755 is hereby withdrawn Dated 29th August 1941

REGISTRAR GENERAL

No. D4816i TRANSFER dated 25th July 1941 from the said Public Trustee to Walter Belmont Mack of Sydney Company Director of the land within described Produced 15th August 1941 and entered 29th August 1941 at 12 o'clock in the noon.

REGISTRAR GENERAL

No. D4816ii MORTGAGE dated 25th July 1941

CANCELLED

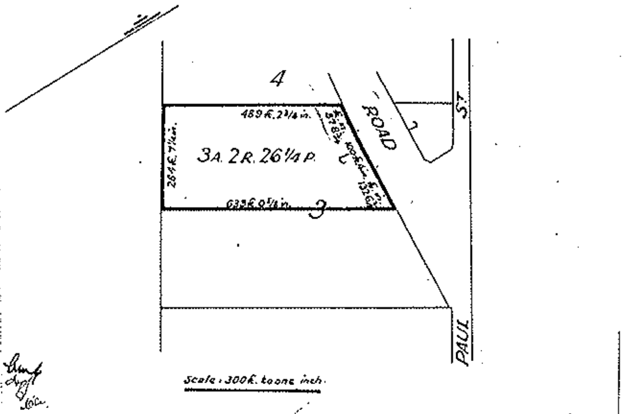
PUBLIC TRUSTEE, by virtue of Certificate of Title Volume 2567 Folio 40 now surrendered is now the proprietor of an Estate in Fee Simple,

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 That piece of land situated in the Municipality of Eastwood Parish of Hunters Hill, and County of Cumberland containing Three acres two roods twenty six and one quarter perches or thereabouts as shown in the plan hereon and therein edged red being part of Lot 3 in Deposited Plan No.21 and being also part of 570 acres (Portion 139 of Parish) originally granted to William Kent Junior by Crown Grant dated the 17th day of April 1803.

In witness whereof I have hereunto signed my name and affixed my Seal, this Sixteenth day of April, 1941.

Signed in the presence of J.H. Ledgard

Roy W. Willis
Registrar General.



NOTIFICATION REFERRED TO

No.B948184 Mortgage dated the 28th day of February 1930 from Charles Joseph Kevin to James Samuel Hull (Junior) of North Ryde, Printer Produced and entered the 5th day of March 1930 at 11 minutes past 3 o'clock in the afternoon.

Roy W. Willis
Registrar General.

No.C214755 Caveat dated the 10th day of November 1933 by the Registrar General Produced the 10th day of November 1933 and entered the 7th day of December 1933 at 12 o'clock noon.

Roy W. Willis
Registrar General.

No. D48160 DISCHARGE of within mortgage
B948184 dated 25th July 1941
Produced 15th August 1941 and entered 29th August 1941
at 12 o'clock in the noon.

Roy W. Willis
REGISTRAR GENERAL

The within Caveat No. C214755 is hereby withdrawn
Dated 29th August 1941

Roy W. Willis
REGISTRAR GENERAL.

No. D48161 TRANSFER dated 25th July 1941
from the said Public Trustee to Walter Garnet Rock of Sydney: Company Director
of the land within described
Produced 15th August 1941 and entered 29th August 1941
at 12 o'clock in the noon.

Roy W. Willis
REGISTRAR GENERAL

No. D41233 MORTGAGE dated 25th July 1941
from the said Walter Garnet Rock to Rock Holey Limited
Produced and entered 13th July 1941
at 18 mts pt 10 o'clock in the fore noon

Roy W. Willis
REGISTRAR GENERAL

This Deed is Cancelled and Certificate of Title issued
Vol. 7043 Fol. 114 as regards
Lot 9 DP25688
S. Wells
06664533 REGISTRAR GENERAL.

Lot 1 DP 25688
This Deed is cancelled and new Certificate
Vol 7064 Fol 27
Vide 0G426178

No. G210824 TRANSFER dated 14th December 1954 from the said Walter Garnet Nock to Peter John Roach and Jean Edith Jacobsen as joint tenants of Lot 14 DP 25688 (subject to covenant) of the land within described
Produced 14th December 1954 and entered 14th December 1954 at ... o'clock in the after noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6899 Fol. 153
J. Wells
Registrar General.

No. G186591 TRANSFER dated 5th November 1954 from the said Walter Garnet Nock to Raymond Wise Garling of Lot 15 D.P. 25688 of the land within described
Produced 5th November 1954 and entered 5th January 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6908 Fol. 234
J. Wells
Registrar General.

No. G200237 TRANSFER dated 26th November 1954 from the said Walter Garnet Nock to William Holmes Lot 11 DP 25688 (subject to covenant) of the land within described
Produced 27th November 1954 and entered 19th January 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. ... Fol. ...
J. Wells
Registrar General.

No. G195152 TRANSFER dated 10th November 1954 from the said Walter Garnet Nock to Francis Henry Kochler of Lot 16 DP 25688 (subject to covenant) of the land within described
Produced 19th November 1954 and entered 20th January 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6916 Fol. 80
J. Wells
Registrar General.

No. G200004 TRANSFER dated 24th November 1954 from the said Walter Garnet Nock to Joseph Butta and Audrey Muriel Butta as joint tenants of Lot 5 D.P. 25688 (subject to covenant) of the land within described
Produced 26th November 1954 and entered 1st February 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificates is cancelled and new Certificate issued Vol. 6914 Fol. 242
J. Wells
Registrar General.

... of the land within described
Produced 14th December 1954 and entered 7th February 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6926 Fol. 30
J. Wells
Registrar General.

No. G215397 TRANSFER dated 26th November 1954 from the said Walter Garnet Nock to John Charles Nelson, Maxwell Missmont Small, Albert Norman Ryan and George Henry Beswick as tenants in common of Lots 3, 8, 11 & 12 DP 25688 of the land within described
Produced 21st December 1954 and entered 16th February 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6937 Fol. 73/4/5/6
J. Wells
Registrar General.

No. G229132 TRANSFER dated 22nd December 1954 from the said Walter Garnet Nock to Harold Vincent Roach of Lot 6 DP 25688 (subject to covenant) of the land within described
Produced 19th January 1955 and entered 2nd March 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6940 Fol. 103
J. Wells
Registrar General.

No. G243436 TRANSFER dated 11th February 1955 from the said Walter Garnet Nock to Thomas Bruce Manuel of Lot 2 D.P. 25688 (subject to covenant) of the land within described
Produced 16th February 1955 and entered 28th March 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6952 Fol. 61
J. Wells
Registrar General.

No. G245636 TRANSFER dated 20th January 1955 from the said Walter Garnet Nock to Russell Donald Jackson of Lot 7 D.P. 25688 (subject to covenant) of the land within described
Produced 18th February 1955 and entered 1st April 1955 at 12 o'clock ~~in the~~ noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6977 Fol. 232
J. Wells
Registrar General.

For Cancellation, see Re Lots 9 & 1 ... page
For Cancellation, see ... page

G186591 Lot 15 R
G195152 Lot 16 R
G200237 Lot 11 R
G200004 Lot 5 R
G209120 Lot 10 R
G210532 Lot 14 R
G215397 Lots 3, 8, 11 & 12 R
G220365 Lot 12 R
G229132 Lot 6 R
G243436 Lot 2 R
G245636 Lot 7 R
G250470 Lot 12 (N/C)
G253547 Lot 3 (N/C)
G301195 Lot 9 N/C

No. D296515 **DISCHARGE** of within mortgage
No. Dm 1283 dated 11th July 1944
Produced and entered 14th July 1944
at 11 o'clock in the fore noon.

REGISTRAR GENERAL.

The interest of the Council of the Municipality of Ryde *in the* Davis Avenue and pathway *Shown on* Deposited *Plan No.* 25688
Dated 14th December 1954
J. Wells
Registrar General.

No. G210534 TRANSFER dated 14th December 1954
from the said Walter Garnet Nock to Peter John Roach and Jean Edith Jacobsen as joint tenants of Lot 14 DP 25688 (subject to covenant) of the land within described
Produced 14th December 1954 and entered 14th December 1954
at 4 o'clock in the after noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6899 Fol. 153
J. Wells
Registrar General.

No. G186591 TRANSFER dated 5th November 1954
from the said Walter Garnet Nock to Raymond Wise Garling of Lot 15 D.P. 25688 of the land within described
Produced 5th November 1954 and entered 5th January 1955
at 12 o'clock noon.
As to land in this transfer this Certificate cancelled and new Certificate issued Vol. 6901 Fol. 254
J. Wells
Registrar General.

No. G200257 TRANSFER dated 26th November 1954
from the said Walter Garnet Nock to William Holmes lot 11 DP 25688 (subject to covenant) of the land within described
Produced 29th November 1954 and entered 19th January 1955
at 12 o'clock noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. Fol.
J. Wells
Registrar General.

No. G195152 TRANSFER dated 10th November 1954
from the said Walter Garnet Nock to Francis Henry Koehler of Lot 16 DP 25688 (subject to covenant) of the land within described
Produced 19th November 1954 and entered 20th January 1955
at 12 o'clock noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6910 Fol. 80
J. Wells
Registrar General.

No. G200004 TRANSFER dated 24th November 1954
from the said Walter Garnet Nock to Joseph Butta and Audrey Muriel Butta as joint tenants of Lot 5 D.P. 25688 (subject to covenant) of the land within described
Produced 26th November 1954 and entered 1st February 1955
12 o'clock in the

No. G220365 TRANSFER dated 16th December 1954
from the said Walter Garnet Nock to Charles Henry Hawkes of Lot 13 DP 25688 (subject to covenant) of the land within described
Produced 5th January 1955 and entered 7th February 1955
at 12 o'clock in the noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6926 Fol. 41
J. Wells
Registrar General.

No. G209120 TRANSFER dated 10th December 1954
from the said Walter Garnet Nock to Frank Camp of Lot 10 DP 25688 (subject to covenant) of the land within described
Produced 13th December 1954 and entered 7th February 1955
at 12 o'clock noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6926 Fol. 30
J. Wells
Registrar General.

No. G215397 TRANSFER dated 26th November 1954
from the said Walter Garnet Nock to John Charles Meharg, Maxwell Beaumont Shall, Albert Norman Henry and George Henry Beswick as tenants in common of Lots 3, 11 & 12 DP 25688 of the land within described
Produced 21st December 1954 and entered 16th February 1955
at 12 o'clock noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6934 Fol. 73/4/5/6.
J. Wells
Registrar General.

No. G229132 TRANSFER dated 22nd December 1954
from the said Walter Garnet Nock to Harold Vincent Roach of Lot 6 DP 25688 (subject to covenant) of the land within described
Produced 19th January 1955 and entered 2nd March 1955
at 12 o'clock noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6940 Fol. 108
J. Wells
Registrar General.

No. G243436 TRANSFER dated 11th February 1955
from the said Walter Garnet Nock to Thomas Bruce Mansel of Lot 2 D.P. 25688 (subject to covenant) of the land within described
Produced 11th February 1955 and entered 28th March 1955
at 12 o'clock noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6955 Fol. 61
J. Wells
Registrar General.

No. G245636 TRANSFER dated 20th January 1955
from the said Walter Garnet Nock to Russell Ronald Jackson of Lot 7 D.P. 25688 (subject to covenant) of the land within described
Produced 18th February 1955 and entered 1st April 1955
at 12 o'clock noon.
As to land in this transfer this Certificate is cancelled and new Certificate issued Vol. 6977 Fol. 232
J. Wells
Registrar General.

For Cancellation, see Lots 9 & 1
For Cancellation, see diagram

Primary Appn. No.195

Reference to Last Title

Vol. 5223 Fol. 157

1st February 2008

New South Wales.

[CERTIFICATE OF TITLE.]

REGISTER BOOK.

VOL. 6914 FOL. 245

MA Issued on Transfer No.G200237.

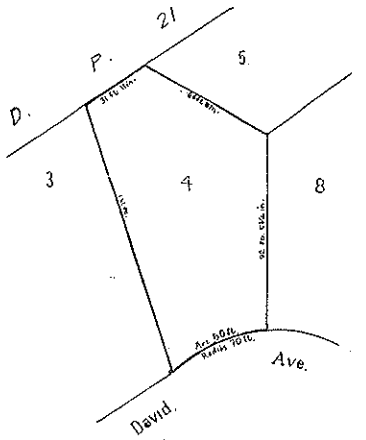
CANCELLED ON ISSUE OF [W] 4/25688

WILLIAM HOLMES, of Drummoyne, Assurance Agent, 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 That piece of land situated in the Municipality of Ryde Parish of Hunters Hill , and County of Cumberland shown in the plan hereon and therein edged red being Lot 4 in Deposited Plan No.25688 and being part of Portion 139 granted to William Kent Junior on 17th April 1803.

In witness whereof I have hereunto signed my name and affixed my Seal, this Twentieth day of January , 1955

Signed in the presence of G.W. Moss

I. Wells
Registrar-General.



Area:- 29 per.

Scale:- 50 feet to one inch.

NOTIFICATION REFERRED TO

Covenant contained in Transfer No.G200237.

I. Wells
Registrar General

Donald James Robb of Ashfield, Sales Representative and Nancy Lillian Robb, his wife, are now the ...

No. G 734552 MORTGAGE dated 24th April 1957 from the said Donald James Robb and Nancy Lillian Robb to RURAL BANK OF NEW SOUTH WALES Entered 19th June 1957

I. Wells
REGISTRAR GENERAL

MORTGAGE No. G734552 has been discharged. See M223203 Entered 14th April 1971

[signature]
REGISTRAR GENERAL

Patrick James Kuder of North Ryde, Storeman, and Ivy Doreen Kuder, his wife, as Joint Tenants are now the registered proprietors of the land within described.

See TRANSFER No. M223204 dated 2nd March 1971

Entered 14th April 1971

[signature]
REGISTRAR GENERAL

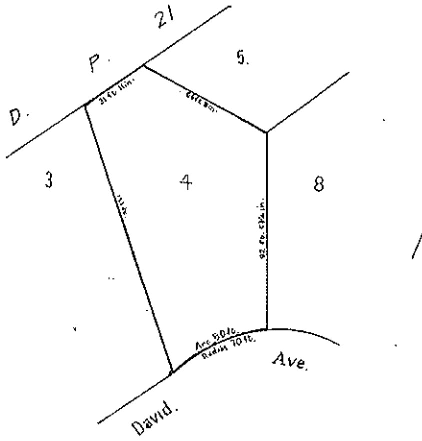
1st February 2008

WILLIAM HOLMES, of Drummoyne, Assurance Agent, 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 That piece of land situated in the Municipality of Ryde Parish of Hunters Hill, and County of Cumberland shown in the plan hereon and therein edged red being Lot 4 in Deposited Plan No.25688 and being part of Portion 139 granted to William Kent Junior on 17th April 1803.

In witness whereof I have hereunto signed my name and affixed my Seal, this Twentieth day of January, 1955

Signed in the presence of G.W. Moss

T. Wells
Registrar-General.



Area:- 29 per.

Scale:- 50 feet to one inch.

NOTIFICATION REFERRED TO

Covenant contained in Transfer No.G200237.

T. Wells
Registrar General

Donald James Robb of Ashfield Sales Representative and Nancy Lillian Robb his wife, are now the registered proprietors of the land within described, as joint tenants.
See TRANSFER No. G576892 dated 13th September 1956.
Entered 20th September 1956.

T. Wells
REGISTRAR GENERAL.

No. G734552 MORTGAGE dated 24th April 1957 from the said Donald James Robb and Nancy Lillian Robb to RURAL BANK OF NEW SOUTH WALES
Entered 19th June 1957

T. Wells
REGISTRAR GENERAL.

MORTGAGE No. G734552 has been discharged.
See M223203 Entered 14th April 1971

Watson
REGISTRAR GENERAL

Patrick James Kable of North Ryde Storeman, and Ivy Doreen Kable his wife, as Joint Tenants are now the registered proprietors of the land within described.
See TRANSFER No. M223204 dated 8th March 1971
Entered 14th April 1971

Watson
REGISTRAR GENERAL

REGISTERED PROPRIETOR Nubar Hovagimian and Rema Hovagimian as joint tenants by Transfer W714925 Registered 28.1.1987

W714926 Mortgage to Advance Bank Australia Limited Registered 28.1.1987

X470156 Mortgage to Direct Acceptance Corporation Limited. Registered 8.4.1988

COMPUTER FOLIO CREATION. NO FURTHER DEALINGS TO BE REGISTERED.

14-285

1st February 2008

X470156 Mortgage to Direct Accountable Corporation Limited. Registered 8.4.1988

COMPUTER FOLIO CREATION. NO FURTHER DEALINGS TO BE REGISTERED.

6014-265

W714925 TR - 6 MR

X470156MR

CERTIFICATE OF TITLE.

1 February 2008

6097

(C.)

New South Wales.

CANCELLED R.

[App^n No. 195]
[Reference to last Certificate —]
[Vol. 117 — Folio 59]

REGISTER BOOK,

Vol. 2567 Folio 40

Q5

James Samuel Hull junior of North Ryde Poultry Farmer Transferee under Instrument of Transfer from Sarah Jane Hull No A 16769 3 — 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 that — piece of land situated in the Municipality of Eastwood —, Parish of Hunters Hill —, and County of Cumberland — containing Five acres twenty seven perches —, or thereabouts, as shown on the Plan hereon, and therein edged red, being part of Lot 3 on a Plan deposited in the Land Titles Office, Sydney, No. 21 and also part of Five hundred and seventy acres (Portion 139 of Parish) delineated in the Public map of the said Parish — in the Department of Lands originally granted to William Kent junior by by Crown Grant dated the seventeenth day of April one thousand eight hundred and three —

In witness whereof, I have hereunto signed my name and affixed my Seal, this fourteenth day of April one thousand nine hundred and fifteen

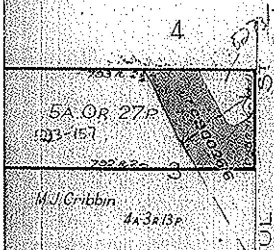
Signed the 14th day of April 1915, in the presence of [signature]

[signature]

Deputy Registrar General.

REGISTRAR GENERAL NEW SOUTH WALES

NOTIFICATION REFERRED TO.



No. A 167694 MORTGAGE dated 25th November 1914 from the said James Samuel Hull junior to John Jackson Paine of Windsor Solicitor

Produced 31st March 1915 and entered 21st April 1915 at 4 o'clock in the after noon

[signature]

REGISTRAR GENERAL

No. A 375569 MORTGAGE dated 16th March 1918 from the said James Samuel Hull Junior

1st February 2008

James Samuel Hull junior of North Ryde Poultry Farmer Transferee under a Instrument of Transfer from Sarah Jane Hull No A 167693 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 That piece of land situated in the Municipality of Eastwood, Parish of Hunters Hill, and County of Cumberland containing Five acres twenty seven perches, or thereabouts, as shown on the Plan hereon, and therein edged red, being part of Lot 3 on a Plan deposited in the Land Titles Office, Sydney, No. 21 and also part of Five hundred and seventy acres Portion 109 (Parish) delineated in the Public map of the said Parish in the Department of Lands originally granted to William Hearl junior by by Crown Grant dated the seventeenth day of April one thousand eight hundred and three

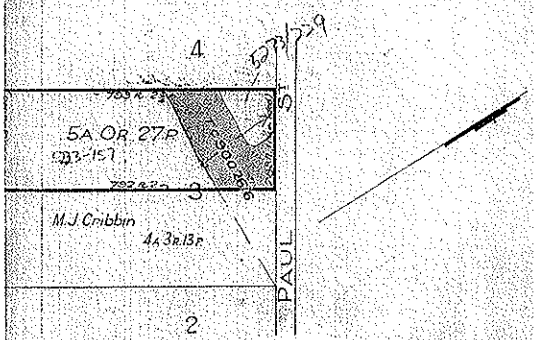
In witness whereof, I have hereunto signed my name and affixed my Seal, this fourteenth day of April one thousand nine hundred and fifteen

Signed the 14th day of April 1915,

in the presence of

Deputy Registrar General.

REGISTRAR GENERAL NEW SOUTH WALES



NOTIFICATION REFERRED TO.

No. A 167694 MORTGAGE dated 25th November 1914 from the said James Samuel Hull Junior to John Jackson Kane of Windsor Solicitor

Produced 31st March 1915 and entered 21st April 1915 at 4 o'clock in the after noon

REGISTRAR GENERAL

REGISTRAR GENERAL NEW SOUTH WALES

No. A 375862 MORTGAGE dated 16th March 1918 from the said James Samuel Hull (Junior) to John Jackson Kane of Windsor Solicitor

Produced and entered 18th April 1918 at 26 minutes past 11 o'clock in the Fore noon.

REGISTRAR GENERAL

REGISTRAR GENERAL NEW SOUTH WALES

No. A 957414 DISCHARGE of within Mortgage A 167694 dated 15th June 1923
Produced 19th June 1923 and entered 19th June 1923
at 45 mts pt 10 o'clock in the fore noon.
REGISTRAR GENERAL.

No. A 957415 DISCHARGE of within Mortgage A 375862 dated 15th June 1923
Produced 19th June 1923 and entered 19th June 1923
at 45 mts pt 10 o'clock in the fore noon.
REGISTRAR GENERAL.

No. A957416 MORTGAGE dated 15th June 1923 from the said James Samuel Hull (Junior) to Commissioners of the Government Savings Bank of New South Wales
Produced and entered 19th June 1923 at 45 mts pt 10 o'clock in the fore noon.
REGISTRAR GENERAL.

No. A 978099 MORTGAGE dated 11th July 1923 from the said James Samuel Hull Junior to Commissioners of the Government Savings Bank of New South Wales
Produced and entered 10th August 1923 at 18 mts pt 10 o'clock in the fore noon.
REGISTRAR GENERAL.

No. B 57114 DISCHARGE of within Mortgage A978099 dated 7th March 1924
Produced 10th March 1924 and entered 10th March 1924
at 7 mts pt 12 o'clock in the after noon.
REGISTRAR GENERAL.

No. B62158 MORTGAGE dated 6th February 1924 from the said James Samuel Hull to Robert Adam Pye of Gladesville Pharmaceutical Chemist
Produced and entered 24 March 1924 at [illegible] o'clock in the after noon.
REGISTRAR GENERAL.

No. B 916065 MORTGAGE dated 11th November 1929 from the said James Samuel Hull Junior to The Primary Producers Bank of Australia Limited
Produced and entered 9th December 1929 at 55 mts pt 10 o'clock in the fore noon.
REGISTRAR GENERAL.

No. B 948181 DISCHARGE of within M[ortgage] A957416 dated 28th February 1930
Produced 5th March 1930 and [entered] 5th March 1930
at 11 mts pt 3 o'clock in the after noon.
REGISTRAR GENERAL.

No. B 948182 DISCHARGE of within Mo[rtgage] B916065 dated 28th February 1930
Produced 5th March 1930 and e[ntered] 5th March 1930
at 11 mts pt 3 o'clock in the after noon.
REGISTRAR GENERAL.

No. B 948183 TRANSFER dated 28th February 19[30] from the said James Samuel Hull (Junior) to Cha[rles] Joseph Kenn of Manly Speculator of the land within desc[ribed]
Produced and entered 5th March 1930 at 11 mts pt 3 o'clock in the after noon.
REGISTRAR GENERAL.

No. B 948184 MORTGAGE dated 28th February 19[30] from the said Charles Joseph Kenn to James Samu[el] Hull (Junior) of North Ryde Printer
Produced and entered 5th March 1930 at 11 mts pt 3 o'clock in the after noon.
REGISTRAR GENERAL.

№ C 214754. APPLICATION BY TRANSMI[SSION] PUBLIC TRUSTEE is now the registered proprietor of the land [within] described in pursuance of the above application. Produced [...] November 1933 and entered 7th December 1933 at 12 o'clock
Roy W. Willis
Registrar General.

№ C 214755 CAVEAT by the Registrar General dated [...] November 1933 Produced 10th November 1933 and entered [...] December 1933 at 12 o'clock noon.
Roy W. Willis
Registrar General.

No. C 900266 TRANSFER dated 7th September 1939 from the said Public Trustee to The Commissioner for Main Roads of [...] the part of the land within described [...] showing on [illegible] of the land within descr[ibed]
Produced 18 September 1939 and entered 21st June 19[..]
at 12 o'clock in the ______ noon.
Roy W. Willis
REGISTRAR GENERAL

This Deed is Cancelled and Certificate of Title issued
Vol. 5223 Fol. 157

17 June 1923
at 45 mts pt 10 o'clock in the fore noon.

1st February 2008

REGISTRAR GENERAL

No. A957416 MORTGAGE dated 15th June 1923 from the said James Samuel Hull (Junior) to Commissioners of the Government Savings Bank of New South Wales

Produced and entered 19th June 1923 at 45 mts pt 10 o'clock in the fore noon.

REGISTRAR GENERAL.

No. A 978099 MORTGAGE dated 4th July 1923, from the said James Samuel Hull Junior to Commissioners of the Government Savings Bank of New South Wales

Produced and entered 10th August 1923 at 15 m pt 10 o'clock in the fore noon.

REGISTRAR GENERAL

No. B 57114 DISCHARGE of within Mortgage A978099 dated 7th March 1924 Produced 10th March 1924 and entered 10th March 1924 at 7 mts pt 12 o'clock in the after noon.

REGISTRAR GENERAL

No. B62488 MORTGAGE dated 6th February 1924 from the said James Samuel Hull Junior to Robert Adam Pye of Gladesville Pharmaceutical Chemist

Produced and entered 3rd March 1924 at 16 mts pt 1 o'clock in the after noon.

REGISTRAR GENERAL.

No. B 916065 MORTGAGE dated 11th November 1929 from the said James Samuel Hull Junior to The Primary Producers Bank of Australia Limited

Produced and entered 9th December 1929 at 55 mts pt 10 o'clock in the fore noon.

REGISTRAR GENERAL

No. B 948180 DISCHARGE of within Mortgage B62488 dated 28th February 1930 Produced 5th March 1930 and entered 5th March 1930 at 11 mts pt 3 o'clock in the after noon.

REGISTRAR GENERAL

* The residue of land in this folio comprises road

REGISTRAR GENERAL

March 1930
at 11 mts pt 3 o'clock in the after noon.

REGISTRAR GENERAL

No. B 948183 TRANSFER dated 28th February 19[illegible] from the said James Samuel Hull (Junior) to Charles Joseph Keys of Manly Gentleman

Produced and entered 5th March of the land within described at 11 mts pt 3 o'clock in the after noon. 1930

REGISTRAR GENERAL

No. B 948184 MORTGAGE dated 28th February 19[illegible] from the said Charles Joseph Keys to James Samuel Hull (Junior) of Manly Retired Printer

Produced and entered 5th March 1930 at 11 mts pt 3 o'clock in the after noon.

REGISTRAR GENERAL.

No. C 214754. APPLICATION BY TRANSMIS[illegible] PUBLIC TRUSTEE is now the registered proprietor of the land w[illegible] described in pursuance of the above application. Produced [illegible] November 1933 and entered 7th December 1933 at 12 o'clock [illegible]

Roy W. Willis
Registrar General.

No. C 214755 CAVEAT by the Registrar General dated [illegible] November 1933 Produced 10th November 1933 and entered [illegible] December 1933 at 12 o'clock noon

Roy W. Willis
Registrar General.

No. C 900266 TRANSFER dated 7th September 1939 from the said Public Trustee to The Commissioner for Main Roads of part of the land within described being the part shown on the plan hereon of the land within describe[d]
Produced 18 September 1939 and entered 21st June 1941 at 12 o'clock in the noon.

REGISTRAR GENERAL

This Deed is Cancelled and Certificate of Title issued Vol. 5223 Fol. 157 for part

O D1559 Registrar General.

This Deed is Cancelled and Certificate of Title issued Vol. 5223 Fol. 229 for Part

OD55736 Registrar General

4th February 2008

CERTIFICATE OF TIT

(C.)

New South Wales.

REGISTER BOOK

[*Reference to last Certificate*]
[*Vol.* IX. *Folio* 208]

VOL. XXXI FOLIO 74

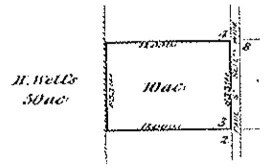
Herman Gerhard Anton Gerdes of Kissing Point Farmer Transferee under Instrument of Transfer from Paul Benson numbered 954 is now the proprietor of an Estate in Fee Simple Subject nevertheless *to the reservations, if any, contained in the Grant hereinafter referred to,* And also subject *to such encumbrances liens and interests as are notified hereon, in* That Piece of Land *situated in the* Parish of Hunter's Hill *and* County of Cumberland *containing* Ten acres *or thereabouts as shewn on the plan hereon and therein edged Red being Lot Number 3. on a plan deposited in the Land Titles Office Sydney, and numbered 21. and part of Five hundred and seventy acres delineated in the Public Map of the said Parish deposited in the Office of the Surveyor General originally granted to William Kent Junior by Crown Grant dated the seventeenth day of April one thousand eight hundred and three.*

In witness whereof, I have hereunto signed my name and affixed my Seal, this *Eighth* day of *August* One thousand eight hundred and sixty *six*

Signed the *8th* day of *August* 186*6*,
in the presence of *Robert M. Pearson*

[signature]
Registrar General.

NOTIFICATION REFERRED TO.



No. 955 Mortgage dated 1st day August 1866 from the above named Herman Gerhard Anton Gerdes to Paul Benson of Kissing Point Farmer to secure the sum of £60.0.0. Produced 2nd day August 1866 at 2 o'clock in the afternoon. Entered day August 1866 at half past 10 o'clock in the forenoon

W. Ward. Dep. Regr. Genl.

Discharge of the above Mortgage No. 955 by re... Endorsed thereon dated 28 day of February 1871 ~~half past 11 o'clock in the forenoon~~ Produced and entered the same day at half past 11 o'clock in the forenoon

[signature] Dep. Reg. Genl.

No. *5817* TRANSFER DATED *28th Febry* 187.
FROM THE *above* NAMED *Herman Gerhard Anton Gerdes* TO *Peter Swenson of Sydney Dealer* OF THE LAND *above* DESCRIBED.
PRODUCED & ENTERED *28th Febry* 187*1* AT *half past 11* O'CLOCK IN THE *fore* NOON.
[signature] DEP. REG. GEN.

Transferee under Instrument of Transfer from Paul Benson numbered 954 is now the proprietor of an Estate in Fee Simple Subject nevertheless to the reservations, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances liens and interests as are notified hereon, in That Piece of Land situated in the Parish of Hunter's Hill and County of Cumberland containing Ten acres or thereabouts as shewn on the plan hereon and therein edged Red being Lot Number 3, on a plan deposited in the Land Titles Office Sydney, and numbered 21. and part of Five hundred and seventy acres delineated in the Public Map of the said Parish deposited in the Office of the Surveyor General originally granted to William Kent Junior by Crown Grant dated the seventeenth day of April one thousand eight hundred and three. (W.&G.)

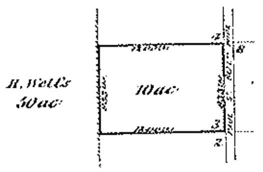
4th February 2008

In witness whereof, I have hereunto signed my name and affixed my Seal, this Eighth day of August One thousand eight hundred and sixty six

Signed the 8th day of August 1866, in the presence of Robert M. Pearson

[signature]

Registrar General.



NOTIFICATION REFERRED TO.

No. 955 Mortgage dated 1st day of August 1866 from the above named Herman Gerhard Anton Gerdes to Paul Benson of Rushing Point Farmer to secure the sum of £60.0.0. Produced 2nd day August 1866 at 2 o'clock in the afternoon. Entered 2nd day August 1866 at half past 10 o'clock in the forenoon

W. Ward. Depy Regr Genl

Discharge of the above Mortgage No. 955 by receipt Endorsed thereon dated 28 day of February 1871. ~~Half past 11 o'clock in the forenoon~~ Produced and entered the same day at half past 11 o'clock in the forenoon.

C. J. Riddle Dep Reg Genl

No. 5817 TRANSFER DATED 28th Febry 1871 FROM THE above NAMED Herman Gerhard Anton Gerdes TO Peter Swanson of Sydney Dealer OF THE LAND above DESCRIBED PRODUCED & ENTERED 28th Febry 1871 AT half past 11 O'CLOCK IN THE fore NOON

C. J. Riddle DEP REGR GENL

Cancelled and Certificate of Title issued Vol. CXVII Fol. 59

C. J. Riddle Depy Regr Genl

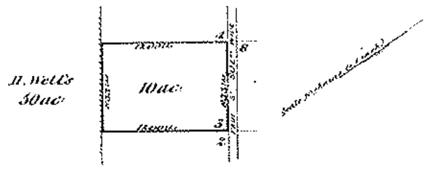
[illegible] of Cumberland containing 4th February 2008 Ten acres or thereabouts as shown on the plan hereon and therein edged Red being Lot Number 3 on a plan deposited in the Land Titles Office Sydney, and numbered 21. and part of Five hundred and seventy acres delineated in the Public Map of the said Parish deposited in the Office of the Surveyor General originally granted to William Kent Junior by Crown Grant dated the seventeenth day of April one thousand eight hundred and three. [illegible]

In witness whereof, I have hereunto signed my name and affixed my Seal, this Eighth day of August One thousand eight hundred and sixty six

Signed the 8th day of August 1866, in the presence of Robert M. Pearson

[signature] Registrar General.

NOTIFICATION REFERRED TO.



No. 955 Mortgage dated 1st day August 1866 from the named Herman Gerhard Anton Gerdes to Paul Bensen Rising Sun Farmer to secure the sum of £60.0.0. [illegible] 2nd day August 1866 at 2 O'Clock in the afternoon. [illegible] day August 1866 at half past 10 O'Clock in the forenoon

[signature] Dep. Regr. Genl.

Discharge of the above Mortgage No. 955. by Endorsement thereon dated 28 day of February 18[illegible] ~~half past 11 O'Clock in the forenoon~~ Produced and entered the same day at half past 11 O'Clock in the fo[renoon]

[signature] Dep. Reg. Genl.

No. 5817 TRANSFER DATED 28th Febry 187_ FROM THE above NAMED Herman Gerhard Anton Gerdes TO Peter Swenson of Sydney Dealer OF THE LAND above DESCRIBED. PRODUCED & ENTERED 28th Febry 1871 AT half past 11 O'CLOCK IN THE fore NOON.

[signature] DEP REGR. GENL.

Cancelled and Certificate of Title issued. Vol. CXVI Fol. 59

[signature] Depy. Regr. Genl.

4th February 2008

CERTIFICATE OF TITLE.

(C.)

New South Wales.

[*Reference to last Certificate*]
[*Vol.* XXX *Folio* 74]

REGISTER BOOK
VOL. CXVII FOLIO 59

Peter Iverson of the City of Sydney Dealer Transferee under a Instrument of Transfer from Herman Gerhard Anton Jordes numbered 3817 a now the proprietor of an Estate in Fee simple, Subject nevertheless to the reservations of any contained in the Grant hereinafter referred to, and also Subject to such encumbrances liens and interests as are subject hereto in that Piece of Land situated in the Parish of Hawkesbury and County of Cumberland containing Four acres or thereabouts, as shown in the plan hereon and thereon edged Red being Lot number 3 on a plan deposited in the Land Titles Office Sydney numbered 71 and part of Two hundred and twenty acres delineated on the Public Map of the said Parish deposited in the Office of the Surveyor General originally granted to William Henry Farmer by Crown Grant dated the seventeenth day of April One thousand eight hundred and three

In witness whereof, I have hereunto signed my name and affixed my Seal, this Seventeenth day of March One thousand eight hundred and seventy one.

Signed the 17th day of March 1871.
in the presence of

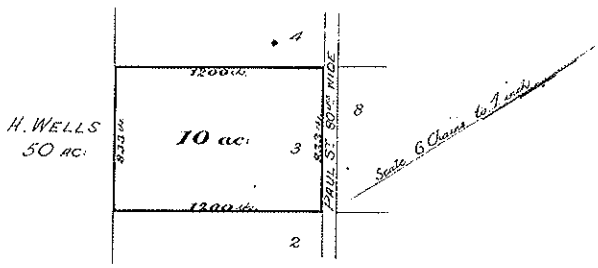
J. J. W. Chyard

C. J. Riddle
Dep Registrar General.

REGISTRAR GE... NEW SOUTH W...

NOTIFICATION REFERRED TO.

No 6857 MORTGAGE DATED 18th July 187[illegible]
FROM THE above NAMED Peter Iverson
TO Paul Benson of Kurrajong
Post Farmer
PRODUCED & ENTERED 17th March 187[illegible]
Three O'CLOCK IN THE After NOON
C. Riddle DEP REG[R] GEN[L]



Discharge of the above Mortgage No 5559 dated - May Produced and Entered 27th May 1871 at 3 o'clock in the afternoon
C. Riddle
Dep Reg[r] Gen[l]

No 7701 TRANSFER DATED 20th [illegible]

4th February 2008 the City of Sydney Dealer Transferee under Instrument of Transfer from Herman Gerhard ... Gerdes numbered 5817 now the proprietor an Estate in Fee simple, Subject nevertheless to reservations, if any, contained in the Grant hereinafter referred to; And also subject to such encumbrances liens and interests as are notified hereon in Piece of Land situated in the Parish of Hunters Hill and County of Cumberland containing Ten acres or thereabouts, as shewn on the plan hereon and thereon edged red being Lot Number 3 on a plan deposited in the Land Titles Office Sydney numbered 71 and part of Five hundred and seventy acres delineated on the public Map of the said parish deposited in the Office of the Surveyor General originally granted to William Kent junior by Crown Grant dated the seventeenth of April One thousand eight hundred and three

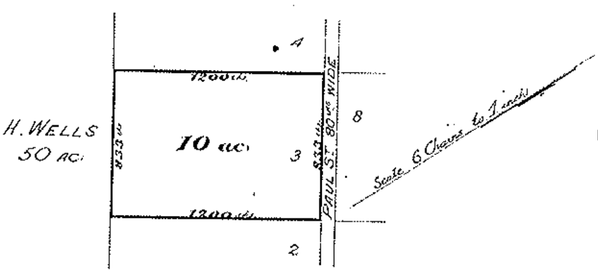
In witness whereof, I have hereunto signed my name and affixed my Seal, this Seventeenth day of March One thousand eight hundred and seventy one.

Signed the 17th day of March 1871 in the presence of

H. W. Elyard

C. J. Maddle Dep. Registrar General.

NOTIFICATION REFERRED TO.



No. 3859 MORTGAGE DATED 28th Feby 1871
FROM THE above NAMED Peter Swenson
TO Paul Benson of Kissing Point Farmer
PRODUCED & ENTERED 17th March 1871 AT Three O'CLOCK IN THE After NOON
C. J. Maddle DEP REG^{R} GEN^{L}

Discharge of the above Mortgage No. 3859 dated ... May Produced and Entered 27th May 1871 at 3 o'clock in the afternoon
C. J. Maddle
Dep Regr Genl

No. 4895 TRANSFER DATED 26th May 1871
FROM THE above NAMED Peter Swenson
TO Martin Zurbmann of Kissing Point Farmer OF THE LAND above DESCRIBED
PRODUCED & ENTERED 27th May 1871 AT 3 O'CLOCK IN THE After NOON
C. J. Maddle DEP REG^{R} GEN^{L}

No 23338 Caveat dated 22nd May 1877 Produced and Entered 25th May 1877 at 1/4 past 12 o'clock, in the afternoon
[signature] Dep Reg Genl

Withdrawal of the above Caveat 23338 dated 18th December 1877 Produced and entered 18th Dec 1877 at [illegible] in the forenoon
[signature] Dep Reg Genl

No 26420 TRANSFER DATED 18th Dec 1877
FROM THE within named Martin Zartman
TO John Cawthorne of Ryde Fruit Grower OF THE LAND within DESCRIBED
PRODUCED & ENTERED 19th Dec 1877 AT 1/2 past 11 O'CLOCK IN THE fore NOON
[signature] DEP REGR GENL

No 26421 MORTGAGE DATED 18th Dec 1877
FROM THE above NAMED John Cawthorne
TO Martin Zartman of Ryde Fruit Grower
PRODUCED & ENTERED 19th Dec 1877 AT 1/2 past 11 O'CLOCK IN THE fore NOON
[signature] DEP REGR GENL

DISCHARGE OF THE above MORTGAGE No 26421
DATED 17 July 1882 PRODUCED & ENTERED 17 July 1882 AT 3
O'CLOCK IN THE afternoon
[signature] DEP REG GENL

No 61300 MORTGAGE DATED 31st August 1882
FROM THE above NAMED John Cawthorne
TO The St Joseph's Investment and Building Society
PRODUCED & ENTERED 31st August 1882
AT 17 mins to one O'CLOCK IN THE after NOON
[signature] dep REG GENL

No 92303 MORTGAGE DATED 14th April 1886
FROM THE within NAMED John Cawthorne
To The St Joseph's Investment and Building Society
PRODUCED & ENTERED 23rd April 1886
AT 14 mts past 12 O'CLOCK IN THE after NOON
[signature] Dep REG GENL

DISCHARGE OF THE above MORTGAGE No 61300
DATED 7th September 1891 PRODUCED & ENTERED 11th September 1891 AT 18 mins past 10
O'CLOCK IN THE fore NOON
[signature] DEP REG GENL

DISCHARGE OF THE above MORTGAGE No 92303
DATED 7th September 1891 PRODUCED & ENTERED 11th September 1891 AT 18 mins past 10
O'CLOCK IN THE fore NOON

DISCHARGE OF within MORTGAGE No 2774[illegible]
DATED 10 December 1901, PRODUCED & ENT. 12 December 1901, AT 14 mts to 11
O'CLOCK IN THE fore NOON
W. W. Bucknell
Deputy Registrar General.

No. 333 249 TRANSFER DATED 12 December 1901
FROM THE SAID John Cawthorne to George Russell Whitfield of North Ryde Orchardist
OF THE LAND within DESCRIBED
PRODUCED & ENTERED 12 December 1901 AT 14 mts to 11 O'CLOCK IN THE fore NOON
W. W. Bucknell
Deputy Registrar General.

No. 333 850 MORTGAGE DATED 26 November [illegible]
FROM THE SAID George Russell Whitfield to The English Scottish and Australian Bank Limited
PRODUCED & ENTERED 12 December 1901 AT 14 mts to 11 O'CLOCK IN THE fore NOON
W. W. Bucknell
DEPUTY REGISTRAR GENERAL.

DISCHARGE of within Mortgage No. 333850
Dated 17th June 1912 Produced and entered 21st June 1912
at 19 mts to 11 o'clock in the fore noon
[signature]
REGISTRAR GENERAL.

No. 664958 [illegible] dated 19th June 1912
from the said George Russell Whitfield to Sarah Jane Hull the wife of James Samuel Hull of Newtown Saddler
of the Land within described
Produced and entered 21st June 1912
at 19 mts to 11 o'clock in the fore noon.
[signature]
REGISTRAR GENERAL.

No. 664959 MORTGAGE dated 20th June 1912
from the said Sarah Jane Hull to John Jackson Pain of Windsor Solicitor
Produced and entered 21st June 1912
at 19 mts to 11 o'clock in the fore noon.
[signature]
REGISTRAR GENERAL.

No. A 140016 TRANSFER dated 21st September 1914
from the said Sarah Jane Hull To Mary Josephine [illegible] Spinster (with consent

4th February 2008

No 26420 TRANSFER DATED 18th Dec 1879
FROM THE within named Martin Gartman
TO John Cawthorne of Ryde Fruit Grower OF THE LAND within DESCRIBED
PRODUCED & ENTERED 19th Dec 1879 AT 12 past 11 O'CLOCK IN THE fore NOON
[illegible] DEP REGR GENL

No 26421 MORTGAGE DATED 18th Dec 1879
FROM THE above NAMED John Cawthorne
TO Martin Gartman of Ryde Fruit Grower
PRODUCED & ENTERED 19th Dec 1879 AT 12 past 11 O'CLOCK IN THE fore NOON
[illegible] DEP REGR GENL

DISCHARGE OF THE above MORTGAGE No 26421
DATED 17 July 18[illegible] PRODUCED & ENTERED 17 July 1882 AT 3
O'CLOCK IN THE afternoon
[illegible] DEP REGR GENL

No 61300 MORTGAGE DATED 31st August 1882
FROM THE above NAMED John Cawthorne
TO The St Josephs Investment and Building Society
PRODUCED & ENTERED 31st August 1882
AT 17 mins to one O'CLOCK IN THE after NOON
[illegible] dep REGR GENL

No 92303 MORTGAGE DATED 14th April 1886
FROM THE within NAMED John Cawthorne
TO The St Josephs Investment and Building Society
PRODUCED & ENTERED 23rd April 1886
AT 14 mins past 12 O'CLOCK IN THE [illegible] NOON
[illegible] Dep REGR GENL

DISCHARGE OF THE above MORTGAGE No 61300
DATED 7th September 1891 PRODUCED & ENTERED 11th September 1891 AT 18 mins past 10
O'CLOCK IN THE fore NOON
[illegible] DEP REGR GENL

DISCHARGE OF THE above MORTGAGE No 92303
DATED 7th September 1891 PRODUCED & ENTERED 11th September 1891 at 18 mins past 10
O'CLOCK IN THE fore NOON
[illegible] DEP REGR GENL

No 277701 MORTGAGE DATED 24th October 1893
FROM above [illegible] John Cawthorne To the English Scottish and Australian Bank Limited
PRODUCED 17th May 1894
AT [illegible] 11 [illegible] fore NOON
[illegible] REGR GENL

No 167692 Discharge of within Mortgage No 664959 Dated 30th March 1915 Produced 31st March 1915 and entered 31st March 1915 at 8 mts pt 11 o'clock in the forenoon

[illegible] Williams
Registrar General

[illegible] George Russell Whitfield of [illegible] Russell [illegible]
OF THE LAND within DESCRIBED
PRODUCED & ENTERED 12 December
1901 AT 14 minutes to 11 O'CLOCK IN THE fore NOON
W. W. Bucknell
Deputy Registrar General.

No. 333850 MORTGAGE DATED 26 November
FROM THE SAID George Russell Whitfield to The English Scottish and Australian Bank Limited
PRODUCED & ENTERED 12 December
1901 AT [illegible] to 11 O'CLOCK IN THE fore NOON
W. W. Bucknell
DEPUTY REGISTRAR GENERAL.

DISCHARGE of within Mortgage No. 333850
Dated 17th June 1912 Produced and entered 21st June 1912.
at 19 mts to 11 o'clock in the fore noon
[illegible] Williams
REGISTRAR GENERAL

No. 664958 [illegible] dated 19th June 1912
from the said George Russell Whitfield to Sarah Jane Hull the wife of James Samuel Hull of Newtown Saddler
of the land within described
Produced and entered 21st June 1912
at 19 mts to 11 o'clock in the fore noon.
[illegible] Williams
REGISTRAR GENERAL.

No. 664959 MORTGAGE dated 20th June 1912
from the said Sarah Jane Hull to John Jackson Paine of Windsor Solicitor
Produced and entered 21st June 1912
at 19 mts to 11 o'clock in the fore noon
[illegible] Williams
REGISTRAR GENERAL

No. A 140016 TRANSFER dated 2nd September 1914
from the said Sarah Jane Hull to Mary Josephine [illegible] Spinster (with consent of Mortgagee) of Part
2nd October 1914 of the land within described
Produced and entered 10th March 1915
at 30 mts pt 2 o'clock in the after noon
Cancelled & Certificate of Title issued
Vol. 2561 Fol. 185
[illegible] Williams
REGISTRAR GENERAL

No. A167693 Transfer dated 23rd October 1914 from the said Sarah Jane Hull to James Samuel Hull Junior of the residue of the land within described. Produced and entered 31st March 1915 at 7 mts pt 11 o'clock in the forenoon
Cancelled & Certificate of Title issued
Vol. 2561 Folio 40
[illegible] Williams
Registrar General.

AK ?.

16 APR 2008

Cameron ?

City of Ryde

ABN 81 621 292 610
Civic Centre
1 Devlin Street Ryde
Locked Bag 2069
North Ryde NSW 1670
DX 8403 Ryde
cityofryde@ryde.nsw.gov.au
www.ryde.nsw.gov.au
TTY (02) 9952 8470
Facsimile (02) 9952 8070
Telephone (02) 9952 8222

Environmental Investigation Services
115 Wicks Road
MACQUARIE PARK NSW 2113

15 April 2008

Dear Sir/Madam

14 &16 David Avenue NORTH RYDE
Search Request No. 17/2008 & 18/2008

Following your request regarding the above property, enclosed please find the following:

- Documents and plans that were archived for the Building Application Numbers 964/1968, 1009/1971& 576/1971.

If you have any questions, please contact me on 9952 8210.

Yours sincerely

Technical Support Officer
Assessment Team

BA 576/71 - 16 David Ave

Ryde Municipal Council

Civic Centre, Devlin Street, Ryde N.S.W. 2112
P.O. Box 23 Ryde. Telephone 80 0144

All Communications to be addressed to the Town Clerk. B.A. 576/71
For Oral Enquiry— Ext. 238

12th April, 1972.

The Manager,
Whelan Constructions Pty. Ltd.,
51 Mandoon Road,
GIRRAWEEN. 2145

BA No. 576/71

Dear Sir,

Re: David Street, Lot 4 (No.16)
Building Application No. 576/71
Garage
Owner: Mr. P.J. & Mrs. I.D. Kuder

I wish to advise you that the subject Building Application was approved on 10/5/1971 and, according to Council's records, no inspection cards have been received.

It is presumed therefore, that construction on the proposed garage has not been commenced, therefore, the Building Approval will expire on 10/5/1972.

I shall be pleased, therefore, if you will detach the reply letter attached hereto, complete same, and return to me within seven (7) days.

Yours faithfully,

A.G. SINDEL,
TOWN CLERK.

Encl.

BUILDING REVIEW 3/5/72

MUNICIPALITY OF RYDE

BUILDING APPLICATION No. 576/71

Local Government Act, 1919 (Ordinance 71)

Date 23/4/71

THE TOWN CLERK,

I, the undersigned, hereby make application for the approval of Council to plans and specifications lodged herewith of a building which I intend to erect and complete within 12 months from the date of approval.

Class of Building Garage
State whether new or second-hand materials to be used new
Lot or Portion 4 Frontage 12' Depth irregular House No. 16
Street David St Locality N. Ryde
NAME OF OWNER P.J. & I.D. Kuder Telephone No. 88 4235
ADDRESS 16 David St N. Ryde
NAME OF BUILDER Whelan Constructions Telephone No. 727-9411
ADDRESS 337 Pennant Hills Rd Carlingford
Number and description of existing buildings on allotment dwelling

Are there any easements or drains passing through or over the subject property? —
Purpose for which the building is to be used Garage

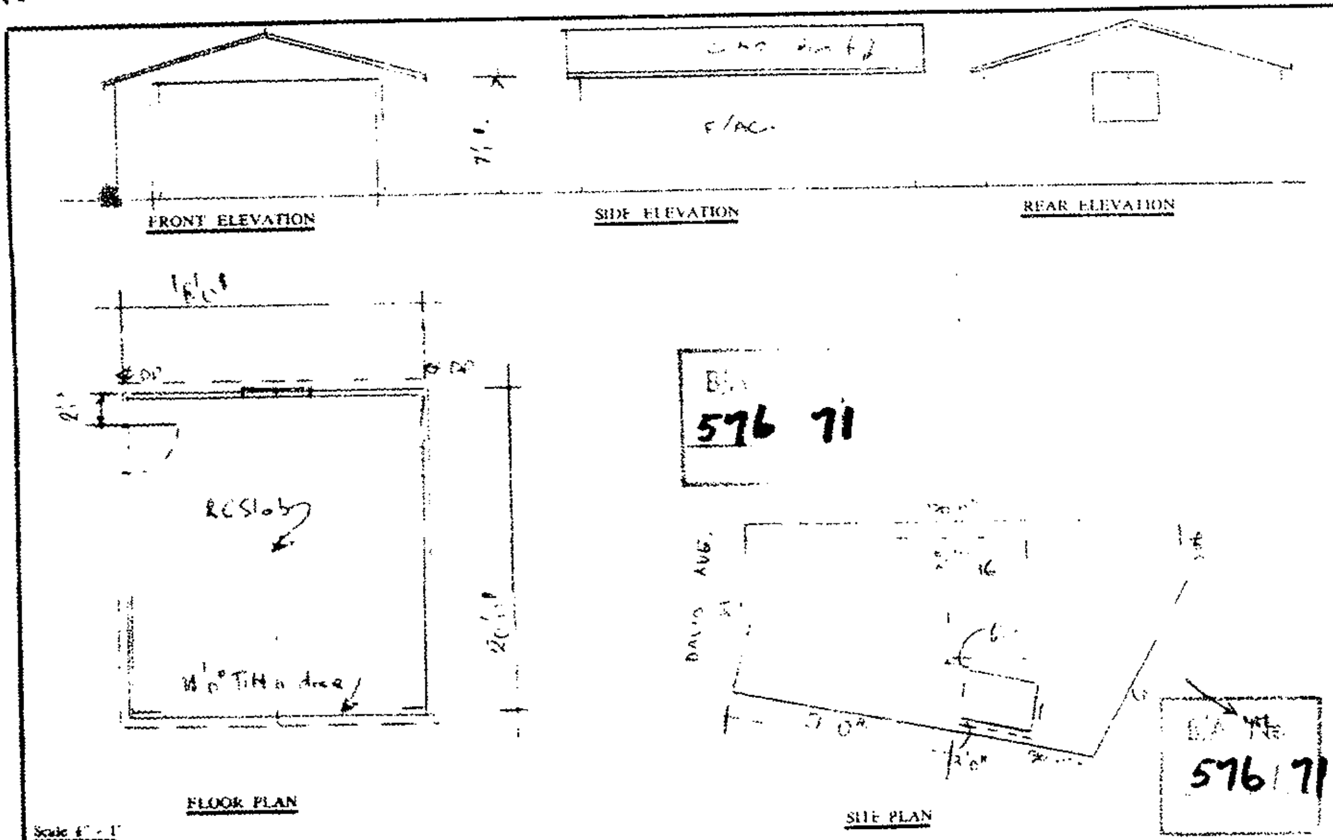
Contract Price or Council's Valuation, $ 750 Floor Area: 360 Sq. ft.
Type of Footings Slab Materials of outer walls F/A-C
Material of roof Cycle Height of rooms 7'6"
Method of ventilation Louvres Method of lighting —
Method of drainage by owner
Is sewer available? — Method of disposal of roof water by owner
Particulars of closet accommodation —
Location of proposed closet —
Is a septic tank/chemical closet installation proposed? —
Is concrete footpaving or kerbing and guttering laid in front of the property? —
Is concrete footpaving or kerbing and guttering damaged in front of the property? —
Description of front fence —
Description of side fence —
Is a retaining wall proposed on the street alignment? No
N.B.—Applicant MUST state whether owner/builder, architect or structural engineer builder
Number of sets of plans and specifications lodged 3 sets
Whelan Constructions P/L
(Signature of applicant and address.)

THIS APPLICATION IS NOT ACCEPTABLE TO COUNCIL UNLESS FULLY COMPLETED, INCLUDING PAGE 2.

FOR OFFICE USE ONLY

Fees paid by	Builder	Fee Paid	$3.75
Building Fee	$3.75	Date	6.5.71
Inspection Fee		Receipt No.	1560
Street Alignment Level Fee		Deposited Plan No.	25688
Road Opening and Damage Deposit		Old Systems Title	
Builder's Sanitary Service		Assessment No.	6755
TOTAL FEE	$3.75	House No.	16

BA 576/71



SPECIFICATIONS

Floor: 4in 4:2:1 Concrete with Reinforcing Mesh.

Plates: 3 x 2 Hwd Oreg

Studs: 3 x 2 @ [illegible]

Wall Braces: [illegible]

Door Head: [illegible] x 2

Window Head: [illegible] x 2

Ridge: [illegible]

Rafters Purlins: [illegible] x 2 @ 3' 0"

Roof Battens: [illegible] x 1

~~Wind Braces~~: x

External Cover: [illegible]

Roof Sheeting: [illegible]

Guttering: [illegible]

Windows: [illegible]

Side Door: [illegible]

Front Door: [illegible]

Ridge Capping: 16 g.[illegible]

Fascias: [illegible]

Barge Mould: 6 x 1

Architraves: [illegible]

Wall Ties: —

Footings: Slab.

PROPOSED 20' 0" ft x 18' 0" ft garage.

FOR D J & I D RUDER.

TO BE ERECTED ON LOT 4 (A 1/6) [illegible] Ave Nth Ryde

BY

WHELAN CONSTRUCTIONS PTY. LTD.

237 HUME HIGHWAY, CABRAMATTA — Phone 727-9411

Note: Please return Plans to Builder.

BA1009/1971

– 14 David Ave

MUNICIPALITY OF RYDE

BUILDING APPLICATION No 1009/71

6/7/71

Local Government Act, 1919 (Ordinance 71)

Date 5.5.71

THE TOWN CLERK,

I, the undersigned, hereby make application for the approval of Council to plans and specifications lodged herewith of a building which I intend to erect and complete within 12 months from the date of approval.

Class of Building Steel Carport

State whether new or second-hand material is to be used New

Lot or Portion 31 Frontage 50 Depth 133/128 House No. 14

Street David Locality N. Ryde

NAME OF OWNER F. W. McLeod Telephone No. 88 22 74

ADDRESS 14 David St N. Ryde

NAME OF BUILDER CLASSIC SALES PTY. LTD. Telephone No. 771 4155

ADDRESS 61 FAIRFORD ROAD, PADSTOW 2211

Number and description of existing buildings on allotment Dwelling No

Are there any easements or drains passing through or over the subject property? No

Purpose for which the building is to be used Carport

Contract Price or Council's Valuation, $ 165.00 Floor Area: 137 Sq. ft

Type of Footings N/A Materials of outer walls N/A

Material of roof Trimdek Steel Height of rooms 7'

Method of ventilation N/A Method of lighting N/A

Method of drainage N/A

Is sewer available? No Method of disposal of roof water To existing S/W System

Particulars of closet accommodation N/A

Location of proposed closet N/A

Is a septic tank/chemical closet installation proposed? N/A

Is concrete footpaving or kerbing and guttering laid in front of the property? Yes

Is concrete footpaving or kerbing and guttering damaged in front of the property? No

Description of front fence Brick

Description of side fence Timber

Is a retaining wall proposed on the street alignment? N/A

N.B.—Applicant MUST state whether owner/builder, architect or structural engineer owner

Number of sets of plans and specifications lodged 2

F. W. McLeod

14 DAVID AVE NORTH RYDE 2113 (Signature of applicant and address.)

THIS APPLICATION IS NOT ACCEPTABLE TO COUNCIL UNLESS FULLY COMPLETED, INCLUDING PAGE 2.

FOR OFFICE USE ONLY

Fees paid by	Builder	Fee Paid	$1-00
Building Fee	$1-00	Date	7-8-71
Inspection Fee		Receipt No.	17 8680
Street Alignment Level Fee		Deposited Plan No.	25688
Road Opening and Damage Deposit		Old Systems Title	
Builder's Sanitary Service		Assessment No.	6751
TOTAL FEE	$1-00	House No.	14

6/7/71

Classic Sales Pty. Ltd.

Carports — Awnings — Home Improvements

Head Office and Factory
61 Fairford Road
Padstow, 2211
Phones: 771-4155, 771-4211

Town Clerk
Ryde
2112

B/A No. **1009/71**

1009/71

Dear Sir

Proposed Carport for Mr McLeod 14 [illegible] St North Ryde

Our 2nd visit we submitted BA & plans for the above. The distance between house & side boundary at the front of the carport is only 8'2". The proposed carport is 7'7 wide & free standing. Consequently with the type of support originally planned would have reduced the drive in width of the carport, allowing for the supports to be 1'0 from boundary to approximately 6'7 which would be too narrow. To overcome the difficulty somewhat it is now proposed to have the 2 front supports flat awning type offset at the top. This will leave only at these 2 supports to be 3½" (3½ inches) from boundary.

It is understood the owners called on you before ordering the carport & were given your amendment to Ordinance 71 Clause 48 which provides in clause C "does not apply to detached Garages & Carports" & have requested we submit this matter for your decision.

Will you please advise. Amended plan attached.

Yours faithfully
Classic Sales P/L

Amended Plan not approved.
Does not comply with Council Policy re distance of support from side boundary

D C Rutherford
B/S 6/8/71

BA964/1968
- 14 David Ave

MUNICIPALITY OF RYDE

BUILDING APPLICATION No. 964/68

Local Government Act, 1919 (Ordinance 71)

Date 9/8/68

THE TOWN CLERK,

I, the undersigned, hereby make application for the approval of Council to plans and specifications lodged herewith of a building which I intend to erect and complete within 12 months from the date of approval.

Class of Building: ADDITION.
State whether new or second-hand materials to be used: NEW
Lot or Portion: 3 Frontage: 56' 0" Depth: 133 House No. 14
Street: DAVID AVE Locality: NTH RYDE
NAME OF OWNER: J. W. McLEOD Telephone No. 662274
ADDRESS: 14 DAVID AVE NTH RYDE
NAME OF BUILDER: KENWAY CONSTRUCTIONS Telephone No.
ADDRESS: LANE COVE RD Ryde.
Number and description of existing buildings on allotment: 1 TIMBER HOUSE

Are there any easements or drains passing through or over the subject property? No.
Purpose for which the building is to be used: SUN ROOM.

Contract Price or Council's Valuation, $ 1200 . 00. Floor Area: 180 Sq. ft.
Type of Footings: Concrete. Materials of outer walls: TIMBER W/B.
Material of roof: TILES SARKED Height of rooms:
Method of ventilation: WINDOWS Method of lighting: ELECTRICITY
Method of drainage: N/A.
Is sewer available? YES Method of disposal of roof water: RUBBLE DRAIN
Particulars of closet accommodation: N/A.
Location of proposed closet.
Is a septic tank/chemical closet installation proposed? No.
Is concrete footpaving or kerbing and guttering laid in front of the property? KERB & GUTTER
Is concrete footpaving or kerbing and guttering damaged in front of the property? NO.
Description of front fence: BRICK
Description of side fence: WOODEN PALING
Is a retaining wall proposed on the street alignment? NO.
N.B.—Applicant MUST state whether owner/builder, architect or structural engineer: Owner
Number of sets of plans and specifications lodged: 2.

B McLeod 14 David Ave Nth Ryde.
(Signature of applicant and address.)

FOR OFFICE USE ONLY

Fees paid by	Owner	Fee Paid	$6 00
Building Fee	6 . 00	Date	[illegible]
Inspection Fee		Receipt No.	[illegible]
Street Alignment Level Fee		Deposited Plan No.	[illegible]
Road Opening and Damage Deposit		Old Systems Title	[illegible]

THIS APPLICATION IS NOT ACCEPTABLE TO COUNCIL UNLESS FULLY COMPLETED, INCLUDING PAGE 2.

BOL.A.964/68
Ext. 242.

26th June, 1969.

Mr. J. McLeod,
14 David Avenue,
NORTH RYDE. 2113.

Dear Sir,

David Avenue, L-3 (14) -
Building Application No. 964/68.
Weatherboard Additions.

I refer to the above matter and wish to advise that an inspection of the job by one of Council's Officers on 16/6/1969 revealed that **disposal of roof water** had not been carried out in accordance with the approved plans and specifications.

Therefore, you are hereby directed to carry out the undermentioned requisitions within **six (6) months** from the date hereof, and to forward the attached re-inspection card to me when the work has been completed and is ready for inspection.

REQUISITIONS:

Dispose of roof water by means of a line of 4" S. . pipes discharging into a rubble pit measuring 5ft. x 2ft. x 2ft. and sited a minimum distance of 10ft. from all boundaries.

964/68

Yours faithfully,

A.J. [illegible],
TOWN CLERK.

M.B.964/68
Ext. 239

20th June, 1 969

Mr. J... McLeod,
14 David Avenue,
[illegible] 2113

...r Sir,

David Avenue, L-3 (14)
Building Application No. 964/68
Weatherboard Additions
Owner: Mr. J. . McLeod

I wish to advise that an examination of Council's Building Register reveals that the last inspection made of the above project was on 27/8/1968 when the damp proof course was/~~were~~ inspected.

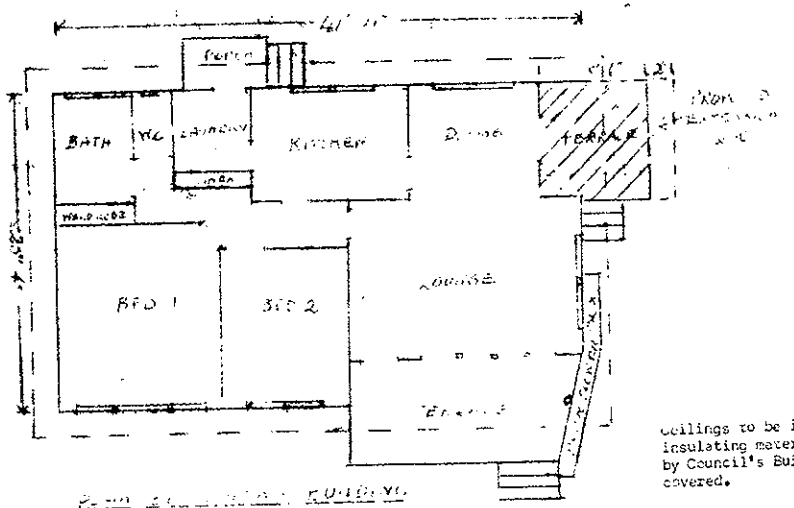
No further inspection cards have been receiv d since the last inspection, and I shall be pleased if you will advise me of the position in relation to the proposed building, by detaching the reply letter attached hereto, complete same, and return to me within seven (7) days.

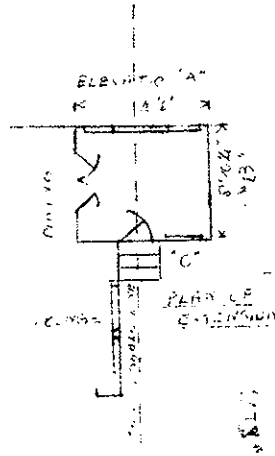
Yours faithfully,

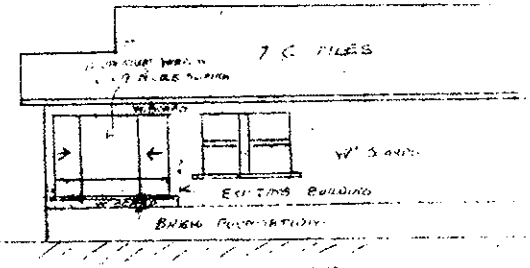
964 68

... .,
[illegible]

Omits.
4/7/69

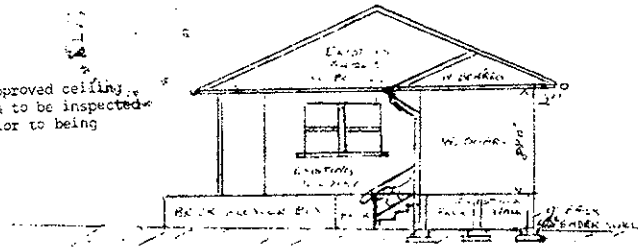




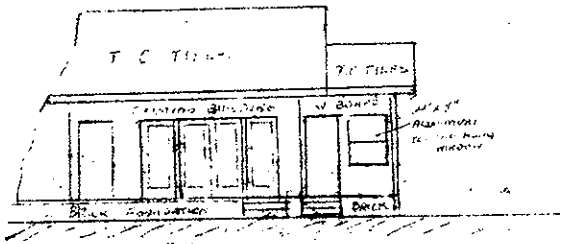


ELEVATION "B"

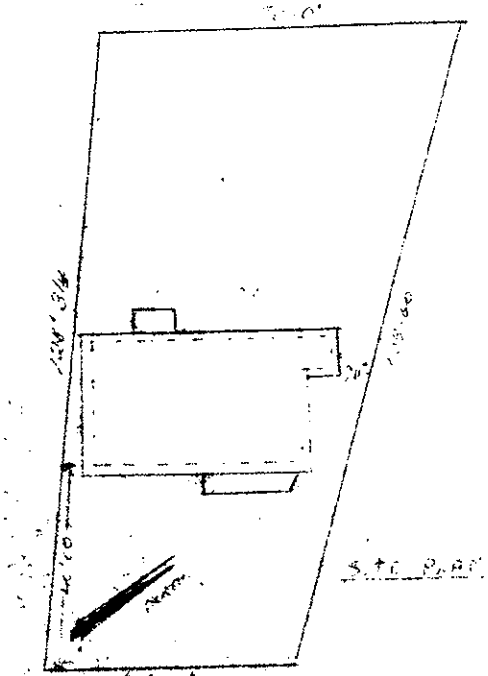
ceilings to be insulated with an approved ceiling insulating material. Insulation to be inspected by Council's Building Inspector prior to being covered.



ELEVATION "D"



FRONT ELEVATION "C"



DAVID AVENUE

964B

PROPOSED EXTENSION TO RESIDENCE
AT 11 DAVID AVENUE NORTH RYDE
FOR J. W MILLER

APPENDIX D

SOIL AND GROUNDWATER SAMPLING PROTOCOLS

These protocols specify the basic procedures to be used when sampling soils or groundwater for environmental site assessments undertaken by Environmental Investigation Services. The purpose of these protocols is to provide standard methods for: sampling, decontamination procedures for sampling equipment, sample preservation, sample storage and sample handling. Deviations from these procedures must be recorded.

SOIL SAMPLING

(i) prepare a test pit/borehole log.

(ii) Layout sampling equipment on clean plastic sheeting to prevent direct contact with ground surface. The work area should be at a distance from the drill/rig excavator such that the drill rig/excavator can operate in a safe manner.

(iii) Ensure all sampling equipment has been decontaminated prior to use.

(iv) Remove any surface debris from the immediate area of the sampling location.

(v) Collect samples and place in a glass jar with a Teflon sea. This should be undertaken as quickly as possibly to prevent the loss of volatiles. If possible, fill the glass jars completely.

(vi) Label the jar with the EIS job number, sample location (eg. TP1), sampling interval and date. If more than one sample container is used, this should also be indicated (eg. 2 = Sample jar 1 of 2 jars).

(vii) Photoionisation detector (PID) screening of volatile organic compounds (VOCs) should be undertaken on samples using the soil sample headspace method. Headspace measurements are taken following equilibration of the headspace gasses in partly filled glass jars. PID headspace data is recorded on the borehole/test pit log and the chain of custody forms.

(viii) Record the lithology of the sample and sample depth on the borehole/test pit log in accordance with AS1726-1993.

(ix) Store the sample in a sample container cooled with ice or chill packs. On completion of the sampling the sample container should be delivered to the lab immediately or stored in the refrigerator prior to delivery to the lab.

(x) Check for the presence of groundwater after completion of each borehole using an electronic dip metre or water whistle. Boreholes should be left open until the end of fieldwork. All groundwater levels in the boreholes should be rechecked on the completion of the fieldwork.

(xi) Backfill the boreholes/test pits with the excavation cuttings or clean sand prior to leaving the site.

DECONTAMINATION PROCEDURES FOR SOIL SAMPLING EQUIPMENT

(i) All of the equipment associated with the soil sampling procedure should be decontaminated between every sampling location.

(ii) The following equipment and materials are required for the decontamination procedure:

- Phosphate free detergent (Extran 100)
- Tap water
- Two buckets
- Stiff brushes
- Plastic sheets

(iii) Ensure the decontamination materials are clean prior to proceeding with the decontamination.

(iv) Fill both buckets with clean tap water and add phosphate free detergent to one bucket.

(v) In the bucket containing the detergent scrub the sampling equipment until all the material attached to the equipment has been removed.

(vi) Rinse sampling equipment in the bucket containing tap water.

(vii) Place cleaned equipment on clean plastic sheets.

If all materials are not removed by this procedure, high-pressure water cleaning is recommended. If any equipment is not completely decontaminated by both these processes that equipment should not be used until it has been thoroughly cleaned.

GROUNDWATER SAMPLING

Groundwater samples are more sensitive to contamination than soil samples and therefore adhesion to this protocol is particularly important to obtain reliable, reproducible results. The recommendations details in AS2306.1 are considered to form a minimum standard.

The basis of this protocol is to maintain the security of the borehole and obtain accurate and representative groundwater samples. The following procedure should be used for collection of groundwater samples from previously installed piezometers.

(i) After piezometer installation, at least four bore volumes should be pumped from the piezometers to remove any water introduced during the drilling process. Piezometers should then be left to recharge for at least five days before purging and sampling. Prior to purging or sampling the condition of each well should observed and any anomalies recorded on the field data sheets. The following information should be noted: the condition of the well, noting any signs of damage, tampering or complete destruction; the condition and operation of the well lock; the condition of the protective casing and the cement footing (raised or cracked); and, the presence of water between protective casing and well.

(ii) Take the groundwater level from the collar of the piezometer using an electronic dipmeter. The collar level should be taken during the site visit using a dumpy level and staff.

(iii) Purging and sampling of piezometers should generally be done on the same site visit. Layout and organize all equipment associated with groundwater sampling in a location where they will not interfere with the sampling procedure and will not pose a risk of contaminating samples. Equipment generally required includes:

- New disposable polyethylene bailer and sufficient cord OR submersible pump.
- Micropore filtration system (for heavy metals samples).
- Filter paper (glass fibre and 0.45(m).
- Buckets with volume increments.
- Sample containers – at least 1 x Teflon bottle with 1ml nitric acid, 1 x 75mL glass vial and 2 x 1L amber glass bottles for each piezometer.
- pH/Cond/Eh/T meters.
- Glass jars for purged samples.
- Esky and ice.
- Latex gloves.
- Distilled water (for cleaning).
- Electronic dipmeter.
- Groundwater sampling forms and notebook.
- Aluminium foil and labels.

(iv) Clean the Micropore filtration system thoroughly with distilled water prior to use and between each sample. Filter paper should be changed between samples. 0.45um filter paper should be placed below the glass fibre filter paper in the filtration system.

(v) Ensure all non-disposable sampling equipment is decontaminated or that new disposable equipment is available prior to any work commencing at a new location. The procedure for decontamination of groundwater equipment is outlined at the end of this section.

(vi) Disposable gloves should be used whenever samples are taken to protect the sampler and to assist in avoidance of contamination.

(vii) Purge at least four bore volumes from the well. Take pH, conductivity, redox potential, and temperature measurements of the purged groundwater at regular intervals during purging. (Say, every 5-10 litres if abundant groundwater and every 1 litre if only limited groundwater is encountered). Groundwater condition measurements should be taken from a sample in a clean glass jar which has been taken directly from the sampling equipment (either pump or bailer). Electrodes should be placed in the sample after the electrodes have been rinsed with distilled water. Purged volumes and groundwater measurements should be recorded on the field sampling sheet. An assessment of the turbidity of the sample should also be made based on three categories: silty, opaque and clear.

(viii) Prepare all sample bottles. Label bottles with EIS job number, borehole number and date of collection.

(ix) Fill amber sample bottles and BTEX vial directly from pump or bailer. Ensure sampling equipment does not touch sample containers. Sample bottles and vials must be filled to the brim, so that a reverse meniscus is formed, seal with aluminium foil and then cap. Check that no air has entered the sample invert and check for bubbles.

(x) Fill vacuum filtration system and turn on filter pump.

(xi) Undertake pH/Cond/Eh/T of a sample taken in a clean glass jar used only for groundwater condition measurements. Turn the meters on and insert the electrodes into the sample. Record the measurements when the instruments have stabilized, then discard the sample. Clean the electrodes with distilled water between measurements.

(xii) When the sample filtering is complete (note: at least 50mL of filtered sample is required for heavy metal analysis), decant the filtered sample into a Teflon bottle containing nitric acid. Check label of sample bottle to ensure container has been treated with nitric acid and not sulfuric acid. Clean the filtration system with distilled water and replace the filters ready for the next sample.

(xiii) Photoionisation detector (PID) screening of volatile organic compounds (VOC) should be undertaken on groundwater samples using the sample headspace method during fieldwork. VOC data is obtained from partly filled glass jar samples following equilibration of the headspace gases. The PID headspace data should be included on the chain of custody forms and borehole logs.

(xiv) Store the sample in a sample container cooled with ice or chill packs. On completion of the sampling the sample container should be delivered to the lab immediately or stored in the refrigerator prior to delivery to the lab.

(xv) Record the sample on the appropriate log in accordance with AS1726-1993. At the end of each water sampling complete a chain of custody form.

DECONTAMINATION PROCEDURE FOR GROUNDWATER SAMPLING EQUIPMENT

(i) All of the equipment associated with the groundwater sampling procedure should be decontaminated between every sampling location.

(ii) The following equipment and materials are required for the decontamination procedure:

- Phosphate free detergent (Extran 100).
- Tap water.
- Distilled water.
- Two buckets.
- Plastic sheets.

(iii) Fill one bucket with clean tap water and phosphate free detergent, and one bucket with distilled water.

(iv) Flush tap water and detergent through pump. Wash sampling equipment and pump head using brushes in the bucket containing detergent until all materials attached to the equipment are removed.

(v) Flush pump with distilled water.

(vi) Change water and detergent solution after each sampling location.

(vii) Rinse sampling equipment in the bucket containing distilled water.

(viii) Place cleaned equipment on clean plastic sheets.

If all materials are not removed by this procedure that equipment should not be used until it has been thoroughly cleaned.

QA/QC DEFINITIONS

The QA/QC terms used in this report are defined below. The definitions are in accordance with current US EPA SW-846 (1994) methods and those described in Environmental Sampling and Analysis, A Practical Guide, (H. Keith 1991).

Practical Quantitation Limit (PQL), Limit of Reporting (LOR) and Estimated Quantitation Limit (EQL)

These terms all refer to the concentration above which results can be expressed with a minimum 95% confidence level. The laboratory reporting limits are generally set at ten times the standard deviation for the Method Detection limit (MDL) for each specific analyte. For the purposes of this report the LOR, PQL, and EQL are considered to be equivalent.

When assessing laboratory data it should be borne in mind that values at or near the PQL have two important limitations.
"The uncertainty of the measurement value can approach, and even equal, the reported value. Secondly, confirmation of the analytes reported is virtually impossible unless identification uses highly selective methods. These issues diminish when reliably measurable amounts of analytes are present. Accordingly, legal and regulatory actions should be limited to data at or above the reliable detection limit", Keith (1991).

Accuracy

The proximity of an averaged result to the true value, where all random errors have been statistically removed. Accuracy is measured by percent recovery. Acceptable limits for accuracy generally lie between 70% to 130% recoveries. Certain laboratory methods may allow for values that lie outside these limits.

Precision

The degree to which data generated from repeated measurements differ from one another due to random errors. Precision is measured using the standard deviation or Relative Percent Difference (RPD). Acceptable targets for precision in this report will be less than 50% RPD for concentrations greater than ten times the PQL, less than 75% RPD for concentrations between five and ten times the PQL and less than 100% RPD for concentrations that are less than five times the PQL.

Blanks

The purpose of laboratory and field blanks is to check for artifacts and interferences that may arise during sampling and analysis.

Matrix Spikes

Samples are spiked with laboratory grade standards to detect interactive effects between the sample matrix and the analytes being measured. Matrix Spikes are reported as a percent recovery and are prepared for 1 in every 20 samples. Sample batches that contain less than 20 samples

may be reported with a Matrix Spike from another batch. The percent recovery is calculated using the formula;

$$\frac{(\text{spiked sample result} - \text{sample result})}{\text{concentration of spike added}} \times 100$$

Acceptable recovery limits are 70% to 130%.

Surrogate Spikes

Samples are spiked with a known concentration of compounds that are chemically related to the analyte being investigated but unlikely to be detected in the environment. The purpose of the Surrogate Spikes is to check the accuracy of the analytical technique. Surrogate Spikes are reported as percent recovery.

Duplicates

Laboratory duplicates measure precision, expressed as Relative Percent Difference. Duplicates are prepared from a single field sample and analysed as two separate extraction procedures in the laboratory. The RPD is calculated using the formula:

$$\frac{|\ D1 - D2\ |}{|\ (D1 + D2)/2\ |} \times 100$$

where D1 is the sample concentration and D2 is the duplicate sample concentration.

APPENDIX E

ENVIROEQUIP

Your Environmental Equipment Supplier

SERVICE OR REPAIR: MINIRAE2000 PID

(1) 7/2/08

COMPANY	Jeffery & Katauskas Pty Ltd		
CONTACT	Adrian Kingswell		
SERIAL NO.	110006735	**LAMP TYPE**	10.6 eV
QUOTE NO.	49252	**RECEIVED**	04/02/2008

REQUEST/PROBLEM DESCRIPTION
- Service and Calibration

This equipment has been calibrated to the manufacturer's specifications, using the standards shown below:

ISOBUTYLENE STANDARD (PPM)	POST CALIBRATION READING (PPM)
0.0	0.0
98.5	99.0

Cleaned sensor assembly, sensor housing and metal filter
Cleaned and checked lamp and lamp housing
Disassembled & cleaned pump
Checked battery condition
Calibrated and tested OK

COMMENTS/ADDITIONAL REPAIRS/SERVICES PERFORMED

SERVICED BY	Milenko	**COMPLETED**	07/02/2008
SIGNATURE			

Unit 1, 28 Barcoo St Chatswood NSW 2067 Australia
Telephone: +61-2-9417-1513 **Free Call (interstate): 1-800-675-123**
Fax: +61-2-9417-7669
Email: rentals.syd@enviroequip.com **Internet: www.enviroequip.com**

JOB NO: 21873FJ
LOCATION: NORTH RYDE

CALIBRATION CERTIFICATE

PID

Make: MiniRAE	Model: 2000	Unit: 1	Date of last factory calibration: 7.2.07
Date of calibration: 4.3.08		Name of Calibrator: CAMERON HOLLANDS	
Calibration gas: Iso-butylene		Calibration Gas Concentration: 100.0 ppm	
Measured reading: 100 ppm		Error in measured reading: ± 0 ppm	

DISSOLVED OXYGEN

Make: Orion	Model: Four star
Date of calibration:	Name of Calibrator:
Theoretical value: 101% to 103%	
Measured value:	

pH METER

Make: Orion	Model: Four star	
Date of calibration:	Name of Calibrator:	
Buffer 1: Theoretical pH = 7.01± 0.01	Expiry date:	Lot No:
Buffer 2: Theoretical pH = 4.01± 0.01	Expiry date:	Lot No:
Measured reading of Buffer 1:		
Measured reading of Buffer 2:		
Slope:		

CONDUCTIVITY METER

Make: Orion		Model: 130a	
Date:	Name of Calibrator:		Temperature: °C
Calibration solution:		Expiry date:	Lot No:
Theoretical conductivity at temperature (see solution container):			µS/cm
Measured conductivity:			µS/cm

REDOX METER

Make: Orion	Model: 250A
Date of calibration:	Name of Calibrator:
Theoretical redox value:	240mV
Measured redox reading:	mV