
Preliminary & Detailed
Contamination
Assessment

178 Lang Street, Kurri Kurri,
NSW

NEW22P-0213-AA
21 December 2022



Document control record

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Votaint No 124 Pty Ltd ATF The Christian Family Trust
Level 3, 239 Church Street
Parramatta, NSW, 2150

Document prepared by:

Qualtest Laboratory (NSW) Pty Ltd
ABN 98 153 268 896
2 Murray Dwyer Circuit
Mayfield West, NSW 2304
T 02 4968 4468
W www.qualtest.com.au

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Executive Summary

Qualtest Laboratory NSW Pty Ltd (Qualtest) has carried out a Preliminary & Detailed Contamination Assessment for Votrait No 124 Pty Ltd ATF The Christian Family Trust for a site located at 178 Lang Street, Kurri Kurri, NSW (the site).

The site is approximately 0.66ha in area, and comprises Lot 136 DP869710. The development includes demolition of an existing shopping centre building, construction of a new Woolworths building with associated car parking and services, and extension of an existing laneway from the central northern boundary around the north-western corner and down to the southwestern corner.

The objectives of the works were to:

- Assess former and current site uses or activities, that have the potential to cause contamination;
- Assess the location and extent of potential soil contamination on the site (if any); and,
- Provide recommendations on the need for further assessment, management and/or remediation (if required).

In order to achieve the above objectives, Qualtest carried out the following scope:

- Desktop and site history assessment;
- Collection of soil samples from 16 borehole locations;
- Laboratory analysis of selected soil samples from a suite of common contaminants; and
- Data assessment and preparation of a Preliminary and Detailed Contamination Assessment Report.

The site history review showed the western portion of the site has been used for commercial purposes, including a theatre and retail shops, likely since the 1920s. The eastern portion of the site was used for residential purposes, since at least the 1940s, with multiple dwellings and associated sheds. The dwellings were progressively removed and replaced with an asphalt paved car park between 1990s and early 2000s. The site currently comprises a shopping centre (Kingsway Plaza) and associated asphalt paved car park.

Three Areas of Environmental Concern (AECs) were identified based on the site history and site observations:

1. Current and former buildings: Weathering of potentially hazardous materials (asbestos, lead paint, galvanised metals); Potential use of pesticides around buildings; Demolition waste
2. Imported Fill: Potential use of contaminated imported fill;
3. Historical car park pavements: Potential use of coal tar to construct pavements in the past.

To provide an assessment of potential soil contamination, 16 soil sampling locations were carried out across the site. This sampling density was in accordance with the minimum recommended by NSW EPA (2022) Sampling Design Part 1 – Application, Contaminated Land Guidelines.

The laboratory results reported concentrations of contaminants below the adopted criteria and no asbestos was detected in soil samples. Chrysotile asbestos was detected in a fragment of fibre-cement material collected from BH10 at 0.4-0.5m depth. The fragment was about 60mm x 50mm x 5mm and was not able to be crushed by hand pressure. No phenols were detected in the sample of older asphalt tested, and no odours were observed, indicating that coal tar was not present.

BH10 was located in the eastern portion of the site, within an area previously containing residential dwellings and sheds. It is possible that fragments of asbestos containing materials (ACM) are present in other locations on the site, particularly in the area of the former dwellings and associated sheds. As the site is currently paved with asphalt and concrete, the ACM does not currently pose a risk to site users. The ACM could pose a risk to future construction workers, and ACM will need to be managed during earthworks and construction of the proposed development.

Based on the preliminary and detailed assessment completed, it is considered that the site is suitable for the proposed shopping centre development (commercial/industrial purposes), provided the following recommendations are implemented:

- Preparation of an Asbestos Management and Removal Plan to be implemented during earthworks and construction of the proposed development. The plan should outline how ACM will be assessed and identified prior to earthworks commencing on the site, and the procedures for the handling and removal of ACM (including soils containing asbestos). Care must be taken to prevent spreading ACM onto other areas of the site;
- Preparation of an Unexpected Finds Procedure to manage potential unexpected finds of contamination during earthworks and construction for the proposed development.
- The Asbestos Management and Removal Plan and Unexpected Finds Procedure could form part of the Construction Environmental Management Plan, to be prepared by the site owner/manager, or contractor.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra (referred to as ASC NEPM 2013). The reports comprises a Stage 1 and 2 assessment in accordance with SEPP (Resilience and Hazards) 2021, Chapter 4.

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Appendix I: Tables: Table 1 – Soil Analytical Results – TRH, BTEX, PAH, Metals, Asbestos

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1.0 Introduction

Qualtest Laboratory NSW Pty Ltd (Qualtest) has carried out a Preliminary & Detailed Contamination Assessment for Votaint No 124 Pty Ltd ATF The Christian Family Trust for a site located at 178 Lang Street, Kurri Kurri, NSW (the site). Figure 1, Appendix A, shows the site location.

The site is approximately 0.66ha in area, and comprises Lot 136 DP869710. The development includes demolition of an existing shopping centre building, construction of a new Woolworths building with associated car parking and services, and extension of an existing laneway from the central northern boundary around the north-western corner and down to the southwestern corner.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the *National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)*, NEPC 2013, Canberra (referred to as ASC NEPM 2013). The report comprises a Stage 1 and Stage 2 assessment in accordance with SEPP (Resilience and Hazards) 2021, Chapter 4.

1.1 Objectives

The objectives of the works were to:

- Assess former and current site uses or activities, that have the potential to cause contamination;
- Assess the location and extent of potential soil contamination on the site (if any); and,
- Provide recommendations on the need for further assessment, management and/or remediation (if required).

1.2 Scope of Works

In order to achieve the above objectives, Qualtest carried out the following scope:

- Desktop and site history assessment;
- Collection of soil samples from 16 borehole locations;
- Laboratory analysis of selected soil samples from a suite of common contaminants; and
- Data assessment and preparation of a Preliminary and Detailed Contamination Assessment Report.

2.0 Site Description

2.1 Site Identification

General site information is provided below in Table 2.1. The site location is shown in Figure 1, Appendix A.

Table 2.1: Summary of Site Details

Site Address:	178 Lang Street, Kurri Kurri, NSW
Approximate site area and dimensions:	Approx. 0.66 ha Approx. 93m long by 65m wide at its widest and longest points.
Title Identification Details:	Lot 136 DP869710, within the Cessnock local government area, Parish of Heddon, County of Northumberland.
Current Zoning	B2 Local Centre
Current Ownership:	George Vrachliotis, Maria Vrachliotis, and Votaint No 124 Pty Limited
Current Occupier and Land Use:	Kings Plaza Shopping Centre
Previous Landuse:	Commercial land use – shopping centre and carpark, and theatre
Proposed Landuse:	Commercial Development – Woolworths supermarket and carpark
Adjoining Site Uses:	Commercial and residential properties to the north, east, south and west: • Multiple commercial shopping retailers to the north; • A fast-food outlet to the east; • Residential and commercial properties to the south; and, • The Kurri Kurri Hotel to the east.
Site Coordinates for approx. centre of site:	32°81'87.02 S 151°48'20.79 E

2.2 Topography and Drainage

Reference to the NSW Land and Property Information Spatial Information Exchange website (<https://six.nsw.gov.au/wps/portal/>) indicated the elevation of the site was approximately 50m AHD.

During the site investigation the site was observed to be located on the side of hill, with a moderate slope to the south to south-east. The ground surface consisted of an asphalt carpark in the eastern portion of the site and a commercial shopping complex to the west.

Rain falling on the site would be expected to infiltrate into the site surface. Excess surface water is expected to flow into stormwater drains onsite, and subsequently into municipal stormwater drains. It is expected that the municipal stormwater system discharges into Swamp Creek approximately 1.8km north west of the site.

2.3 Regional Geology

Reference to the 1:100,000 Newcastle-Hunter Coastal Quaternary Geology map indicates that the site is underlain by Permian aged Dalwood Group formation comprising "sandstone, lithic sandstone, conglomerate, siltstone, basalt".

2.4 Hydrogeology

Groundwater beneath the site is anticipated to be present in a semi-confined aquifer within residual and/or weathered rock. Groundwater is expected to be greater than 5m below ground surface (bgs). Groundwater flow direction is anticipated to follow the surface topography and flow to the west and discharge into Swamp Creek located approximately 1.8km north west of the site.

It should be noted that groundwater conditions can vary due to rainfall and other influences including regional groundwater flow, temperature, permeability, recharge areas, surface condition, and subsoil drainage.

A search of the NSW Department of Primary Industries (Office of Water) registered groundwater bores located within a 500m radius of the site was undertaken. The search revealed that there were no bores within this radius. A copy of the search is provided in Appendix B.

2.5 Acid Sulfate Soils

Reference to the Acid Sulfate Soil online database from State of NSW and Department of Planning, Industry and Environment, 2021 (espad.environment.nsw.gov.au) the site is located in an area of 'no known occurrence' of acid sulfate soils.

3.0 Site History Review

A site history review was undertaken as part of the PCA, and included:

- A review of historical ownership of the site;
- A review of aerial photography from the past 70 years;
- A review of Section 10.7 Certificate from Cessnock City Council;
- A review of publicly available information;
- Search of the NSW EPA's list of contaminated sites applying to the site and nearby properties; and
- A site walkover to help identify current and previous activities carried out on the site, identify surrounding land uses, and assess Areas of Environmental Concern (AECs) and Chemicals of Potential Concern (COPCs).

The information provided from the above reviews is summarised in the sections below.

3.1 Historical Titles Search

A search of historical titles for Lot 136 DP869710 was undertaken by Advanced Legal Searchers Pty Ltd.

A list of past registered proprietors for the site dating back to 1924, was obtained. Prior to 1997, the site was comprised of 12 separate allotments. The results of the search are included in Appendix C. A summary of ownership is presented below in Tables 3.1.1 to 3.1.9.

Table 3.1.1 Current Consolidated Lot (Lot 136 DP 869710)

Date	Owners	Inferred Use
2003 to to date	People from Vrachliotis family Votraint No 124 Pty Limited G & M Musumeci Pty Limited	Commercial
1997 to 2001	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd	Commercial

Table 3.1.2 Former Lot 21 DP544418, North-East Corner of Site

Date	Owners	Inferred Use
1989 to 1997	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd	Commercial
1985 to 1989	Marnal Pty Limited	Commercial
1971 to 1985	A trainee mechanical engineer and his wife	Commercial
1955 to 1971	A café proprietor and his wife Café proprietor's widow With lease to solicitors 1969 to 1970	Commercial
1953 to 1955	Wife of a loco cleaner	Commercial
1950 to 1953	Storekeeper	Commercial
1948 to 1950	A miner, wife of a shop assistant, and wife of an electrician	Commercial
1926 to 1948	Fruiterer	Commercial

Table 3.1.3 Former Lot 22 DP544418, North-East Corner of Site

Date	Owners	Inferred Use
1989 to 1997	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd	Commercial
1971 to 1992	Solicitor and article clerk	Commercial

Date	Owners	Inferred Use
Jul 1971 to Nov 1971	Vincent St Holdings Pty Ltd	Commercial
Jan 1971 to Jul 1971	J Coddington Pty Ltd	Commercial
1955 to 1971	A café proprietor and his wife Café proprietor's widow With lease to solicitors 1969 to 1970	Commercial
1953 to 1955	Wife of a loco cleaner	Commercial
1950 to 1953	Storekeeper	Commercial
1948 to 1950	A miner, wife of a shop assistant, and wife of an electrician	Commercial
1926 to 1948	Fruiterer	Commercial

Table 3.1.4 Former Lots 1 and 2 DP702372, Western Portion of Site

Date	Owners	Inferred Use
1989 to 1997	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd	Commercial
1985 to 1989	Marnal Pty Limited	Commercial
1984 to 1985	Sanrij Pty Limited	Commercial
1975 to 1984	The Council of the City of Greater Cessnock	Commercial
1970 1975	Woolworths Properties Limited	Commercial
1926 to 1970	Kurri Kurri and South Maitland Amusement Company Limited	Commercial
1918/1924 to 1926	A showman Lease to Greater Union Theatres Pty Ltd 1931 to 1971	Commercial

Table 3.1.5 Former Lot 10 Section 20 DP758590, South-East Corner of Site

Date	Owners	Inferred Use
1991 to 1997	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd	Commercial
1986 to 1991	Marnal Pty Limited	Commercial
1980 to 1986	Driveway attendant	Residential
1962 to 1980	A tester and his wife Tester's widow	Residential
1955 to 1962	Departmental manager and his wife	Residential
1903 to 1949	Miner and his wife	Residential

Table 3.1.6 Former Lot 11 Section 20 DP758590, South-East Portion of Site

Date	Owners	Inferred Use
1995 to 1997	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd Gartrom Pty Ltd	Commercial
1992 to 1995	Gartrom Pty Ltd	Commercial
1947 to 1992	Brick layer and his wife Brick layer's widow	Residential
1913 to 1947	Dentist	Residential
1903 to 1947	Miner	Residential

Table 3.1.7 Former Lot 131 DP823720, Central-Southern Portion of Site

Date	Owners	Inferred Use
1994 to 1997	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd Gartrom Pty Ltd	Commercial
1989 to 1994	Gartrom Pty Ltd	Commercial
1988 to 1989	Private individuals, no occupation listed	Residential
1944 to 1988	Garage proprietor	Residential

Date	Owners	Inferred Use
1918 to 1944	Engine driver	Residential
1913 to 1918	Miner	Residential
1904 to 1913	Spinster	Residential

Table 3.1.8 Former Lot 133 DP823720, Central-Southern Portion of Site

Date	Owners	Inferred Use
1992 to 1997	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd	Commercial
1990 to 1992	Marnal Pty Ltd	Commercial
1952 to 1990	Butcher and his wife	Residential
1948 to 1952	Poultry farmer, became a weaver	Residential
1938 to 1948	Haulage driver and his wife Haulage drivers widow	Residential
1927 to 1938	Deputy and his wife	Residential
1922 to 1927	Clerk	Residential

Table 3.1.9 Former Lot 134 DP823720, Central Portion of Site

Date	Owners	Inferred Use
1997 to 1997	A butcher, pharmacist, business proprietor and their wives Vicbar (Kingsway Plaza) Pty Ltd	Commercial
1975 to 1997	Council of the City of Greater Cessnock	Commercial
1970 to 1975	Woolworths Properties Limited	Commercial
1926 to 1970	Kurri Kurri and South Maitland Amusement Company Limited	Commercial
1918 to 1926	A showman	Commercial
1915 to 1918	Hotel keeper	Commercial
1908 to 1915	Methodist minister	Commercial

The historical title search indicated that the western and north-western portions of the site have been used for commercial purposes since being granted in the early 1900s. The southern and

south-eastern portions of the site appear to have been used for residential purposes, and then commercial use in the late 1980s to early 1900s.

It is noted that one owner was a garage proprietor. The allotment they owned appears to be vacant land, with the exception of two small sheds, in the aerial photographs for the period of time the garage proprietor owned it (1944 to 1988).

3.2 Aerial Photograph Review

Aerial photographs of the site from 1944, 1954, 1966, 1976, 1987 and 1993 were obtained from NSW Government spatial Services

(<https://portal.spatial.nsw.gov.au/portal/apps/webappviewer/>), and satellite images from Google Earth for 2004, 2010 and 2022, were assessed by a Qualtest Environmental Scientist. The results of the aerial photograph review are summarised below in Table 3.2. The aerial photographs are presented in Appendix D.

Table 3.2: Aerial Photograph Review

Year	Site	Surrounding Land
1944	The site comprises multiple allotments, which are fenced. A large building is present covering most of the western portion of the site. A small building fronts Lang St, with the Council laneway behind it, in the northern portion of the site. The lot next to the large building is mostly vacant, with the exception of a small building in the north, immediately adjacent to the large building. The remainder of the site contains three residential dwellings with associated sheds.	The surrounding land comprises residential and commercial properties.
1954	The site is similar to the 1944 aerial photograph. There appears to be an additional dwelling in the central-southern portion of the site. The quality of the image makes it difficult to distinguish features.	The surrounding land is similar to the 1944 aerial photograph.
1966	The site remains similar to the previous aerial photograph. Two of the dwellings appear to have been extended towards the north, and some additional sheds constructed.	The surrounding land is similar to the previous aerial photographs.

Year	Site	Surrounding Land
1976	The large building on the western portion of the site has been removed. The land is vacant with some cars parked in the northern portion. The remainder of the site appears similar to the 1966 aerial photograph.	The surrounding land is similar to the previous aerial photographs.
1987	A large building has been constructed in the western portion of the site. Some cars are parked to the east of the large building, it is difficult to distinguish if the car park is paved with asphalt or concrete. The remainder of the site is similar to the previous photographs. The quality of the image makes it difficult to distinguish features.	The surrounding land is similar to the previous photograph.
1993	A residence has been removed, and the car park to the east of the large building has been extended to the east, and is asphalt paved. The remainder of the site is similar to the previous 1987 photograph.	The surrounding land is similar to the previous photograph.
2004	The large building in the western portion has been extended to the east. Two residences and associated sheds have been removed, and the car park to the east of the large building has been extended to the east. The remainder of the site is similar to the previous 1993 photograph.	The surrounding land is similar to the previous photograph. There appears to be an increase in housing density and commercial shops.
2010	The site is similar to the previous photograph.	The surrounding land is similar to the previous photograph. A fast-food outlet appears to the north east of the site. Land to the south-east has been cleared.

Year	Site	Surrounding Land
2022	The site is similar to the previous photograph.	The surrounding land is similar to the previous photograph. A large commercial building and carpark have been constructed to the south-east.

3.3 Site Observations

A Qualtest Environmental Scientist visited the site on 5 December 2022. Selected site photographs are presented in Appendix E. A summary of the site features is outlined below:

- A large building was present in the western portion of the site. The building was constructed on a concrete slab, with a mixture of brick/concrete walls, metal framework and corrugated iron roof (see Photograph 1 to 5). A plaque on the building indicated the Kingsway Plaza was officially opened on 22 April 1985, and was designed and built by Geoff Williams for Marnal Pty Limited (see Photograph 6);
- The building appeared to be tenanted by multiple commercial retailers including a pharmacy, hair salon, café, vet, computer repairs, and miscellaneous goods. A number of the shops were vacant, including shops that had been an IGA, a post office, and a nail salon;
- A carpark was present to the east of the main building, with an asphalt pavement. The asphalt was observed to be in good condition with no major cracking and/or staining (see Photographs 7 to 8);
- A residential dwelling was observed in the south eastern corner of the site, and a fence separated the dwelling from the car park. The dwelling was tenanted and not accessed during the site walkover;
- A Council owned laneway ran along the northern boundary of the south-east portion of the site, and then in a north-south direction between the large building and the car park. The laneway does not comprise part of the site.

3.4 NSW EPA Records & Environment Protection Licenses

Contaminated Land Records

A search of the NSW EPA database of notices issued under the Contaminated Land Management Act, 1997 (CLM Act) revealed there was one property:

- United Petroleum Service Station, 279-281 Lang Street – located 1.2km south of the site.

A search of sites that have been notified to NSW EPA as contaminated (as of 10 October 2022) was also carried out. The search identified two properties within the Kurri Kurri suburb which had been notified to the NSW EPA as being contaminated. These properties were:

- United Petroleum Service Station, 279-281 Lang Street – located 480m south west of the site. Contamination formerly regulated under the CLM Act; and
- Kurri Kurri Smelter, Hart Road - located about 3km north of the site. Regulation under the CLM not required.

The one property that NSW EPA considered required regulation under the CLM Act was located at least 500m of the site. The NSW EPA assessed that the other site did not require regulation under the CLM Act. Given the distances from the site to the notified contaminated sites, it is considered that contamination on the properties would not impact the site.

A copy of the above searches is provided in Appendix F.

Environment Protection Licenses (EPLs)

The Protection of the Environment Operations (POEO) register under Section 308 of the POEO Act 1997, was searched for Environment Protection Licenses (EPLs) for the suburb of Kurri Kurri, NSW. The search revealed six current and/or former EPLs:

Company Name (License Status)	Address	Approx. Distance & Direction from Site	Licensed Activity
Central Waste Plant Pty Ltd (Issued)	8 Styles Street	1.8km north-west, down-gradient	Waste storage – other types of waste Recovery of general waste
Cleanaway Co Pty Ltd (Surrendered)	126 Mitchell Ave	1.1km north-west, down-gradient	Waste storage – hazardous, restricted solid, liquid, clinical and related waste, and asbestos waste
Hunter and New England Area Health Service (No longer in force)	Lang Street	1.7km south-east, down-gradient	Hazardous, Industrial or Group A waste general or storage
Hunter Water Corporation (Issued)	Off McLeod Road	1.6km north-east, cross to down-gradient	Sewage treatment processing by small plants
Nationwide Oil Pty Ltd (Surrendered)	47 Wermol Street	1km north west, down-gradient	Hazardous, Industrial or Group A waste general or storage
Weston Aluminium Pty Ltd (Issued)	129 Mitchell Avenue	1.5km north-west, down-gradient	Scrap metal processing Recovery of hazardous and other waste Waste storage – hazardous, restricted solid, liquid, clinical and related waste, and asbestos waste Thermal treatment of hazardous and other waste Thermal treatment of general waste Aluminium production (scrap metal)

Taking into account the distances to the site and/or the gradient to the site, it is considered unlikely that contamination from the properties (if any) would impact the site.

A copy of the above searches is provided in Appendix F.

NSW EPA PFAS Investigation Program

Based on a review of the NSW EPA Government PFAS Investigation Program ([ref: https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program](https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program)), there are no properties in the suburb of Kurri Kurri that have been identified as a site that is likely to have used large quantities of PFAS.

NSW EPA Former Gasworks Sites

Based on a review of the NSW EPA website ([ref: https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/former-gasworks-sites](https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/former-gasworks-sites)), no former gasworks have been identified in the suburb of Kurri Kurri.

3.5 Anecdotal and Publicly Available Information

A search of publicly available information identified that the western portion of the site previously contained the Kings Theatre. Photographs are presented below. No information on when the Kings Theatre opened was available, but based on the architecture it appears to be early 1900s.



Photo 1 – Showing the Kings Theatre and Hotel, undated photograph.
<https://www.flickr.com/photos/98887654@N05/9426867526>



Photo 2 – Showing Kings Theatre in 1970 <https://www.phototimetunnel.com/product/kurri-kurri-picture-theatre-1970-tif>

No interview was held. Based on the information obtained via historical titles, aerial photographs and publicly available information, it is considered that the absence of an interview does not affect the outcome of the assessment.

3.6 Section 10.7 Certificate

A Section 10.7 Certificate for the site was obtained from Cessnock City Council, and is presented in Appendix G. Relevant information is summarised below:

“Matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate”:

- (a) *The land or part of the land is not significantly contaminated land within the meaning of the Contaminated Land Management Act 1997 at the date this certificate is issued.*
- (b) *The land is not subject to a management order within the meaning of the Contaminated Land Management Act 1997 at the date this certificate is issued.*
- (c) *The land is not the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997 at the date this certificate is issued.*
- (d) *The land is not the subject of an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997 at the date this certificate is issued.*
- (e) *The land is not the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 (if a copy of such a statement has been provided at any time) to the local authority issuing the certificate.*

3.7 Previous Reports

Qualtest has not been provided with, or been made aware of any previous contamination assessments conducted on the site.

3.8 Summary of Site History

The assessed uses of the site, based on the site history review, have been summarised below in approximate chronological order:

- The site was originally twelve separate lots, which can generally be split into two areas: western and eastern.
- The majority of the western portion of the site was used as a theatre (Kings Theatre) from the early 1900s to 1970s. A small building on the north-western portion has been used for retail shops from the 1920s to currently. In the 1980s the western portion was redeveloped for King Plaza shopping centre.
- The eastern portion of the site comprised residential allotments, with dwellings and associated sheds. The dwellings and sheds appeared to be altered / extended over the years. Between the 1990s and early 2000s the residential allotments were moved and replaced with asphalt paved car park. The exception to this is one dwelling on the south-east corner which remains on the site today.
- Prior to development for residential and commercial uses, it is anticipated the site was undeveloped.

3.9 Potential Offsite Sources of Contamination

No potential offsite sources of contamination have been identified.

3.10 Gaps in the Site History

Whilst the site history is reasonably comprehensive there are some gaps identified in the review as follows:

- The uses of the site prior to the early 1900s is not known, but given the time elapsed these activities are unlikely to impact the site;
- The extent of fill material on the site (if any), and the origin and quality of fill materials is not known; and
- The materials used to construct former buildings is not known, and may have included hazardous building materials (i.e. asbestos, lead paints). The demolition practices for the former buildings are not known.

3.11 Areas of Environmental Concern

Table 3.11 (below) shows the areas of environmental concern (AECs) and associated Chemicals of Potential Concern (COPCs) identified for the site.

Table 3.11 – Areas of Environmental Concern and Chemicals of Potential Concern

AEC	Potentially Contaminating Activity	Potential COCs	Likelihood of Contamination
1. Former buildings and sheds and potential demolition waste	Weathering of potentially hazardous materials (asbestos, lead paint, galvanised metals. Potential use of pesticides. Demolition waste	TRH, BTEX, PAH, OCPs, Metals, Asbestos	Medium to high
2. Imported fill	Potential use of imported fill of unknown quality and origin.	TRH, BTEX, PAH, OCPs, Metals, Asbestos	Low to medium
3. Historical car park pavements	Potential use of coal tar to construct pavements in the past	TRH, PAH and Phenols	Low

4.0 Data Quality Objectives

4.1 Step 1 – State the Problem

The site has historically been used for commercial purposes since early 1900s and there is a potential for contamination of soil to exist from past site uses. Three AECs were identified for the site, as described in Table 3.11, above.

4.2 Step 2 – Identify the Decisions

The decisions to be made based on the assessment are:

- Is the site suitable for the proposed land use (commercial/industrial)?
- Is further assessment required?
- Will the site require remediation and/or management to make the site suitable for the proposed land use, from a contamination perspective?

4.3 Step 3 – Identify the Inputs to the Decisions

Inputs into the decision are:

- Have samples been collected in the required areas of the site (the identified AECs)?
- Have samples been collected at the required frequencies and adequately represent the conditions on site?
- Is the data set adequate to perform statistical analysis, if required (i.e. calculate 95% UCL)?
- Have the samples been analysed for the COCs identified?
- Have concentrations exceeding the adopted criteria been reported in the samples?

- If concentrations exceeding adopted criteria have been reported, will these areas require remediation and/or management?

The informational inputs into the decision are:

- Field observations and field screening results;
- Laboratory results (concentrations of contaminants in soil);
- QA/QC documentation and data;
- Adopted assessment criteria (see Section 6); and,
- Relevant NSW EPA endorsed Guidelines.

The media to be sampled and analysed is:

- Soil.

4.4 Step 4 – Define the Study Boundaries

The study boundary is defined laterally as the site boundary, Lot 136 DP869710, within the Cessnock local government area. The site is located at 178 Lang Street, Kurri Kurri, NSW and covers an area of approximately 0.66ha (refer to Figure 1, Appendix A). Vertically, the study boundary will be defined by the depth of contamination, anticipated to be a maximum of 2m bgs. Temporally, the study boundary is the date of sampling, 1 and 5 December 2022.

4.5 Step 5 – Develop an Analytical Approach

The analytical approach can be defined as: -

- If the laboratory quality assurance/ quality control data are within the acceptable ranges, the data will be considered suitable for use;
- If the COPCs are reported above the adopted criteria and/or at elevated levels (where no criteria are available) then it will be considered whether further assessment, remediation and/or management measures are required;
- Where practical and/or appropriate, the 95% Upper Confidence Limit (UCL) of the validation samples will be calculated. If the 95% UCL is above the adopted criteria, then it will be considered whether further assessment, remediation and/or management measures are required; and,
- Where concentrations are below the assessment criteria, then no further assessment, remediation and/or management of that contaminant, in that area, in that media, is required. This is provided samples have been collected at the required frequencies (as per NSW EPA guidelines) and adequately represent the conditions on site, if not, additional sampling may be required.

4.6 Step 6 – Specify Acceptable Limits on Decision Errors

There are two types of errors:

- Type 1 – finding that the site is contaminated, when it is not;
- Type 2 – finding that the site is uncontaminated, when it is.

To reduce the potential for errors, the following will be applied:

- Appropriate field sampling methodologies and collection of field data (including sampling frequency);
- Robust QA/QC assessment of field procedures and laboratory data;
- Appropriate sampling and analytical density;

- Use of statistics (i.e. 95% UCL) to assess arithmetic average of COPCs. Use of statistics will also take into account:
 - No sample should report a concentration more than 250% of the adopted criteria; and,
 - The standard deviation of a sample population should not exceed 50% of the adopted criteria.

The adopted criteria are shown in Section 6 below.

4.7 Step 7 – Optimise the Design for Obtaining Data

The methodologies presented in this report are designed to meet the nominated DQOs. Optimisation of the data collection process will be achieved by:

- Working closely with the analytical laboratories and sampling equipment suppliers so that appropriate procedures and processes are developed and implemented prior to and during the field work and that sampling, handling, and transport to, and processing by, the analytical laboratories is appropriate.
- Conduct sampling in accordance with industry best practice and Standard Operating Procedures (SOPs) for the type of sampling being conducted.

5.0 Field and Laboratory Investigations

5.1 Sampling Plan

The site is about 0.66ha in area. The NSW EPA (2022) Sampling Design Part 1 – Application, Contaminated Land Guidelines recommends a minimum of 16 sampling locations in a square grid to characterise a site of 0.66ha with no specific source locations (i.e. potential wide-spread contamination). Based on the desktop assessment this sampling density was adopted.

Six sampling locations (BH01 to BH06) were located within the existing building, and the remaining ten sampling locations (BH07 to BH16) were located in the carpark area. The locations inside the building were nominated based on accessibility.

The sampling locations are shown on Figure 2, Appendix A.

5.2 Soil Sampling

The boreholes were drilled on the 1 and 5 December 2022 under the full-time attendance of an environmental scientist from Qualtest.

The locations for BH01 to BH06 (inside the building) were concrete cored by a professional concrete cutter. The boreholes were then drilled using a hand auger to depths of between 0.4m and 1.3m, with boreholes terminating due to refusal on weathered sandstone.

The locations BH07 to BH16 (in the car park) were drilled using a 2.7t excavator with a 250mm diameter auger attachment. The boreholes were drilled to depths of between 0.65 to 2.15m, with boreholes terminating due to refusal on weathered sandstone.

Samples were collected directly from the hand auger and excavator auger, at the surface under the concrete/asphalt, and then at about 0.5m intervals in fill, and the top of natural soils. Each sample was collected using a clean pair of nitrile gloves

The soil samples were placed into 250mL laboratory supplied glass jars and zip locked bags for laboratory analysis. Each soil sample was placed directly into an ice-chilled esky and remained chilled during fieldwork and transportation to the laboratory.

5.3 Laboratory Analysis

The samples were dispatched to the NATA-accredited Eurofins MGT laboratory under chain of custody conditions. Soil samples were selected for analysis based on field observations, and providing a spread across the site. The soil samples were analysed for the following:

- Total Recoverable Hydrocarbons (TRH) – 16 primary samples;
- Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) – 16 primary samples;
- Polycyclic Aromatic Hydrocarbons (PAHs) – 16 primary samples;
- Metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury) – 16 primary samples;
- Asbestos (presence/absence) – 16 soil samples and 1 material sample;
- Organochlorine Pesticides (OCPs) – 4 primary samples;
- Phenols – 1 primary sample; and,
- Cation Exchange Capacity and pH – 3 primary samples.

6.0 Investigation Criteria

6.1 Health and Ecological Investigation and Screening Levels

To assess whether the material is suitable for re-use on-site, the laboratory results were compared to the health and ecological investigation levels for soil, presented in the *National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)*, NEPC 2013, Canberra (referred to as ASC NEPM 2013).

ASC NEPM (2013) provides health and ecological investigation and screening levels for different exposure scenarios based on a proposed land use. They are adopted as concentrations of a contaminant above which either further appropriate investigation and/or evaluation will be required, or development of an appropriate management strategy (including remediation).

Health Investigation Levels (HILs) and Health Screening levels (HSLs) are applicable for assessing human health risk via relevant exposure pathways. The HILs were developed for a broad range of metals and organic substances. These are generic to all soil types. The HSLs have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via inhalation and direct contact with soil and groundwater. The HSLs depend on specific soil physicochemical properties, building configurations, land use scenarios and the depth that groundwater is encountered.

Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs) are applicable for assessing risk to terrestrial ecosystems under residential, open space and commercial/industrial land use scenarios. They apply to the top 2m of soil, which corresponds to the root zone and habitation zone of many species.

The EILs are associated with selected metals and organic compounds. The EILs are site specific and are determined by calculating an Ambient Background Concentration (ABC) and an Added Contaminant Limit (ACL) for the site, which are added together to get the EIL. In the absence of ambient background concentration data, a generic ACL, based on the soil's pH, Cation Exchange Capacity (CEC) and clay content, has been adopted. Background levels have been adopted from Olszowy et al (1995) Trace Element Concentrations in Soils from Rural and Urban Areas of Australia.

The ESLs are associated with petroleum compounds and fractions and are dependent on specific soil physical properties (i.e. coarse and fine-grained soil).

Based on the proposed site use the investigation and screening levels for commercial/industrial land use have been adopted, and are shown in Table 6.4 below.

6.2 Asbestos Materials in Soil

The assessment of known and suspected asbestos contamination in soil is based on:

- ASC NEPM (2013); and
- WA DoH (2009) *Guidelines of the assessment and management of asbestos contaminated sites in Western Australia*, WA Department of Health and Department of Environment and Conservation.

Schedule B1, Section 4 ASC NEPM (2013) provides guidance on the assessment of both friable and non-friable forms of asbestos in soil. This guidance is based on the WA DoH (2009) Guidelines that presented risk based screening levels for asbestos in soil under various landuse scenarios.

For the purpose of assessing asbestos impacts in soil, three groups are recognised:

- Asbestos Containing Material (ACM) - *which is in sound condition although possibly broken or fragmented and the asbestos is bound in a matrix. This is restricted to material that cannot pass through a 7mm x 7mm sieve;*
- Fibrous asbestos (FA) - *friable asbestos material, such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products;*
- Asbestos fines (AF) - *includes free fibres of asbestos, small fibre bundles and also ACM fragments that pass through a 7mm x 7mm sieve.*

The health screening levels for asbestos in soil for commercial/industrial land use would be applicable for the site. As the testing was carried out on a presence/absence basis, a criteria of “detected” has been adopted.

6.3 Management Limits

The ASC NEPM (2013) provides management limits for petroleum hydrocarbons. The purpose of the Management Limits is to ‘avoid or minimise’ potential effects of petroleum hydrocarbons.

ASC NEPM (1999, amended 2013) Schedule B(1) provides these as effects as:

- Formation of observable Light Non-Aqueous Phase Liquid (LNAPL);
- Fire and explosive hazards; and,
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons.

Management limits were derived by Canada-Wide Standard for Petroleum Hydrocarbons (CWS-PHC) in Soil (2008) where the lowest limiting value for each effect became the Recommended Management Limit. Based on site specific information, the applicability of management limits as soil investigation levels for the site was reviewed, and is discussed further in Table 6.3 below.

Table 6.3 discusses the derivation of the revised management limits. These management limits will be applied to soils. As described in the ASC NEPM (2013) the magnitude of an exceedance will be considered in the context of whether the exposure pathways are plausible and whether exposure will result in harm. Depending on the level of the exceedance further qualitative or quantitative risk assessment may be required.

Table 6.3 - Site Specific Applicability of Management Limits

TRH Fraction	Basis of Recommended Management Limits (coarse soils)	Appropriateness of Recommended Management Limits for Adopted Criteria
F1 (C6-C10)	Formation of free phase NAPL 700mg/kg Effects on Workers in Trenches 1,000mg/kg Fire/Explosion Risk 1,400mg/kg	The limiting value of 700mg/kg for formation of free phase NAPL is considered appropriate. The value for effects on workers is not considered relevant as HSLs have been derived for Australian conditions and considered to be more appropriate.
F2 (C10-C16)	Effects on Workers in Trenches 1,000mg/kg Formation of free-phase Total F1 to F3 10,000mg/kg Fire/Explosion Risk 5,200mg/kg	'Effects on Workers in Trenches' is not appropriate for adoption as a criteria. These values are based on occupational exposure limits for gasoline and jet fuel, as there is no relevant acute toxicity endpoints available. CRC Care (2011) has established HSLs for 'Intrusive Maintenance Worker' for both vapour intrusion and direct contact of 'Not Limiting' and 20,000mg/kg respectively. HSLs are considered more appropriate for Australian conditions and the robustness in which they are derived. The limiting value of 5,200mg/kg for explosion risk to intrusive maintenance workers is considered appropriate.
F3 (C16-C34)	Effectiveness of bioremediation 3,500mg/kg Formation of free phase NAPL Total F1 to F3 10,000mg/kg	'Effectiveness of bioremediation' is not appropriate as a validation criteria, rather more of a guide for assessing whether bioremediation may be a viable option. It should be noted that this criterion was developed based on Canadian conditions, where bioremediation may not be as accelerated compared to the generally warmer Australian climate. The limiting value of 10,000mg/kg for formation of free phase NAPL is considered appropriate.
F4 (C34-C40)	Formation of free phase NAPL 10,000mg/kg	The limiting value of 10,000mg/kg for formation of free phase NAPL is considered appropriate.

6.4 Adopted Soil Investigation Criteria

The adopted soil criteria are presented in Table 6.4 below.

Table 6.4 – Adopted Soil Criteria

Contaminant	HIL / HSLA D	EIL / ESL D	Management Limits
Arsenic	3,000	160	-
Cadmium	900	-	-
Chromium VI	3,600	-	-
Chromium III	-	680*	-
Copper	240,000	300*	-
Lead	1,500	1,800	-
Nickel	6,000	260*	-
Zinc	400,000	720*	-
Mercury	730	-	-
Benzene	4	95	-
Toluene	NL	135	-
Ethylbenzene	NL	185	-
Xylenes	NL	95	-
Naphthalene	NL	370	-
TRH C6-C10	-	215	700
TRH C6-C10 minus BTEX	310	-	-
TRH >C10-C16	-	170	5,200
TRH >C10-C16 minus naphthalene	NL	-	-
TRH >C16-C34	NL	2,500	10,000
TRH >C34-C40	NL	6,600	10,000
Benzo(a)pyrene	-	1.4	-
Benzo(a)pyrene TEQ	40	-	-
Total PAHs	4,000	-	-
DDD+DDT+DDE	3,600	640	-

Contaminant	HIL / HSL [^] D	EIL / ESL D	Management Limits
Aldrin & dieldrin	45	-	-
Chlordane	530	-	-
Endosulfan	2,000	-	-
Endrin	100	-	-
Heptachlor	50	-	-
Hexachlorobenzene	80	-	-
Methoxychlor	2,500	-	-
Mirex	100	-	-
Toxaphene	160	-	-
Pentachlorophenol	660	-	-
Phenol	240,000	-	-
Cresols	25,000	-	-
Asbestos	Detected	-	-
Bonded ACM %	0.05	-	-
FA and AF %	0.001	-	-
All forms of asbestos	No visible evidence for surface soil (top 10cm)	-	-

Notes: * EIL based on pH of 6.6, CEC of 9.5meq/100ml, and clay content of 10% from samples collected onsite. [^]HSLs based on clay soils, 0-1m. # ESLs based on fine grained soils.

7.0 Quality Assurance/Quality Control

Sampling activities were undertaken in accordance with normal, industry accepted practices and standards. The assessment of field and laboratory quality assurance / quality control (QA / QC) procedures is provided below, and a data validation report is presented in Appendix J.

In order to assess field quality assurance / quality control (QA/QC) procedures, the following quality control samples were collected and analysed:

QC Sample	Type	Lab	Analysis
D.5.12.22	Duplicate of BH07 0.1-0.2	Eurofins	TRH, BTEX, PAH, Metals

QC Sample	Type	Lab	Analysis
T.5.12.22	Triplicate of BH07 0.1-0.2	ALS	TRH, BTEX, PAH, Metals

Primary and intra lab duplicate samples were analysed by the NATA-accredited Eurofins laboratory. Inter-laboratory duplicates were analysed by NATA accredited laboratory ALS.

Table 3, Appendix I, presents the relative percentage differences (RPDs) between the primary and duplicate samples. A review of the Qualtest QA / QC results indicates that RPDs were within the acceptable range (30%). It is noted that low concentrations can exaggerate the percentage differences with respect to small total concentrations, therefore where results for primary and duplicate sample were less than 10 times the LOR, the RPDs have been disregarded.

The laboratory internal QA/QC reports indicated that the appropriate laboratory QA / QC procedures and rates were undertaken for contamination studies, and that:

- Laboratory blank samples were free of contamination;
- Matrix spike recoveries were within the laboratory control limits;
- Laboratory duplicate RPDs were recorded within the control limits. For an RPD for moisture the lab quoted code Q15 which states *"The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report."* Based on this, the RPDs is not considered to affect the data usability.
- Surrogates and laboratory control samples were within the laboratories acceptable range

Based on the above, and the data validation report in Appendix J, it is considered that the field and laboratory methods for soil sampling are appropriate and that the data obtained is usable and considered to reasonably represent the concentrations at the sampling points at the time of sampling.

8.0 Results

8.1 Subsurface Conditions

Table 8.1.1 presents a summary of the typical soil types encountered at borehole locations during the field investigation, divided into representative geotechnical units. Table 8.1.2 contains a summary of the distribution of the above geotechnical units at the borehole locations. The borehole logs are presented in Appendix H.

Table 8.1.1 – Summary of Geotechnical Units and Soil Types

Unit	Soil Type	Description
1	ASPHALT / CONCRETE	Asphalt / Concrete

Unit	Soil Type	Description
2	FILL	SAND – fine grained, pale brown. SAND – fine to medium grained, brown, trace fine grained sub-angular to angular gravel. Gravelly SAND – fine to medium grained, pale brown to brown and grey-brown, and dark brown to black, fine-grained angular and sub-angular gravel. Sandy GRAVEL / Gravelly SAND – fine to medium grained, pale orange-brown, rounded to sub-angular gravel, trace fines of low plasticity. CLAY – medium plasticity, dark brown with some grey-brown. In BH15 only.
3	COLLUVIUM / POSSIBLE FILL	CLAY – low to medium plasticity, grey-brown with some black. Sandy CLAY – medium plasticity, dark grey to dark grey-brown, fine to coarse grained sand, with fine to medium grained rounded to sub-rounded gravel.
4	RESIDUAL SOIL	CLAY – low to medium plasticity, orange-brown, brown and red-brown, some fine grained sand and gravel. Clayey SAND / Sandy CLAY – fine to coarse grained, medium plasticity clay, orange-brown, brown and pale grey, trace fine grained, angular gravel. Gravelly CLAY – medium plasticity, brown to dark brown with mottled orange-brown and red-brown, fine to medium grained rounded to sub-angular gravel, trace fine to coarse grained sand.
5	EXTREMELY WEATHERED SANDSTONE	Silty Sandstone – breaks down into CLAY, low plasticity, pale orange-brown, with fine grained sand.
6	SLIGHTLY WEATHERED SANDSTONE	Silty SANDSTONE – fine grained, pale orange and pale grey, estimated medium strength.

Table 8.1.2 – Summary of Geotechnical Units Encountered at Borehole Locations

Location	Unit 1 Concrete/Asphalt	Unit 2 Fill	Unit 3 Colluvium/Fill	Unit 4 Residual Soil	Unit 5 XW Sandstone	Unit 6 SW Sandstone
BH01	0.0-0.1	0.1-0.25	-	0.25-0.4^	-	-
BH02	0.0-0.1	0.1-0.2	-	0.2-0.5^	-	-
BH03	0.0-0.15 0.3-0.35	0.15-0.3 0.35-0.7	-	0.7-1.25	1.25-1.4^	-
BH04	0.0-0.13	0.13-0.55	-	0.55-0.8	-	0.8-0.81^
BH05	0.0-0.15	0.15-0.25	-	0.25-0.4		0.4-0.41^
BH06	0.0-0.16	0.16-0.25	0.25-0.6	0.6-1.0^	-	-
BH07	0.0-0.045	0.045-0.5	-	0.5-1.1	-	1.1-1.15^
BH08	0.0-0.03	0.03-0.4	0.4-0.5	0.5-1.6	-	1.6-1.7^

BH09	0.0-0.04	0.04-0.85	-	0.85-0.9	-	0.9-0.91^
BH10	0.0-0.04	0.04-0.65	-	-	-	0.65-0.7^
BH11	0.0-0.04	0.04-0.8	-	0.8-2.0	-	-
BH12	0.0-0.04	0.04-1.2	-	-	-	1.2-1.21^
BH13	0.0-0.04	0.04-0.8	-	0.8-2.0	-	2.0-2.05^
BH14	0.0-0.04	0.04-0.6	0.6-0.85	0.85-2.1	-	2.1-2.15^
BH15	0.0-0.04 0.3-0.34	0.04-0.3 0.34-1.9	-	-	-	1.9-1.91^
BH16	0.0-0.04	0.04-0.9	-	0.9-1.85	-	1.85-1.86^

Note: ^ borehole terminated due to refusal on sandstone.

No odours or stained soils were observed. Anthropogenic material were observed as follows:

- BH07 trace tile fragments were observed in fill material at 0.33m to 0.5m depth;
- BH10 a fragment of potential ACM was encountered in fill at about 0.4-0.5m depth. The fragment comprised fibre-cement, about 50mm x 30mm x 3mm, and was unable to be crushed by hand pressure;
- BH15 trace glass fragments were observed in fill material at 1.6m to 1.9m depth;
- BH16 trace brick fragments were observed in fill material at 0.3m to 0.9m depth;

No groundwater inflows were observed during drilling.

8.4 Laboratory Results

Soil analytical results for the contamination assessment are summarised in Tables 1 and 2, Appendix I. The laboratory analytical reports are also included in Appendix K.

The soil laboratory results were compared to the investigation levels described in Section 6. The analytical results indicated that concentrations of contaminants were reported below the adopted criteria, and asbestos was not detected in soil samples. Chrysotile asbestos was detected in a fragment of fibre-cement material collected from BH10 at 0.4-0.5m depth with the fill. The fragment was about 60mm x 50mm x 5mm and was not able to be crushed by hand pressure. Phenols were below the laboratory detection limit for the sample of older asphalt pavement tested.

9.0 Conceptual Site Model

Based on the results of the preliminary and detailed contamination assessment carried out on the site, a Conceptual Site Model (CSM) has been developed.

Table 9.1 – Conceptual Site Model

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential mechanisms of exposure	Sampling Completed	Potential & Complete Exposure Pathways
1. Current and former buildings: - Weathering of potentially hazardous materials (asbestos, lead paint, galvanised metals) - Potential use of pesticides around buildings - Demolition waste	Metals, Asbestos, OCPs	- Top-down flakes/fibres onto soil. - Leaching of soil contaminants to surface water and groundwater.	- Surface soils (including former site surface) - Surface water - Groundwater	- Current site users - Future construction workers & site users - Soil biota/plants and transitory wildlife - Ecosystem in Swamp Creek located about 1.8km north-west of the site. - Offsite groundwater discharge point – Swamp Creek located about 1.8km north-west of the site.	- Direct dermal contact with contaminated soil - Ingestion of contaminated soil - Inhalation of asbestos fibres, or contaminated soil (as dust) - Leaching of soil contaminants to surface water and/or groundwater – Swamp Creek - Groundwater discharge to Swamp Creek	BH01 to BH16	- Currently incomplete exposure pathway for current site visitors and users, and ecological receptors due to concrete and asphalt paving across site. - Complete exposure pathway for future construction workers, if works under concrete pavement are required for development, due to presence in at least the area of BH10. Asbestos containing materials are likely to be present in other areas where former buildings were present. - Incomplete exposure pathway for soil contaminants to migrate to surface water via run-off, as no contamination identified, and due to concrete/asphalt paving across site, and distance to Swamp Creek. - Incomplete exposure pathway for soil contaminants to leach to groundwater, due to no contamination identified, likely depth of groundwater (>5m bgs), and clayey sub-soils.
2. Imported Fill: Potential use of contaminated imported fill.	TRH, BTEX, PAH, Metals, Asbestos, OCPs	- Top-down and to depth of fill - Leaching of contaminants from fill into underlying soils - Leaching of soil contaminants to groundwater	- Fill soils - Underlying soils - Surface water - Groundwater	- Current site visitors - Future construction workers & site users - Soil biota/plants and transitory wildlife - Ecosystem in Swamp Creek located about 1.8km north-west of the site. - Offsite groundwater discharge point – Swamp Creek located about 1.8km north-west of the site.	- Direct dermal contact with contaminated soil - Ingestion of contaminated soil - Inhalation of asbestos fibres, or contaminated soil (as dust) - Inhalation of hydrocarbon vapours - Leaching of soil contaminants to surface water and/or groundwater – Swamp Creek - Groundwater discharge to Swamp Creek.	BH01 to BH16	- Currently incomplete exposure pathway for current site visitors and users, and ecological receptors due to concrete and asphalt paving across site. - Incomplete exposure pathway for future construction workers, as no contamination associated with imported fill identified. - Incomplete exposure pathway for soil contaminants to migrate to surface water via run-off, as no contamination identified, and due to concrete/asphalt paving across site, and distance to Swamp Creek. - Incomplete exposure pathway for soil contaminants to leach to groundwater, due to no contamination identified, likely depth of groundwater (>5m bgs), and clayey sub-soils.

AEC	COPC	Mechanism of Contamination	Potentially Affected Media	Human & Ecological Receptors	Potential mechanisms of exposure	Sampling Completed	Potential & Complete Exposure Pathways
3. Historical car park pavements: Potential use of coal tar to construct pavements in the past.	Phenols	- Leaching of contaminants from coal tar pavement into underlying soils - Leaching of soil contaminants to groundwater	- Old pavement - Underlying soils - Surface water - Groundwater	- Current site visitors - Future construction workers & site users - Soil biota/plants and transitory wildlife - Ecosystem in Swamp Creek located about 1.8km north-west of the site. - Offsite groundwater discharge point – Swamp Creek located about 1.8km north-west of the site.	- Direct dermal contact with contaminated soil/pavement - Ingestion of contaminated soil/pavement - Inhalation of phenol vapours - Leaching of soil contaminants to surface water and/or groundwater – Swamp Creek - Groundwater discharge to Swamp Creek.	BH03	- Incomplete exposure pathway for current site visitors and users, future construction workers, and ecological receptors, as no contamination identified. - Incomplete exposure pathway for soil contaminants to migrate to surface water via run-off, as no contamination identified, and due to concrete/asphalt paving across site, and distance to Swamp Creek. - Incomplete exposure pathway for soil contaminants to leach to groundwater, due to no contamination identified, likely depth of groundwater (>5m bgs), and clayey sub-soils.

10.0 Conclusions and Recommendations

The site history review showed the western portion of the site has been used for commercial purposes, including a theatre and retail shops, likely since the 1920s. The eastern portion of the site was used for residential purposes, since at least the 1940s, with multiple dwellings and associated sheds. The dwellings were progressively removed and replaced with an asphalt paved car park between 1990s and early 2000s. The site currently comprises a shopping centre (Kingsway Plaza) and associated asphalt paved car park.

Three Areas of Environmental Concern (AECs) were identified based on the site history and site observations:

1. Current and former buildings: Weathering of potentially hazardous materials (asbestos, lead paint, galvanised metals); Potential use of pesticides around buildings; Demolition waste
2. Imported Fill: Potential use of contaminated imported fill;
3. Historical car park pavements: Potential use of coal tar to construct pavements in the past.

To provide an assessment of potential soil contamination, 16 soil sampling locations were carried out across the site. This sampling density was in accordance with the minimum recommended by NSW EPA (2022) Sampling Design Part 1 – Application, Contaminated Land Guidelines.

The laboratory results reported concentrations of contaminants below the adopted criteria and no asbestos was detected in soil samples. Chrysotile asbestos was detected in a fragment of fibre-cement material collected from BH10 at 0.4-0.5m depth. The fragment was about 60mm x 50mm x 5mm and was not able to be crushed by hand pressure. No phenols were detected in the sample of older asphalt tested, and no odours were observed, indicating that coal tar was not present.

BH10 was located in the eastern portion of the site, within an area previously containing residential dwellings and sheds. It is possible that fragments of asbestos containing materials (ACM) are present in other locations on the site, particularly in the area of the former dwellings and associated sheds. As the site is currently paved with asphalt and concrete, the ACM does not currently pose a risk to site users. The ACM could pose a risk to future construction workers, and ACM will need to be managed during earthworks and construction of the proposed development.

Based on the preliminary and detailed assessment completed, it is considered that the site is suitable for the proposed shopping centre development (commercial/industrial purposes), provided the following recommendations are implemented:

- Preparation of an Asbestos Management and Removal Plan to be implemented during earthworks and construction of the proposed development. The plan should outline how ACM will be assessed and identified prior to earthworks commencing on the site, and the procedures for the handling and removal of ACM (including soils containing asbestos). Care must be taken to prevent spreading ACM onto other areas of the site;
- Preparation of an Unexpected Finds Procedure to manage potential unexpected finds of contamination during earthworks and construction for the proposed development.
- The Asbestos Management and Removal Plan and Unexpected Finds Procedure could form part of the Construction Environmental Management Plan, to be prepared by the site owner/manager, or contractor.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra (referred to as ASC NEPM 2013). The reports comprises a stage 1 and 2 assessment in accordance with SEPP (Resilience and Hazards) 2021, Chapter 4.

11.0 Limitations

This report has been prepared by Qualtest for Votaint No 124 Pty Ltd ATF The Christian Family Trust based on the objectives and scope of work list in Sections 1.1 and 1.2. No warranty, expressed or implied, is made as to the information and professional advice included in this report. Anyone using this document does so at their own risk and should satisfy themselves concerning its applicability and, where necessary, should seek expert advice in relation to their particular situation.

The opinions, conclusions and recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. Qualtest has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

In preparing this report Qualtest has relied on information contained in searches of government websites and has not independently verified or checked the data contained on these websites.

In preparing this report, current guidelines for assessment and management of contaminated land were followed. The conclusions reached in this report are dependent on the limitations inherent in all subsurface investigations where horizontal and vertical variation in contaminant concentrations can occur. No subsurface assessment can accurately predict the contaminant concentration at all points.

Site conditions may change after the date of this Report. Qualtest does not accept responsibility arising from, or in connection with, any change to the site conditions.

12.0 References

NSW Department of Primary Industries (Office of Water) Registered Groundwater Bore Map, accessed from <http://allwaterdata.water.nsw.gov.au/water.stm>.

NSW Land and Property Information, Spatial Information eXchange (SIX) Maps - Topographic Map, accessed from <https://maps.six.nsw.gov.au/>.

State of NSW and Department of Planning, Industry and Environment Acid Sulfate Soil online database, accessed from <https://www.environment.nsw.gov.au/eSpade2Webapp>

NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land.

NSW EPA (2022) Sampling Design Part 1 – Application, Contaminated Land Guidelines

NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), Canberra (ASC NEPM 2013).

WA DoH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia, WA Department of Health and Department of Environment and Conservation.

WA DoH (2021) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia, WA Department of Health and Department of Environment and Conservation.

APPENDIX A:

Figures



Image obtained from Nearmaps

Client:	Votrant No 124 Pty Ltd ATF The Christian Family Trust	Drawing No:	FIGURE 1
Project:	Preliminary & Detailed Contamination Assessment	Project No:	NEW22P-0213-AA
Location:	178 Lang Street, Kurri Kurri	Scale:	N.T.S.
Title:	Site Location Plan	Date:	6/12/2022



Client:	Votrait No 124 Pty Ltd ATF The Christian Family Trust	Drawing No:	FIGURE 2
Project:	Preliminary & Detailed Contamination Assessment	Project No:	NEW22P-0213-AA
Location:	178 Lang Street, Kurri Kurri	Scale:	N.T.S.
Title:	Sampling Location Plan	Date:	6/12/2022

APPENDIX B:

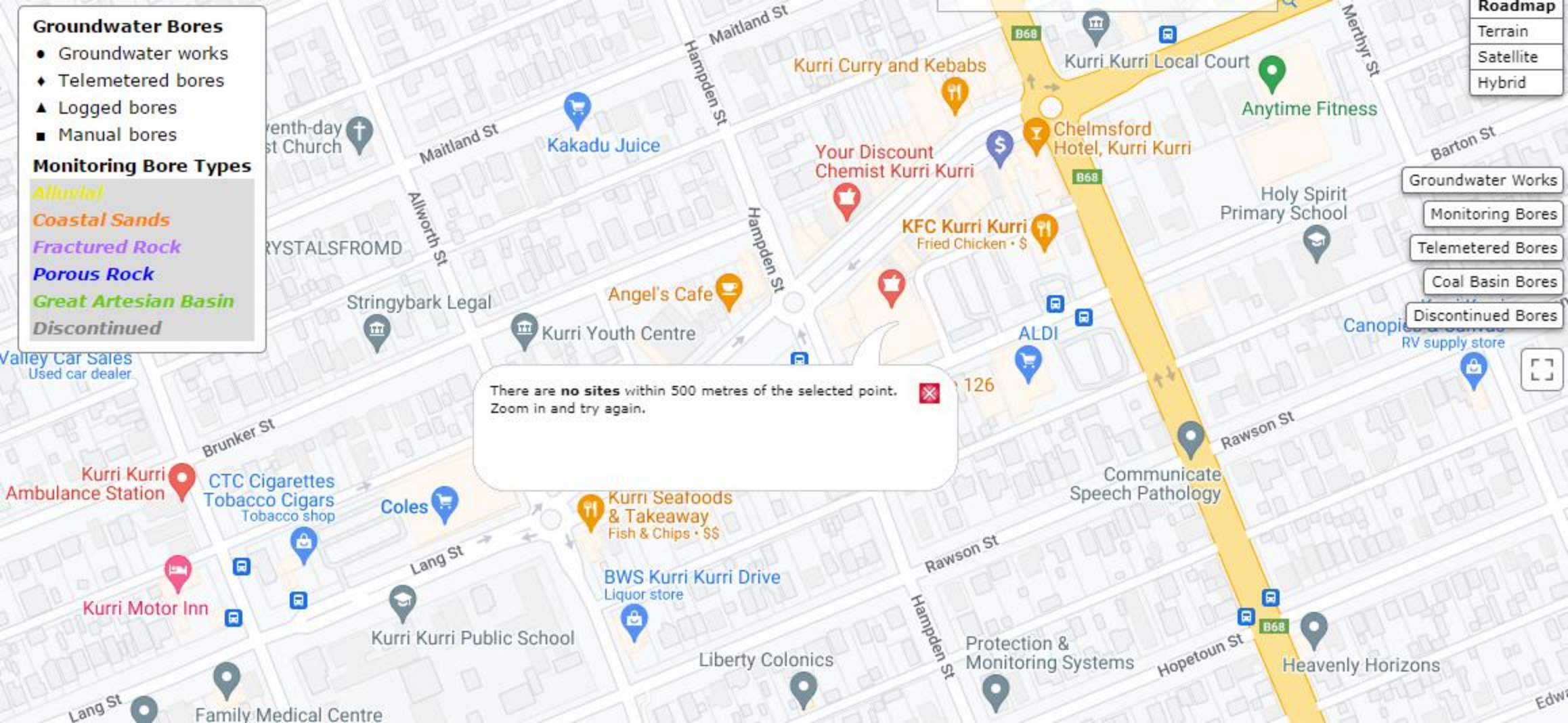
Groundwater Bore Search

Groundwater Bores

- Groundwater works
- ◆ Telemetered bores
- ▲ Logged bores
- Manual bores

Monitoring Bore Types

Alluvial
Coastal Sands
Fractured Rock
Porous Rock
Great Artesian Basin
Discontinued



APPENDIX C:

Historical Titles

ADVANCE LEGAL SEARCHERS PTY LTD

(ACN 147 943 842)

ABN 82 147 943 842

18/36 Osborne Road,
Manly NSW 2095

Mobile: 0412 169 809

Email: search@alsearchers.com.au

09th November, 2022

QUALTEST PTY LTD
2 Murray Dwyer Circuit,
MAYFIELD WEST, NSW 2304

Attention Tom Hall,

RE:

178 Lang Street,
Kurri Kurri
Purchase Order NEW22P- Kurri Kurri

Current Search

Folio Identifier 136/869710 (title attached)

DP 869710 (plan attached)

Dated 07th November, 2022

Registered Proprietor:

GEORGE VRACHLIOTIS

MARIA VRACHLIOTIS

VOTRAINT NO 124 PTY LIMITED (ACN 002 888 655)

Title Tree
Lot 136 DP 869710

Folio Identifier 136/869710

See Notes (a), (b), (c), (d), (e), (f), (g), (h) & (i)

(a)

Folio Identifier 21/544418

CTVol 11463 Folio 191

(b)

Folio Identifier 22/544418

CTVol 11463 Folio 192

(c)

Folio Identifier 1/702372

See Notes (ci), (cii) & (ciii)

Certificate of Title Volume 3893 Folio 34

(ci)

CTVol 11352 Folio 75

CTVol 3563 Folio 56

(cii)

CTVol 12897 Folio 223

CTVol 1875 Folio 114

(ciii)

CTVol 15202 Folio 154

Crown Land

(d)

Folio Identifier 2/702372

CTVol 12897 Folio 223

CTVol 1875 Folio 114

(e)

Folio Identifier 10/20/758590

CTVol 1481 Folio 30

(f)

Folio Identifier 11/20/758590

CTVol 1481 Folio 29

(g)	(h)	(i)
Folio Identifier 131/823720	Folio Identifier 133/823720	Folio Identifier 134/823720
Folio Identifier 13/20/758590	Folio Identifier 12/20/758590	CTVol 1875 Folio 114
CTVol 1540 Folio 138	CTVol 6425 Folio 156	****
****	****	

Index

T – Transfer
(L) – *Lease*
ND – Notice of Death
TA – Transmission Application
G – Grant

Summary of proprietor(s) Lot 136 DP 869710

Year	Proprietor(s)	
	(Lot 136 DP 869710)	
15 Nov 2021– todate	George Vrachliotis Maria Vrachliotis Votrait No 124 Pty Limited (ACN 002 888 655)	T
17 Apr 2009	George Vrachliotis Maria Vrachliotis Votrait No 124 Pty Limited (ACN 002 888 655) G & M Musumeci Pty Limited (ACN 001 382 725)	T
(12 Oct 2006 todate)	(various current leases shown on Folio Identifier 136/869710 (attached))	(L)
05 Aug 2003	George Vrachliotis Maria Vrachliotis Natasha Vrachliotis Votrait No 124 Pty Limited (ACN 002 888 655) G & M Musumeci Pty Limited (ACN 001 382 725)	T
13 Aug 2001	Jeffrey William Welbourne Joy Welbourne Kenneth Alexander Wilson Julie Patricia Wilson Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	T
28 Oct 1997	Max Christopher Donnelly Jeffrey William Welbourne Joy Welbourne Kenneth Alexander Wilson Julie Patricia Wilson Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	
28 Jul 1997	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	
(28 Jul 1997 todate)	(various leases shown on Historical Folio 136/869710 (attached))	(L)

See Notes (a), (b), (c), (d), (e), (f), (g), (h) & (i)

Note (a)

	(Lot 21 DP 544418)	
13 Mar 1995	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	
08 Dec 1989	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife	T
09 Apr 1988	Marnal Pty Limited	
	(Lot 21 DP 544418 – CTVol 11463 Fol 191)	
04 Sep 1985	Marnal Pty Limited	T
13 Feb 1985	Geoffrey Paul Williams	T
27 Jan 1971	Geoffrey Paul Williams, trainee mechanical engineer Maureen Williams, his wife	T
20 Nov 1970	Mary Scott, widow	
	(Part Allotment 1 Section 20 Town Kurri Kurri – Area 14 Perches – CTVol 3893 Fol 34)	
24 Feb 1970	Mary Scott, widow	ND
(20 Feb 1969 to 20 Feb 1970)	<i>(lease to William Peter Cleaves & John McIntosh Cleaves, solicitors of 172 Lang Street, Kurri Kurri)</i>	(L)
04 Oct 1955	John Scott, café proprietor Mary Scott, his wife	T
24 Nov 1953	Nellie Brian, wife of John Brian, loco cleaner	T
03 Feb 1950	Harold George Ward, storekeeper	T
13 Jan 1948	Charles Jenkins, miner Bronwyn June Dalton, wife of Paul Dalton, shop assistant Mary Stevens, wife of James Stevens, electrician	TA
29 Jul 1926	Ishmael James Jones, fruiterer	T

Note (b)

	(Lot 22 DP 544418)	
13 Mar 1995	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	T
13 Mar 1995	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Gartrom Pty Ltd (ACN 003 684 393)	T
15 Jul 1992	Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife	T
28 Mar 1988	William Peter Cleaves, solicitor	
(28 Mar 1988 to 28 Jul 1997)	(various leases shown on Historical Folio 22/544418 (attached))	(L)
	(Lot 22 DP 544418 – CTVol 11463 Fol 192)	
10 Dec 1982	William Peter Cleaves, solicitor	T
08 Nov 1971	William Peter Cleaves, solicitor David McIntosh Cleaves, article clerk	T
19 Jul 1971	Vincent St Holdings Pty Ltd	T
29 Jan 1971	J Coddington Pty Limited	T
20 Nov 1970	Mary Scott, widow	
	(Part Allotment 1 Section 20 Town Kurri Kurri – Area 14 Perches – CTVol 3893 Fol 34)	
24 Feb 1970	Mary Scott, widow	ND
(20 Feb 1969 to 20 Feb 1970)	(lease to William Peter Cleaves & John McIntosh Cleaves, solicitors of 172 Lang Street, Kurri Kurri)	(L)
04 Oct 1955	John Scott, café proprietor Mary Scott, his wife	T
24 Nov 1953	Nellie Brian, wife of John Brian, loco cleaner	T
03 Feb 1950	Harold George Ward, storekeeper	T
13 Jan 1948	Charles Jenkins, miner Bronwyn June Dalton, wife of Paul Dalton, shop assistant Mary Stevens, wife of James Stevens, electrician	TA
29 Jul 1926	Ishmael James Jones, fruiterer	T

Note (c)

	(Lot 1 DP 702372)	
13 Mar 1995	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (<i>ACN 065 543 332</i>)	T
08 Dec 1989	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife	T
21 Jan 1985	Marnal Pty Limited	
28 Jun 1984	Sanrij Pty Limited	T
29 Mar 1984	The Council of the City of Greater Cessnock	
(29 Mar 1984 to 28 Jul 1997)	(various leases shown on Historical Folio 1/702372)	(L)

See Notes (ci), (cii) & (ciii)

Note (ci)

	(Allotment 15 Section 20 Town Kurri Kurri – CTVol 11352 Fol 75)	
12 Apr 1975	The Council of the City of Greater Cessnock	T
01 Jul 1970	Woolworths Properties Limited	T
	(Allotment 15 Section 20 Town Kurri Kurri – Area 1 Rood – CTVol 3563 Fol 56)	
25 May 1926	Kurri Kurri and South Maitland Amusement Company Limited	T
<i>(12 Aug 1931 to 16 Jun 1970)</i>	<i>(lease to Greater Union Theatres Pty Limited)</i>	<i>(L)</i>
26 Feb 1924	Peter Olsson, showman	

Note (cii)

	(Allotment 14 Section 20 Town Kurri Kurri – CTVol 12897 Fol 223)	
14 Oct 1975	The Council of the City of Greater Cessnock	T
	(Allotment 14 Section 20 Town Kurri Kurri – Area 1 Rood – CTVol 1875 Fol 114)	
16 Jun 1970	Woolworths Properties Limited	T
25 May 1926	Kurri Kurri and South Maitland Amusement Company Limited	T
21 Nov 1918	Peter Olsson, showman	T

Note (ciii)

	(Lot 805 DP 46788 – CTVol 15202 Fol 154)	
20 Mar 1984	The Council of the City of Greater Cessnock	T
	(Crown Lane – Town Kurri Kurri)	
Prior to 20 Mar 1984	Crown Lane	

Note (d)

	(Lot 2 DP 702372)	
13 Mar 1995	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	T
08 Dec 1989	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife	T
21 Jan 1985	Marnal Pty Limited	
28 Jun 1984	Sanrij Pty Limited	T
29 Mar 1984	The Council of the City of Greater Cessnock	
(29 Mar 1984 to 28 Jul 1997)	(various leases shown on Historical Folio 2/702372 (attached))	(L)
	(Allotment 14 Section 20 Town Kurri Kurri – CTVol 12897 Fol 223)	
14 Oct 1975	The Council of the City of Greater Cessnock	T
	(Allotment 14 Section 20 Town Kurri Kurri – Area 1 Rood – CTVol 1875 Fol 114)	
16 Jun 1970	Woolworths Properties Limited	T
25 May 1926	Kurri Kurri and South Maitland Amusement Company Limited	T
21 Nov 1918	Peter Olsson, showman	T

Note (e)

	(Lot 10 Section 20 DP 758590)	
13 Mar 1995	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	
19 Jul 1991	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife	
(19 Jul 1991 to 28 Jul 1997)	(various leases shown on Historical Folio 10/20/758590)	(L)
	(Allotment 10 Section 20 Town Kurri Kurri – Area 1 Rood CTVol 1481 Fol 30)	
19 Jul 1991	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife	T
20 Jun 1986	Marnal Pty Limited	T
08 Sep 1980	Alan Thomas Geary, driveway attendant	T
13 Aug 1974	Agnes Bailey, widow	ND
29 Oct 1962	Frederick Bailey, tester Agnes Bailey, his wife	T
29 Mar 1955	Raymond Lovell Gorton, departmental manager Maude Hanna Gorton, his wife	T
07 Mar 1949	Henry Robertson Smith, miner	ND
13 Sep 1924	Henry Robertson Smith, miner Annie Smith, his wife	T
29 Jul 1903	John Henry Roberts, miner / grantee	G

Note (f)

	(Lot 11 Section 20 DP 758590)	
13 Mar 1995	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	T
13 Mar 1995	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Gartrom Pty Ltd (ACN 003 684 393)	T
(19 Jul 1991 to 28 Jul 1997)	(various leases shown on Historical Folio 11/20/758590)	(L)
	(Allotment 11 Section 20 Town Kurri Kurri – Area 1 Rood CTVol 1481 Fol 29)	
05 Nov 1992	Gartrom Pty Limited	T
05 Dec 1983	Jean Margretta Knott, widow	ND
05 May 1947	Henry Knott, bricklayer Jean Margretta Knott, his wife	T
21 Oct 1913	William Henry Stallard, dentist	T
29 Jul 1903	Isaac Pryor, miner / grantee	G

Note (g)

	(Lot 131 DP 823720)	
20 Apr 1994	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	
(19 Jul 1991 to 28 Jul 1997)	(various leases shown on Historical Folio)	(L)
	(Lot 13 Section 20 DP 758590)	
13 Mar 1994	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	T
13 Mar 1994	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Gartrom Pty Ltd (ACN 003 684 393)	T
09 Apr 1990	Gartrom Pty Limited	
	(Allotment 13 Section 20 Town Kurri Kurri – Area 1 Rood CTVol 1540 Fol 138)	
28 Aug 1989	Gartrom Pty Limited	T
15 Nov 1988	Graeme Robert Linn Phillip William Hill	TA
09 Jun 1944	William Thomas Hall, garage proprietor	T
23 Mar 1918	Joshua Jenkins, engine driver	T
04 Jul 1913	Frederick Percival, miner	T
24 Jun 1904	Lilian Mary Edye, spinster / grantee	G

Note (h)

	(Lot 133 DP 823720)	
20 Apr 1994	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (<i>ACN 065 543 332</i>)	
	(Lot 12 Section 20 DP 758590)	
20 Apr 1994	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (<i>ACN 065 543 332</i>)	T
09 Apr 1988	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife	
	(Allotment 12 Section 20 Town Kurri Kurri – Area 1 Rood CTVol 6425 Fol 156)	
23 Sep 1992	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife	T
22 Aug 1990	Marnal Pty Limited	T
13 Jan 1972	Ronald Bailey, butcher	ND
08 Jan 1952	Ronald Bailey, butcher Edith Matilda Bailey, his wife	T
17 Dec 1951	Matthew Thomas Barker, weaver	T

Cont.

Cont.

	(Allotment 12 Section 20 Town Kurri Kurri – Area 1 Rood CTVol 1479 Fol 244)	
13 Apr 1948	Matthew Thomas Barker, poultry farmer	T
12 Dec 1947	Lillian May Paul, widow	ND
18 Jan 1938	Albert Matthew Paul, haulage driver Lillian May Paul, his wife	T
18 Jan 1938	Albert Henry Paul, deputy	ND
23 Mar 1927	Albert Henry Paul, deputy Ellen Matilda Paul, his wife	T
22 Feb 1922	James Barrass Hestelow, clerk	T

Note (i)

	(Lot 134 DP 823720)	
29 Jan 1997	Jeffrey William Welbourne, butcher Joy Welbourne, his wife Kenneth Alexander Wilson, pharmacist Julie Patricia Wilson, his wife Ronald William Evans, business proprietor Pamela Evans, his wife Vicbar (Kingsway Plaza) Pty Ltd (ACN 065 543 332)	T
15 May 1995	Council of the City of Greater Cessnock	
	(Allotment 14 Section 20 Town Kurri Kurri – CTVol 12897 Fol 223)	
14 Oct 1975	Council of the City of Greater Cessnock	
	(Allotment 14 Section 20 Town Kurri Kurri – Area 1 Rood – CTVol 1875 Fol 114)	
16 Jun 1970	Woolworths Properties Limited	T
25 May 1926	Kurri Kurri and South Maitland Amusement Company Limited	T
21 Nov 1918	Peter Olsson, showman	T
03 Nov 1915	George Hooper, hotel keeper	T
19 May 1908	Patrick John Stephen, methodist minister / grantee	G



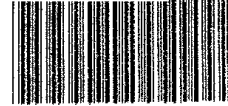
	Status	Surv/Comp	Purpose
DP382609			
Lot(s): 1			
 DP1017642	REGISTERED	COMPILATION	EASEMENT
DP727313			
Lot(s): 1			
 DP1017642	REGISTERED	COMPILATION	EASEMENT
DP758590			
Lot(s): 9 Section : 20			
 DP268852	REGISTERED	SURVEY	EASEMENT
DP1108272			
Lot(s): 190			
 PART SECTION 19 DP758590 (PUBLIC RESERVE) - SEE CROWN PLAN 21-2894			
 CA103408 - LOT 190 DP1108272			
DP1138423			
Lot(s): 21, 22			
 DP500024	HISTORICAL	COMPILATION	SUBDIVISION
 CA88263 - LOT 2 DP500024			
Lot(s): 21			
 CA105914 - LOT 1 DP500024			
 CA111576 - NPW			
DP1150703			
Lot(s): 678			
 DP623730	HISTORICAL	COMPILATION	CONSOLIDATION
 DP758590	HISTORICAL	COMPILATION	CROWN ADMIN NO.
DP1241594			
Lot(s): 9, 10			
 DP234610	HISTORICAL	SURVEY	SUBDIVISION
SP85348			
 DP310996	HISTORICAL	SURVEY	UNRESEARCHED
 DP317794	HISTORICAL	SURVEY	UNRESEARCHED
 DP1104067	HISTORICAL	SURVEY	CONSOLIDATION
SP92468			
 DP758590	HISTORICAL	COMPILATION	CROWN ADMIN NO.
 DP1208802	HISTORICAL	SURVEY	REDEFINITION
Road			
Polygon Id(s): 105582533			
 EX-SUR 11/02 DP1162682			

Caution: This information is provided as a searching aid only. Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For **ALL ACTIVITY PRIOR TO SEPTEMBER 2002** you must refer to the RGs Charting and Reference Maps.

Plan	Surv/Comp	Purpose
DP90354	SURVEY	UNRESEARCHED
DP100531	COMPILATION	UNRESEARCHED
DP104578	COMPILATION	UNRESEARCHED
DP112585	COMPILATION	DEPARTMENTAL
DP302885	COMPILATION	UNRESEARCHED
DP307472	SURVEY	UNRESEARCHED
DP308831	COMPILATION	UNRESEARCHED
DP310996	SURVEY	UNRESEARCHED
DP312438	COMPILATION	UNRESEARCHED
DP320213	SURVEY	UNRESEARCHED
DP356676	SURVEY	UNRESEARCHED
DP373375	SURVEY	UNRESEARCHED
DP378653	SURVEY	UNRESEARCHED
DP380123	SURVEY	UNRESEARCHED
DP382609	SURVEY	UNRESEARCHED
DP401071	SURVEY	UNRESEARCHED
DP544418	SURVEY	SUBDIVISION
DP557948	SURVEY	SUBDIVISION
DP576121	COMPILATION	DEPARTMENTAL
DP588256	SURVEY	SUBDIVISION
DP667057	COMPILATION	DEPARTMENTAL
DP667803	COMPILATION	DEPARTMENTAL
DP668734	COMPILATION	DEPARTMENTAL
DP712723	SURVEY	SUBDIVISION
DP720686	COMPILATION	CROWN FOLIO CREATION
DP726847	COMPILATION	DEPARTMENTAL
DP727313	COMPILATION	DEPARTMENTAL
DP730855	COMPILATION	CONSOLIDATION
DP758590	COMPILATION	CROWN ADMIN NO.
DP775789	SURVEY	SUBDIVISION
DP834057	SURVEY	SUBDIVISION
DP869710	SURVEY	CONSOLIDATION
DP876096	SURVEY	SUBDIVISION
DP880701	SURVEY	SUBDIVISION
DP928564	COMPILATION	UNRESEARCHED
DP932339	COMPILATION	UNRESEARCHED
DP933324	SURVEY	UNRESEARCHED
DP935166	COMPILATION	UNRESEARCHED
DP938743	COMPILATION	UNRESEARCHED
DP966659	COMPILATION	UNRESEARCHED
DP973145	COMPILATION	UNRESEARCHED
DP1048289	COMPILATION	DEPARTMENTAL
DP1108272	COMPILATION	LIMITED FOLIO CREATION
DP1126263	COMPILATION	DEPARTMENTAL
DP1138423	SURVEY	SUBDIVISION
DP1150703	SURVEY	CONSOLIDATION
DP1241594	SURVEY	SUBDIVISION
DP1241594	UNRESEARCHED	SUBDIVISION
SP50450	COMPILATION	STRATA PLAN
SP53536	COMPILATION	STRATA PLAN
SP85348	COMPILATION	STRATA PLAN
SP92468	COMPILATION	STRATA PLAN

Caution: This information is provided as a searching aid only. Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For **ALL**

ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps.



11463-192

NEW SOUTH WALES

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.

Crown Grant Vol.1794 Fol.13

Prior Title Vol.3893 Fol.34

Vol. **11463** Fol. **192**

Ed. 11463-192-1970

CANCELLED



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.

SEE AUTO FOLIO

Witness

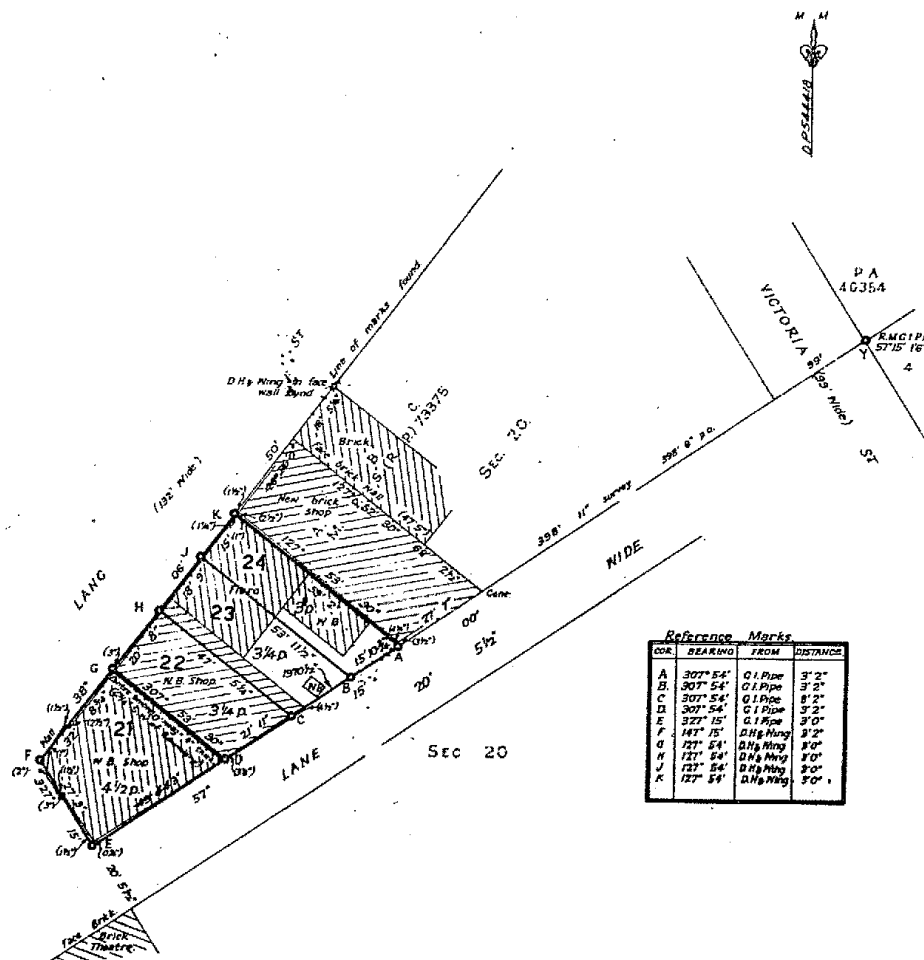
Barnes

Jawatson

Registrar General.



PLAN SHOWING LOCATION OF LAND



Reference Marks			
COR.	BEARING	FROM	DISTANCE
A	307° 54'	G.I. Pipe	3' 2"
B	307° 54'	G.I. Pipe	3' 2"
C	307° 54'	G.I. Pipe	8' 2"
D	307° 54'	G.I. Pipe	3' 2"
E	327° 15'	G.I. Pipe	3' 0"
F	147° 15'	D.H. Wing	3' 2"
G	121° 54'	D.H. Wing	3' 0"
H	121° 54'	D.H. Wing	3' 0"
I	121° 54'	D.H. Wing	3' 0"
J	121° 54'	D.H. Wing	3' 0"
K	121° 54'	D.H. Wing	3' 0"

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot **22** in Deposited Plan 544418 at Kurri Kurri in the City of Greater Cessnock Parish of Heddon and County of Northumberland. EXCEPTING THEREOUT the land below a depth of 50 feet from the surface and the minerals reserved by the Crown Grant.

FIRST SCHEDULE

~~MARY SCOTT of Newcastle, Widow.~~

SECOND SCHEDULE

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

Jawatson

Registrar General

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

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

V. G. N. BLIGHT, GOVERNMENT PRINTER

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT		ENTERED	Signature of Registrar-General
	NATURE	NUMBER	DATE	
J. Cordellington Pty. Limited Vincent Aff Holdings Pty Ltd William Peter Cleaves of Hamilton, Solicitor, and David McIntosh Cleaves of Glenloch, Articled Clerk, as tenants in common in equal shares. William Peter Cleaves by Transfer T340509. Registered 10-12-1982.	Transfer	M18890	1-10-1970	
	Transfer	M1344683	27-4-1971	
	Transfer	M188612	1-7-1971	

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

PARTICULARS	INSTRUMENT		ENTERED	Signature of Registrar-General	CANCELLATION
	NATURE	NUMBER	DATE		
To Bank of New South Wales to Bank of New South Wales to Bank of New South Wales Registered 10-12-1982 Registered 14-3-1988.	Mortgage	M18890	27-7-1971		Discharged M1344683
	Mortgage	M1344683	27-4-1971		Discharged M188612
	Mortgage	M188612	1-7-1971		Discharged X245018

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

NEW SOUTH WALES

CATE OF TITLE
RTY ACT, 1900, as amended.



11352075



Vol. **11352** Fol. **75**

Edition Issued 1-7-1970

L833204

Crown Grant Vol.1937 Fol. 46

Prior Title Vol.3963 Fol. 56

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.

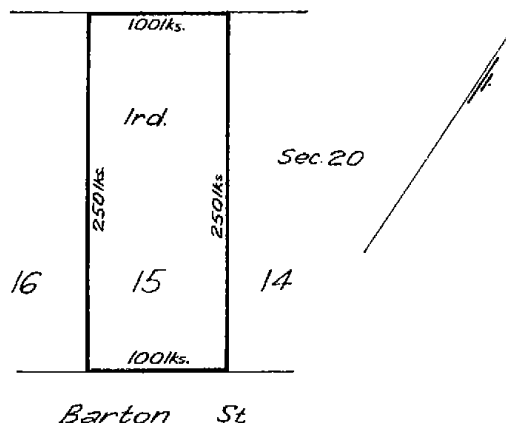
Witness

Barnes

J. J. Jackson
Registrar General.



PLAN SHOWING LOCATION OF LAND



L833204 *hch*

Scale: 1 chain to one inch

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Allotment 15 of Section 20 in the Town of Kurri Kurri in the Shire of Greater Cessnock Parish of Heddon and County of Northumberland. EXCEPTING THEREOUT the land below a depth of 50 feet from the surface and the minerals reserved by the Crown Grant.

FIRST SCHEDULE

~~WOOLWORTHS PROPERTIES LIMITED.~~

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Covenants created by Deed dated 20-6-1912 and Transfer No.L833204.

J. J. Jackson
Registrar General.

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

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



11463191

NEW SOUTH WALES

CERTIFICATE OF TITLE

PROPERTY ACT, 1900, as amended.

Crown Grant Vol.1794 Fol.13

Prior Title Vol.3893 Fol.34

Vol. 11463 Fol. 191

CANCELLED Issued 10-11-1970



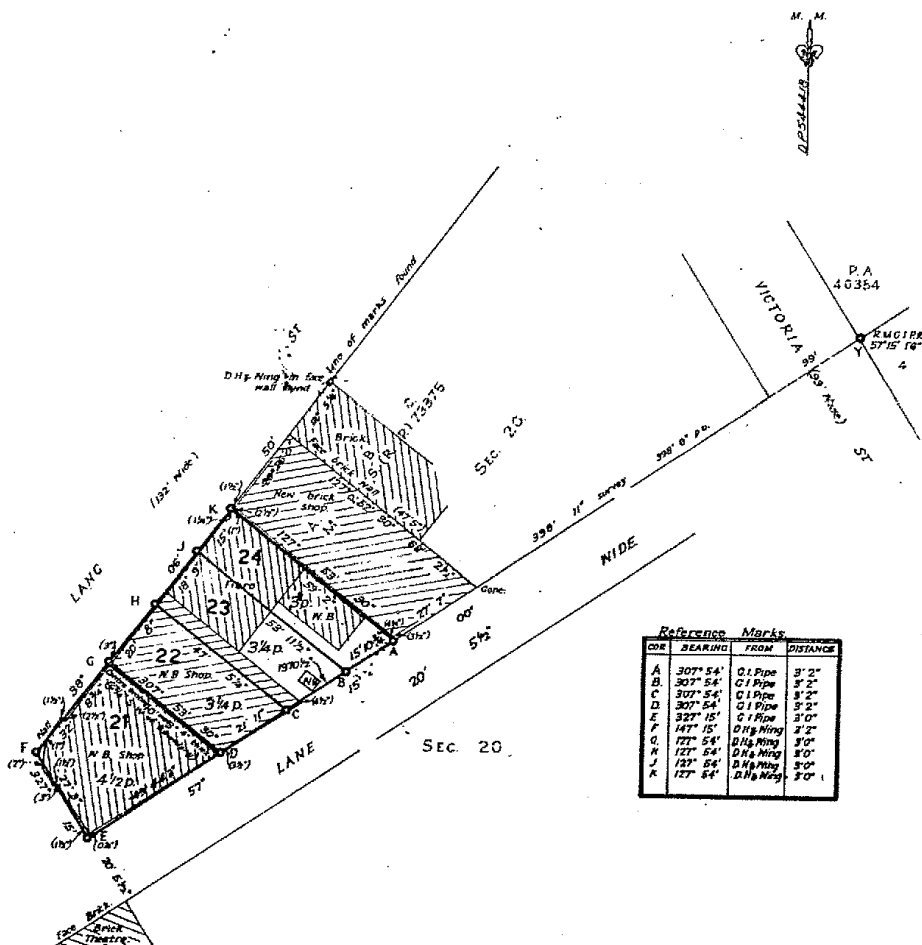
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness *Garnes*

Lawton
 Registrar General.



PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 21 in Deposited Plan 544418 at Kurri Kurri in the City of Greater Cessnock Parish of Heddon and County of Northumberland. EXCEPTING THEREOUT the land below a depth of 50 feet from the surface and the minerals reserved by the Crown Grant.

FIRST SCHEDULE

MARY SCOTT of Newcastle, Widow.

SECOND SCHEDULE

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

Lawton
 Registrar General

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

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

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

(Page 1) Vol. 11463 Fol. 191

L. C. K. BLIGHT, GOVERNMENT PRINTER

FIRST SCHEDULE (continued).

REGISTERED PROPRIETOR

Jeffrey Paul Williams of Harrisburg, Treves Mechanical
Engineer and Maurice Williams, his wife, as joint tenants

~~Geoffrey Paul Williams by Transfer V550370 Registered 13.2.19~~

Marnal Pty. Limited by Transfer V909396. Registered 4-9-1985

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)[illegible]

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

21020:1290C46



12897223

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

(Page 1) Vol. 12897 Fol. 223

NEW SOUTH WALES

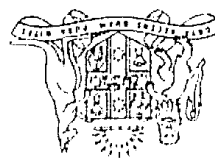
Prior Title (Crown Grant)
Vol. 1875 Fol. 114

M. PROPERTY ACT, 1900

CIFICATE OF TITLE

CANCELLED

Vol. 12897 Fol. 223
EDITION ISSUED
14 10 1975



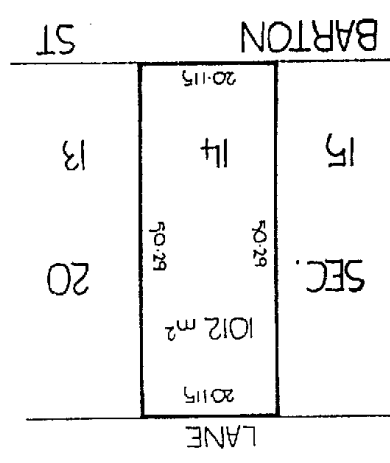
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



REDUCTION RATIO 1:800

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Allotment 14 of Section 20 in the Town of Kurri Kurri City of Greater Cessnock Parish of Haddon and County of Northumberland. EXCEPTING THEREOUT the land below a depth of 15.24 metres wide from the surface and the minerals reserved by the Crown Grant.

FIRST SCHEDULE

COUNCIL OF THE CITY OF GREATER CESSNOCK.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Covenant created by Transfer No. 1833204.

15

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

DP 702372
 Registered 27-3-1995
 0204882

FIRST SCHEDULE (continued)					
REGISTERED PROPRIETOR		INSTRUMENT		ENTERED	Signature of Registrar General
NATURE	NUMBER	DATE			
DP 702372 Registered 28-3-1984 This folio is cancelled as to whole part upon creation of computer folios for lots 1-51 in the aforementioned plan. The residue of land in this folio comprises Road shown in DP 702372 <i>[Signature]</i> REGISTRAR GENERAL <i>[Seal]</i> PESSIMON CITY COUNCIL AS BEING THE RESIDUE BEING LOT 134 IN DP 823720 BY AMALCOTTON D 204882. REGISTERED 15-5-1995					

SECOND SCHEDULE (continued)					
INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
NATURE	NUMBER				
D.P. 702372	The interest of the council of the City of Greater Geelong in the new road shown on D.P. 702372	AMALCOTTON	27-3-84	<i>[Signature]</i> <i>[Seal]</i>	
0204882	The residue being Lot 134 in DP 823720 & New Road (New Road) being 134/823720.				
	Registered 15-5-1995				

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



CIFICATE OF TITLE

L PROPERTY ACT, 1900



15202154

NEW SOUTH WALES

First Title This Folio

Prior Title Crown Land (FI 64720)



Vol. 15202 Fol. 154

EDITION ISSUED

20 3 1984

I certify that the person named in the First Schedule is the registered proprietor of an estate in fee simple (or such other estate or interest as is set out below) in the land described subject to the recordings appearing in the Second Schedule and to the provisions of the Real Property Act, 1900.

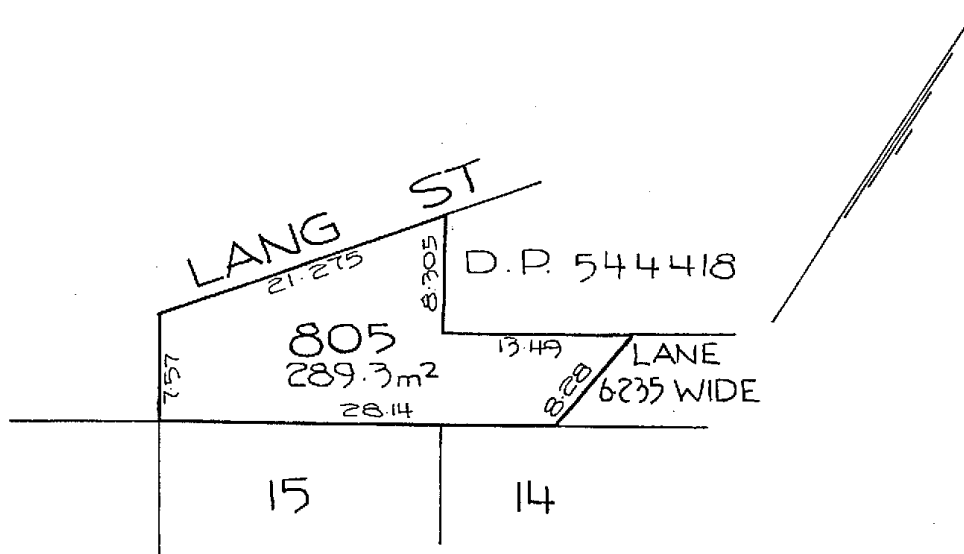
[Signature]

Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



LAND REFERRED TO

Lot 805 in Deposited Plan 46788 at Kurri Kurri in the City of Greater Cessnock Parish of Heddon County of Northumberland.

FIRST SCHEDULE

THE COUNCIL OF THE CITY OF GREATER CESSNOCK.

SECOND SCHEDULE

1. Land excludes minerals and is subject to reservations and conditions in favour of the Crown - see Memorandum S700000A.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
(Page 1) Vol. 15202 Fol. 154

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

DP 702372
Registered 27-3-84

DP 702372

NOTATIONS AND UNREGISTERED DEALINGS

	D.P. 702372 The interest of the Council of the City of Greater Geelong in the addition to existing read shown on D.P. 702372. Registered 27-3-84
--	---

SECOND SCHEDULE (continued)
PARTICULARS
Registrar General CANCELLATION

REGISTERED PROPRIETOR (continued) Registrar General	DP/SP 702372 Registered 28-3-1984 This folio is cancelled as to whole/ part upon creation in the of computer folios for lots 1 & 2 above mentioned plan. Registrar General. The residue of land in this folio comprises read shown in DP 702372 REGISTRAR GENERAL
---	---

97-01T

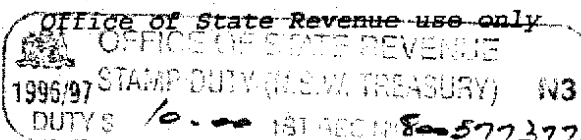
006CN/0307/95

TRANSFER

Real Property Act, 1900



2793838 J



(A) **LAND TRANSFERRED**

Show no more than 20
References to Title.
If appropriate, specify
the share transferred.

Identifier 134/823720

(B) **LODGED BY**

L.T.O.Box Name, Address or DX and Telephone

35D

MORRIS, HAYES & EDGAR

LAW STATIONERS

74 CASTLEREAGH ST., SYDNEY

DX 420

232 2411

REFERENCE (max. 15 characters) (1) 881592 LOCKHART

(C) **TRANSFEROR**

COUNCIL OF THE CITY OF CESSNOCK

(D) acknowledges receipt of the consideration of \$1.00

and as regards the land specified above transfers to the Transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1 2 3

(F) **TRANSFeree**

T
TS
(s713LGA)

TW
(Sheriff)

KENNETH ALEXANDER WILSON & JULIE PATRICIA WILSON as Joint
tenants in 1/4 share; JEFFREY WILLIAM WELBOURNE & JOY
WELBOURNE as Joint tenants in 1/4 share; RONALD WILLIAM
EVANS & PAMELA EVANS As Joint Tenants in 1/4 share & VICAR
TENANCY (KINGSWAY PLAZA) PTY. LIMITED (ACN 065 542 332)
in 1/4 share TENANCY AS TENANTS IN COMMON

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900.

DATED .21.MAY.1996.....

~~Signed in my presence by the Transferor who is personally known to me.~~
THE COMMON SEAL of the COUNCIL OF THE CITY OF
CESSNOCK WAS hereto affixed this 1st day of
May 1996 in pursuance of a Resolution of the
Signature of Witness
Council passed on the day of
1996

Name of Witness (BLOCK LETTERS)

Address of Witness

MAYOR

Signed in my presence by the Transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferor

GENERAL MANAGER

Signature of Transferee's Solicitor
JOHN PATRICK QUINN

CHECKED BY (office use only)

Reg 45
(SA)

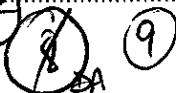
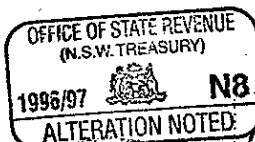
97-01T

TRANSFER

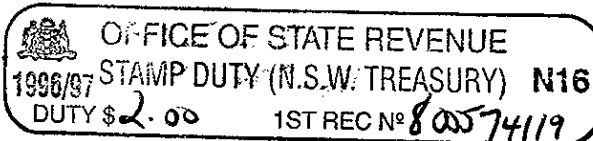
Real Property Act, 1900



3531031 Y

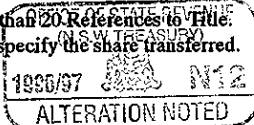


Office of State Revenue use only

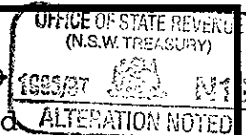


(A) LAND TRANSFERRED

Show no more than 20 References to Title.
If appropriate, specify the share transferred.



1/702372, 2/702372, 21/544418, 22/544418,
10/20/758590, 11/20/758590, ~~12/20/758590~~ AND
~~13/20/758590~~ 131/823720, 133/823720 and
134/823720 NOW BEING THE LAND IN FL 136/869710



(B) LODGED BY



L.T.O. Box

33H

Name, Address or DX and Telephone

THOMAS KENYON & SON

DX 435 SYDNEY

PHONE: (02) 283 1706

REFERENCE (max. 15 characters):

51-WELBOURNE

(C) TRANSFEROR

KENNETH ALEXANDER WILSON & JULIE PATRICIA WILSON as to a 0.5% share, RONALD WILLIAM EVANS & PAMELA EVANS as to a 2% share & VICBAR (KINGSWAY PLAZA) PTY LTD as to a 0.5% share

(D) acknowledges receipt of the consideration of \$120,000.00

and as regards the land specified above transfers to the Transferee an estate in fee simple

(E) subject to the following ENCUMBRANCES 1. 0 67896 2. 3.

(F) TRANSFEE

T
TS
(s713 LGA)
TW
(Sheriff)

JEFFREY WILLIAM WELBOURNE and JOY WELBOURNE

(G) TENANCY: As Joint Tenants

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900.

DATED 13.3.1996

Signed in my presence by the Transferor who is personally known to me.

Signature of Witness
JOHN PATRICK QUINN
5 LIBRARY LANE
Name of Witness (BLOCK LETTERS)
CHARLESTOWN
SOLICITOR
Address of Witness

Signature of Transferor

Please see Annexure "A"

Signed in my presence by the Transferee who is personally known to me.

Signature of Witness
JOHN PATRICK QUINN
5 LIBRARY LANE
Name of Witness (BLOCK LETTERS)
CHARLESTOWN
SOLICITOR
Address of Witness

Signature of Transferee

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

THIS IS THE ANNEXURE "A" REFERRED TO IN THE TRANSFER OF KENNETH
ALEXANDER WILSON & JULIEPATRICIA WILSON, RONALD WILLIAM EVANS &
PAMELA EVANS & VICBAR [KINGSWAY PLAZA] PTY LTD AS TRANSFEROR AND
JEFFREY WILLIAM WELBOURNE & JOY WELBOURNE AS TRANSFEREE

Signed in my presence by the Transferor who
is personally known to me

.....
Signature of Witness

JOHN PATRICK QUINN

5 LIBRARY LANE

.....
Name of Witness [BLOCK LETTERS]
SOLICITOR

.....
Address of Witness

Pam Evans

R.W. Evans

.....
Signature of Transferor

The Common Seal of VICBAR [KINGSWAY
PLAZA] PTY LTD [ACN 065 542 332]
was hereunto affixed by authority
of the Board of Directors made in
accordance with the Articles of
Association in the presence of:



.....
Secretary

Westpac Banking Corporation

ARBN 007 457 141
First Bank in Australia

NSW Service Centre
7 King Street
Concord West NSW 2138

Telephone: (02) 9767-0000
Facsimile: (02) 9767-0612
Our Ref: Z91180896/Sasho
Your Ref: John Quin

Land Titles Office

1 October 1997

To Whom it May Concern,

**RE: Evan, Wilson and Vicbar [Kingsway Plaza] Pty. Ltd. Transfer to
Welbourne**

We hereby authorise Hills Solicitors to link up registration of Transfer of Certificate of Title; Folio Identifier 136/869710 currently held at your office for production.

Thankyou for your assistance with the matter.

Should you have any further enquires please do not hesitate to contact me on (02) 9767 0308.

Yours faithfully,



Greg Hearne
Quality Assurance Officer

*Certificate of title is produced for the
Registration of leases and a sub-lease.
Due to lodgement of this letter the
transfer has been registered and the
title returned to 37Y Reg 36 / 28/10/97*

DO NOT USE BOTH SIDES OF THE FORM

[illegible][illegible]

Form: 97-01T
 Licence: 10V/0096/96
 Edition: 9804

TRANSFER

New South Wales
 Real Property Act 1900

7844766C**STAMP DUTY**

Office of State Revenue use only

NEW SOUTH WALES DUTY

27-07-2001

0000693524-001

SECTION 18(2)

DUTY

\$ *****2.00

(A) TORRENS TITLE

If appropriate, specify the part or share transferred

136/869710

(B) LODGED BY

LTO Box

Name, Address or DX and Telephone

35D

MORRIS, HAYES & EDGAR

DX 420 SYDNEY PH: 9232-2411 AGENTS FOR

Reference (optional):

CODEST
TS (s713)

TW (Sheriff)

(C) TRANSFEROR

MAX CHRISTOPHER DONNELLY

(D)

The transferor acknowledges receipt of the consideration of \$ 22,500.00 and as regards the land specified above transfers to the transferee an estate in fee simple.

(E)

Encumbrances (if applicable): 1. 6452053 2. 3.

(F) TRANSFEE

KENNETH ALEXANDER WILSON and JULIE PATRICIA WILSON as joint tenants as to a 77/1000 share as tenants in common, JEFFREY WILLIAM WELBOURNE and JOY WELBOURNE as joint tenants as to a 77/1000 share as tenants in common and VICBAR (KINGSWAY PLAZA) PTY. LTD. (A.C.N. 065 542 332) as to a 76/1000 share as tenant in common

(G)**TENANCY:****(H)** We certify this dealing correct for the purposes of the Real Property Act 1900.**DATE:** 28 JUNE 2001

Signed in my presence by the transferor who is personally known to me.

Signature of witness:

A. Gallucci

Signature of transferor:

Name of witness:

ANGELA GALLUCCI

Address of witness:

17/2 Market St.,
Sydney 2000.

Signed in my presence by the transferee who is personally known to me.

Signature of witness:

Signature of transferee:

Name of witness:

Address of witness:

If signed on the transferee's behalf by a solicitor or licensed conveyancer, show the signatory's full name and capacity below:

JOHN PATRICK QUINN - SOLICITOR

All handwriting must be in block capitals.

A set of notes on this form (97-01T-2)
 is available from the Land Titles Office.

Page 1 of 1
 number additional pages sequentially

Checked by (LTO use):

83

Form: 01T
Release: 2.1
www.lpi.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900



9758126V

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

STAMP DUTY

Office of State Revenue use only

NEW SOUTH WALES DUTY

04-07-2003

0001260924-001

SECTION 18(2)

DUTY

***2.00

(A) TORRENS TITLE

F I 136/869710

(B) LODGED BY

Delivery
Box

Name, Address or DX and Telephone

CREAGH + CREAGH

222E

Reference:

CODES

T

TW

(Sheriff)

(C) TRANSFEROR

Jeffrey William Welbourne, Joy Welbourne, Kenneth Alexander Wilson,
Julie Patricia Wilson, Vicbar (Kingsway Plaza) Pty Ltd [ACN 065 543 332]

(D) CONSIDERATION The transferor acknowledges receipt of the consideration of \$ 3,400,000.00 and as regards

(E) ESTATE the land specified above transfers to the transferee an estate in fee simple

**(F) SHARE
TRANSFERRED**

(G) Encumbrances (if applicable):

(H) TRANSFEE

George Vrachliotis, Maria Vrachliotis and Natasha Vrachliotis as
tenants-in-common of a one third share, Votaint No 124 Pty Limited [ACN
002 888 655] as to a one third share, and G & M Musumeci Pty Limited
[ACN 001 382 725] as to a one third share

(I) TENANCY: Tenants in Common

(J) DATE 16 December 2002

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:

Address of witness:

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

Signature of transferor:

As to Execution by the Transferor
please refer to the Annexure "A" hereto.

Certified for the purposes of the Real Property Act
1900 by the person whose signature appears below.

Signature:

Signatory's name:

GRAEME JOHN ROSS

Signatory's capacity:

transferees' solicitor

All handwriting must be in block capitals.

Page 1 of 3
number additional
pages sequentially

Land and Property Information NSW.

17

THIS IS THE ANNEXURE "A" REFERRED TO IN TRANSFER MADE BETWEEN KENNETH ALEXANDER WILSON, JULIE PATRICIA WILSON, JEFFREY WILLIAM WELBOURNE, JOY WELBOURNE, AND VICBAR [KINGSWAY PLAZA] PTY. LTD. [A.C.N. 065 542 332] AS TRANSFEROR OF THE ONE PART AND GEORGE VRACHLIOTIS, MARIA VRACHLIOTIS, NATASHA VRACHLIOTIS, VOTRAINT NO. 124 PTY. LIMITED [A.C.N. 002 888 655] AND G. & M. MUSUMECI PTY. LIMITED [A.C.N. 001 382 725] AS TRANSFEREE OF THE OTHER PART

I certify that the person 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: *K. Dobing*

Name of Witness: Karen Dobing

Address of Witness:
15 Bloomfield St. Stanford Merthyr

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

Signature of Transferor:
KENNETH ALEXANDER WILSON



I certify that the person 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: *K. Dobing*

Name of Witness: Karen Dobing

Address of Witness:
15 Bloomfield St. Stanford Merthyr

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

Signature of Transferor:
JULIE PATRICIA WILSON



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

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

Signature of Witness: *J. B. Clinton*

Signature of Transferor:
JEFFREY WILLIAM WELBOURNE

Name of Witness: *JOHN CLINTON*

Address of Witness: *41 ALEXANDRA AVE
RUTHERFORD.*

J. Welbourne

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

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

Signature of Witness: *J. B. Clinton*

Signature of Transferor:
JOY WELBOURNE

Name of Witness: *JOHN CLINTON*

Address of Witness: *41 ALEXANDRA AVE
RUTHERFORD.*

J. Welbourne

EXECUTED by VICBAR [KINGSWAY PLAZA] PTY. LTD.
[A.C.N. 065 542 332] by:-

Signature of authorised person:

Name of authorised person:
VICTORIO GAETANO MANITTA

Office held: Director

Signature of authorised person:

Name of authorised person:
BARBARA MANITTA

Office held: Secretary

System Document Identification

Form Number:01T-e
Template Number:t_nsw18
ELN Document ID:802830704
ELN NOS ID: 802830706

TRANSFER

New South Wales
Real Property Act 1900

Land Registry Document Identification

AR615363

Stamp Duty: 10249310-001

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

LODGED BY:

Responsible Subscriber: GEORGE GOURLAS LAWYER ABN 43619602185

Address: SE 1, 64 Croydon ST
Cronulla 2230

Email: george@gglawyer.com.au

ELNO Subscriber Number: 1452022

Customer Account Number: 506819V

Document Collection Box: 1W

Client Reference: 1885 Vrachlioti

LAND TITLE REFERENCE

136/869710

TRANSFEROR

G & M MUSUMECI PTY LIMITED ACN 001382725
Registered company

Total share transferred: 4/12

TRANSFEE

GEORGE VRACHLIOTIS

Share of whole of land/interest: 3/ 12

MARIA VRACHLIOTIS

Share of whole of land/interest: 3/ 12

VOTRAINT NO 124 PTY LIMITED ACN 002888655
Registered company

Share of whole of land/interest: 6/ 12

Tenancy: Tenants in Common

CONSIDERATION

The transferor acknowledges receipt of the consideration of \$1,300,000.00

ESTATE TRANSFERRED

FEE SIMPLE

The Transferor transfers to the Transferee the Estate specified in this Instrument and acknowledges receipt of any Consideration shown.

SIGNING FOR TRANSFEROR

I certify that:

1. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.
2. The Certifier has retained the evidence supporting this Registry Instrument or Document.
3. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to verify the identity of the transferor or his, her or its administrator or attorney.

Party Represented by Subscriber:

G & M MUSUMECI PTY LIMITED

Signed By: Kevin Rodgers

ELNO Signer Number: 51132

Signer Capacity:Practitioner Certifier

Digital Signing Certificate Number:

Signed for
Subscriber: KEVIN RODGERS ABN 42189357639
BROCK PARTNERS LAWYERS

Subscriber Capacity:Representative Subscriber
ELNO Subscriber Number: 22535 **Customer Account Number:**502504
Date: 15/11/2021

SIGNING FOR TRANSFEREE

I certify that:

1. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.
2. The Certifier has retained the evidence supporting this Registry Instrument or Document.
3. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to verify the identity of the transferee or his, her or its administrator or attorney.

Party Represented by Subscriber:

GEORGE VRACHLIOTIS
MARIA VRACHLIOTIS
VOTRAINT NO 124 PTY LIMITED

Signed By: George Gourlas **Signer Capacity:**Practitioner Certifier
ELNO Signer Number: 4017121 **Digital Signing Certificate Number:**

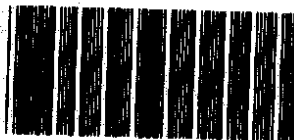
Signed for
Subscriber: GEORGE GOURLAS LAWYER PTY LTD ABN 43619602185
GEORGE GOURLAS LAWYER

Subscriber Capacity:Representative Subscriber
ELNO Subscriber Number: 1452022 **Customer Account Number:**506819
Date: 15/11/2021

RP13



TRANSFE
Real Property Act, 1900



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607599 U

only

00*24

B

160692 0405 04 B00217899/03

(A) LAND TRANSFERRED

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

CERTIFICATE OF TITLE FOLIO IDENTIFIER
22/544418

(B) LODGED BY

L.T.O. Box

196C

Name, Address or DX and Telephone

REFERENCE (max. 15 characters): 202796271

(C) TRANSFEROR

WILLIAM PETER CLEAVES

(D) acknowledges receipt of the consideration of EIGHTY FIVE THOUSAND DOLLARS (\$85,000.00)
and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1. 2. 3.

(F) TRANSFEE

T

RONALD WILLIAM EVANS & PAMELA EVANS ~~AND~~ as joint tenants
inter se to a one half moiety and
KENNETH ALEXANDER WILSON AND JULIE PATRICIA WILSON as
joint tenants inter se as to the other one half moiety as
tenants in common in equal shares
as joint tenants/tenants in common

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. **DATE OF EXECUTION** 29 JUNE 1992
Signed in my presence by the transferor who is personally known to me.

Signature of Witness

BARBARA IRENE TROWBRIDGE

Name of Witness (BLOCK LETTERS)

9 RAILWAY STREET, CESSNOCK 2325

Address of Witness

JUSTICE OF THE PEACE

Signed in my presence by the transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

W. P. Cleaves
Signature of Transferor

Solicitor ~~Signature of Transferee~~

(JOHN ADRIAN WEEKS)

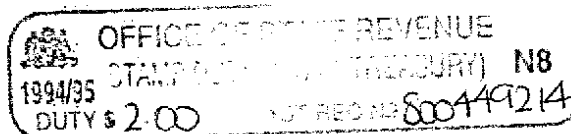
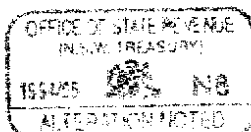
97-01T

TRANSFER

Real Property Act, 1900



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067894 Y

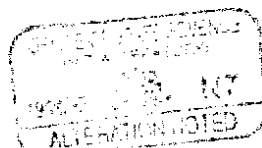


(A) **LAND TRANSFERRED**

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

FOLIO IDENTIFIERS 1/702372, 2/702372, LAND GRANT VOLUME
1540 FOLIO 138, FOLIO IDENTIFIER 22/544418, VOLUME 6425
FOLIO 156 AND FOLIO IDENTIFIER 10/20/758590 & 21/544418

(B) **LODGED BY**



NOW BEING 12/20/758590 A 13/20/758590

L.T.O. Box

Name, Address or DX and Telephone

374

WBC

REFERENCE (max. 15 characters):

2489 04122 MS

(C) **TRANSFEROR**

PLEASE SEE THE ANNEXURE "A" HERETO

(D) acknowledges receipt of the consideration of \$701,250.00

and as regards the land specified above transfers to the Transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1. V895662 2. W516450 3. E278469
4. ~~W516451~~ 4. 5.

(F) **TRANSFEE**

T

PLEASE SEE THE ANNEXURE "A" HERETO

TENANCY:

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. DATED 27. 1. 95

Signed in my presence by the Transferor who is personally known to me.

As to Execution by the Transferor please see the Annexure "A" hereto

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferor

Signed in my presence by the Transferee who is personally known to

As to Execution by the Transferee please see the Annexure "A" hereto

Signature of Witness

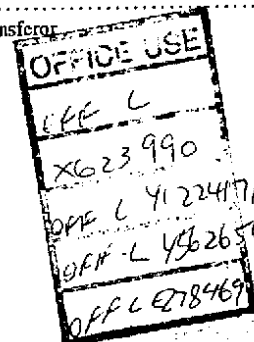
Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferee

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)



THIS IS THE ANNEXURE "A" TO MEMORANDUM OF TRANSFER MADE BETWEEN
KENNETH ALEXANDER WILSON AND JULIE PATRICIA WILSON, JEFFREY
WILLIAM WELBOURNE AND JOY WELBOURNE AND RONALD WILLIAM EVANS AND
PAMELA EVANS /AS TRANSFEROR OF THE ONE PART AND KENNETH ALEXANDER
WILSON AND JULIE PATRICIA WILSON, JEFFREY WILLIAM WELBOURNE AND
JOY WELBOURNE AND RONALD WILLIAM EVANS AND PAMELA EVANS AND
VICBAR [KINGSWAY PLAZA] PTY. LTD. [A.C.N. 065 542 332]
AS TRANSFEREE OF THE OTHER PART AND DATED 27-1-95

(C) TRANSFEROR

KENNETH ALEXANDER WILSON and JULIE PATRICIA WILSON, JEFFREY
WILLIAM WELBOURNE and JOY WELBOURNE, RONALD WILLIAM EVANS and
PAMELA EVANS as tenants in common and GARTROM PTY. LIMITED
(A.C.N. 003 684 393)

(F) TRANSFEREE

KENNETH ALEXANDER WILSON and JULIE PATRICIA WILSON as joint
tenants as to a $\frac{1}{4}$ share as tenants in common, JEFFREY WILLIAM
WELBOURNE and JOY WELBOURNE as joint tenants as to a $\frac{1}{4}$ share as
tenants in common, RONALD WILLIAM EVANS and PAMELA EVANS as
joint tenants as to a $\frac{1}{4}$ share as tenants in common, and VICBAR
[KINGSWAY PLAZA] PTY. LTD. [A.C.N. 065 542 332] as to a $\frac{1}{4}$ share
as tenant in common.

TENANCY: Tenants in Common

We certify this dealing correct for the purposes of the Real
Property Act, 1900.

DATED:

27th January 1995

Signed in my presence by the Transferor KENNETH ALEXANDER WILSON
and JULIE PATRICIA WILSON who are personally known to me:-

.....
Signature of Witness

..... JOHN PATRICK QUINN

Name of WITNESS BLOCK LETTERS

CHARLESTOWN

..... SOLICITOR

Address of Witness

.....

..... K.A. Wilson

..... J.P. Wilson

Signature of Transferor

- 2 -

Signed in my presence by the Transferor JEFFREY WILLIAM WELBOURNE and JOY PATRICIA WELBOURNE who are personally known to me:-

.....
Signature of Witness
.....
JOHN PATRICK QUINN
Name of Witness BLOCK LETTERS
5 LIBRARY LANE
.....
CHARLESTOWN
Address of Solicitor
.....
.....
.....
Signature of Transferor

Signed in my presence by the Transferor RONALD WILLIAM EVANS and PAMELA EVANS personally known to me:-

.....
Signature of Witness
.....
JOHN PATRICK QUINN
Name of Witness BLOCK LETTERS
5 LIBRARY LANE
.....
CHARLESTOWN
Address of Witness
.....
.....
The Common Seal of GARTROM PTY. LIMITED
(A.C.N. 003 684 393) was hereunto affixed * * *
by authority of the Board of Directors made
in accordance with the Articles of
Association by:-
Signed in my presence by the Transferee KENNETH ALEXANDER WILSON
and JULIE PATRICIA WILSON who are personally known to me:-

.....
Signature of Witness
.....
JOHN PATRICK QUINN
Name of Witness BLOCK LETTERS
5 LIBRARY LANE
.....
CHARLESTOWN
Address of Witness
.....
.....
Signature of Transferee

- 3 -

Signed in my presence by the Transferee JEFFREY WILLIAM WELBOURNE and JOY WELBOURNE who are personally known to me:-

.....
Signature of Witness
.....
JOHN PATRICK QUINN
Name of Witness BLOCK LETTERS
LIBRARY LANE
CHARLESTOWN
.....
SOLICITOR
Address of Witness
.....

.....
J. Welbourne
.....
J. Welbourne
Signature of Transferee

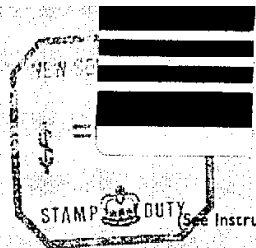
Signed in my presence by the Transferee RONALD WILLIAM EVANS and PAMELA EVANS who are personally known to me:-

.....
Signature of Witness
.....
JOHN PATRICK QUINN
Name of Witness BLOCK LETTERS
LIBRARY LANE
CHARLESTOWN
.....
SOLICITOR
Address of Witness
.....

.....
R.W. Evans
.....
Pam Evans
Signature of Transferee

The Common Seal of VICBAR [KINGSWAY PLAZA] PTY. LTD. [A.C.N. 065 542 332] was hereunto affixed by authority of the Board of Directors made in accordance with the Articles of Association by:-

.....
Director
.....
Secretary
.....
VICBAR
(KINGSWAY
PLAZA)
PTY. LTD.
A.C.N.
065 542 332
COMMON SEAL



NOV 27 JUN



TRANSFER

REAL PROPERTY ACT, 1900

See Instructions for Completion on back of form

C	1 of 1	X
\$ 30.		

R111.

DESCRIPTION OF LAND
Note (a)

Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
Identifier 1/702372	WHOLE	Kurri Kurri
Identifier 2/702372	whole	Kurri Kurri

TRANSFEROR
Note (b)

THE COUNCIL OF THE CITY OF GREATER CESSNOCK

ESTATE
Note (c)

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of \$ 75,000.00 and transfers an estate in fee simple in the land above described to the TRANSFEE

TRANSFEE
Note (d)

SANRIJ PTY. LIMITED a Company duly registered and having its registered office at 176A Lang Street, Kurri Kurri	OFFICE USE ONLY S.
---	-----------------------

TENANCY
Note (e)

~~as joint tenants/tenants in common~~

PRIOR ENCUMBRANCES
Note (f)

subject to the following PRIOR ENCUMBRANCES 1. 2. 3.

[Signature]

DATE 16/5/1984

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

EXECUTION
Note (g)

Signed in my presence by the transferor who is personally known to me
 THE COMMON SEAL of the COUNCIL OF THE CITY OF GREATER CESSNOCK was hereto affixed in pursuance of a resolution of the Council passed on the 12th day of August 1984.
 Name of Witness (BLOCK LETTERS)
 Address and occupation of Witness

[Signature]
Mayor
[Signature]
Deputy Town Clerk
 Signature of Transferor

Note (g)

Signed in my presence by the transferee who is personally known to me

Signature of Witness
 Name of Witness (BLOCK LETTERS)
 Address and occupation of Witness

[Signature] (J. Cleaves)
 Signature of Transferee
[Signature] Solicitor for Transferee

TO BE COMPLETED BY LODGING PARTY
Notes (h) and (i)

LODGED BY Westpac Banking Corporation THE BANKING HOUSE, 228 PITT STREET, SYDNEY, 2000 PHONE: 226-2611 DELIVERY BOX NO. 37Y		LOCATION OF DOCUMENTS CT ☒ OTHER ☐ Here with ☐ In R.G.O. with ☐ Produced by ☐	
Delivery Box Number			
Checked <i>[Signature]</i> EB 15.	Passed	REGISTERED 28-6-1984	Cert. of Title LP.
Signed	Extra Fee	<i>[Signature]</i> Registrar General	

OFFICE USE ONLY

RP 13

STAMP DUTY



OFFICE OF STATE REVENUE
(N.S.W. TREASURY)
1988/89 N6
STAMP
CHIEF COMMISSIONER

RECORDED

16 NOV 1989

2.000

OFFICE USE ONLY



Y562659

TRANSFER

REAL PROPERTY ACT, 1900

T 3 5 of 7 X
\$ 44

15/5

DESCRIPTION
OF LAND
Note (a)

Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
VOLUME: 11463, - NOW FOLIO FOLIO: 191, IDENTIFIER: 21/544418 FOLIO IDENTIFIER: 1/702372 FOLIO IDENTIFIER: 2/702372	WHOLE	At: KURRI KURRI D

TRANSFEROR
Note (b)

MARNAL PTY LIMITED

ESTATE
Note (c)

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of \$1,700,000.00
and transfers an estate in fee simple
in the land above described to the TRANSFeree

TRANSFeree
Note (d)

KENNETH ALEXANDER WILSON of 24 Greta St, Kurri Kurri, Pharmacist and JULIE PATRICIA WILSON of the same address, his wife, as joint tenants as to a one-third share as tenants in common AND GEORGE WILLIAM WELBOURNE of 24 Kennedy St, Kurri Kurri, Butcher, and JOY WELBOURNE of the same address, his wife, as joint tenants as to a one-third share as tenants in common AND RONALD WILLIAM EVANS of 72 Heddon St, Kurri Kurri, Business Proprietor and PAMELA EVANS of the same address, his wife, as joint tenants as to a one-third share as tenants in common.

OFFICE USE ONLY

over

TENANCY
Note (e)

PRIOR
ENCUMBRANCES
Note (f)

subject to the following PRIOR ENCUMBRANCES 1. ~~WILL~~ LEASES No. V895662, W516450, W516451, W693637, 2. ~~X623990~~, Y122417, Y122418, Y122419 As to Lot 21 DP 544418 No. X865928

DATE 27.6.1989

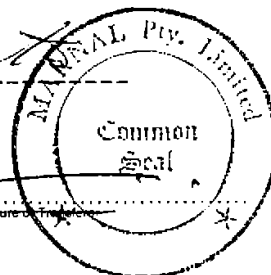
We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

EXECUTION
Note (g)

Signed in my presence by the transferor who is personally known to me
THE COMMON SEAL OF MARNAL PTY. LIMITED)
was hereunto affixed in accordance)
with the Articles of Association in)
the presence of:)
Address and occupation of Witness

Director

Secretary



Signed in my presence by the transferee who is personally known to me

Note (g)

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and occupation of Witness

SOLICITOR FOR TRANSFEREES
DAVID HITCHCOCK
SOLICITOR
ADAMSTOWN

TO BE COMPLETED
BY LODGING PARTY
Notes (h)
and (i)

LODGED BY 24J COMMONWEALTH BANK 24J OF AUSTRALIA BRANCH SECURITIES PITT STREET & MARTIN PLACE SYDNEY. PHONE 227-7558 D.X. 1020 SYDNEY 24J		LOCATION OF DOCUMENTS CT OTHER (3) Herewith. In L.T.O. with Produced by	
Checked 27/6/89	Passed	REGISTERED - -19	Secondary Directions
Signed	Extra Fee	8 DEC 1989	Delivery Directions

OFFICE USE ONLY

RP 13
1985

Typewriting and handwriting should be clear, legible and in permanent dense black or dark blue non-copying ink. Alterations are not to be made by erasure; the words rejected are to be ruled through and initialed by the parties to the dealing in the left-hand margin. If the space provided is insufficient, additional sheets of the same size and quality of paper and having the same margins as this form should be used. Each additional sheet must be identified as an annexure and signed by the parties and the attesting witnesses.

If it is intended to create easements, covenants, &c., use forms HP13A, HP13B, HP13C as appropriate.

The following instructions relate to the SIDE NOTES on the form.

(1) TORRENS TITLE REFERENCE. — For a manual reference insert the Volume and Folio (e.g., Vol. 85:14 Fol. 126) — For a computer folio insert the folio identifier (e.g., 12701527).

(iii) LOCATION. — Insert the locality shown on the Certificate of Title/Crown Grant, e.g., at Chulaville. If the locality is not shown, insert the Parish and County, e.g., Ph. Lismore Co. Houss.

(c) If the estate being transferred is a lesser estate than an estate in fee simple, delete "fee simple" and insert appropriate estate.

(f) In the memorandum of prior encumbrances, state only the registered number of any mortgage, lease, charge or writ to which this dealing is subject.

(ii) The certificate of correctness under the Real Property Act, 1900, must be signed by all parties to the transfer, each party to execute the dealing in the presence of an adult witness, not being a party to the

corporation. Each person attesting the affixing of the seal must state his/her position (e.g., director, secretary) in the corporation.

[illegible]

(A) FOLIO IDENTIFIER	(B) DIRECTION	(C) NAME		
	Prof	Kenneth A. Wilson & Guild P. Wilson as Joint Tenants in 1/2 share Jeffrey M. Wellbourne & Jay Wellbourne as joint tenants in 1/2 share Ronald W. Brown & Pamela Brown as joint tenants in 1/2 share as tenants in common		
(D) FOLIO IDENTIFIER	(E) DIRECTION	(F) NOTFN TYPE	(G) DEALING NUMBER	(H) DETAILS
	CT		20	Y562660/1



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

7/11/2022 7:29PM

FOLIO: 2/702372

First Title(s): VOL 1875 FOL 114
Prior Title(s): VOL 12897 FOL 223

Recorded	Number	Type of Instrument	C.T. Issue
29/3/1984	DP702372	DEPOSITED PLAN	FOLIO CREATED EDITION 1
28/6/1984	V213757	TRANSFER	EDITION 2
21/1/1985	V549720	TRANSFER	EDITION 3
21/1/1985	V549721	MORTGAGE	
22/8/1985	V895660	LEASE	EDITION 4
22/8/1985	V895661	LEASE	
22/8/1985	V895662	LEASE	
22/8/1985	V895663	LEASE	
22/8/1985	V895664	LEASE	
23/8/1985	V896485	CAVEAT	EDITION 5
16/9/1986	W516449	WITHDRAWAL OF CAVEAT	
16/9/1986	W516450	LEASE	
16/9/1986	W516451	LEASE	
16/1/1987	W540227	LEASE	EDITION 6
16/1/1987	W693637	LEASE	
8/7/1988	X689066	DEPARTMENTAL DEALING	EDITION 7
8/7/1988	X623990	LEASE	
25/1/1989	Y122417	LEASE	EDITION 8
25/1/1989	Y122418	LEASE	
25/1/1989	Y122419	LEASE	
20/4/1989	Y242811	CAVEAT	EDITION 9
8/12/1989	Y562655	WITHDRAWAL OF CAVEAT	
8/12/1989	Y562657	DISCHARGE OF MORTGAGE	
8/12/1989	Y562656	LEASE	
8/12/1989	Y562659	TRANSFER	
11/12/1989	Y562660	MORTGAGE	EDITION 10
11/12/1989	Y562661	MORTGAGE	

END OF PAGE 1 - CONTINUED OVER

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PRINTED ON 7/11/2022

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

7/11/2022 7:29PM

FOLIO: 2/702372

PAGE 2

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
13/5/1992	E278469	LEASE	EDITION 11
4/9/1992	E736682	MORTGAGE	EDITION 12
10/3/1995	O67889	DISCHARGE OF MORTGAGE	
10/3/1995	O67890	DISCHARGE OF MORTGAGE	
10/3/1995	O67891	DISCHARGE OF MORTGAGE	EDITION 13
13/3/1995	O67892	LEASE	
13/3/1995	O67893	LEASE	
13/3/1995	O67894	TRANSFER	EDITION 14
14/3/1995	O67896	MORTGAGE	EDITION 15
12/2/1996	O900501	LEASE	EDITION 16
24/7/1997	3259622	SURRENDER OF LEASE	
25/7/1997	DP869710	DEPOSITED PLAN	FOLIO CANCELLED
15/9/1999	6197230	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

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PRINTED ON 7/11/2022



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

9/11/2022 2:59PM

FOLIO: 22/544418

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 11463 FOL 192

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
18/7/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
15/7/1992	E607598	DISCHARGE OF MORTGAGE	
15/7/1992	E607599	TRANSFER	
15/7/1992	E607600	MORTGAGE	EDITION 1
10/3/1995	O66144	DISCHARGE OF MORTGAGE	EDITION 2
13/3/1995	O66145	TRANSFER	
13/3/1995	O67892	LEASE	
13/3/1995	O67894	TRANSFER	EDITION 3
14/3/1995	O67896	MORTGAGE	EDITION 4
12/2/1996	O900501	LEASE	EDITION 5
25/7/1997	DP869710	DEPOSITED PLAN	FOLIO CANCELLED
15/9/1999	6197230	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

9/11/2022 5:10PM

FOLIO: 134/823720

First Title(s): OLD SYSTEM VOL 1875 FOL 114
Prior Title(s): VOL 12897 FOL 223 PA90000

Recorded	Number	Type of Instrument	C.T. Issue
21/4/1994	DP823720	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
15/5/1995	O204882	APPLICATION	FOLIO CREATED EDITION 1
29/1/1997	2793838	TRANSFER	EDITION 2
25/7/1997	DP869710	DEPOSITED PLAN	FOLIO CANCELLED
15/9/1999	6197140	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

advlegs

PRINTED ON 9/11/2022



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

7/11/2022 7:29PM

FOLIO: 136/869710

First Title(s): OLD SYSTEM VOL 1461 FOL 30
VOL 1479 FOL 244 VOL 1481 FOL 29
VOL 1540 FOL 138 VOL 1794 FOL 13
VOL 1875 FOL 114 VOL 1937 FOL 46
VOL 15202 FOL 154
Prior Title(s): 21-22/544418 1-2/702372
10-11/20/758590 131/823720
133-134/823720

Recorded	Number	Type of Instrument	C.T. Issue
28/7/1997	DP869710	DEPOSITED PLAN	FOLIO CREATED EDITION 1
29/7/1997	3199856	LEASE	
29/7/1997	3259623	LEASE	
29/7/1997	3259624	LEASE	EDITION 2
28/10/1997	3531031	TRANSFER	EDITION 3
17/12/1997	3650420	LEASE	
17/12/1997	3650421	LEASE	
17/12/1997	3650422	LEASE	
17/12/1997	3650423	LEASE	
17/12/1997	3650424	SUB-LEASE	EDITION 4
19/12/1997		AMENDMENT: CT DELIVEREE	
13/3/1998	3852862	DEPARTMENTAL DEALING	
2/6/1998	5022289	MORTGAGE	EDITION 5
22/7/1998	5146498	MORTGAGE OF LEASE	EDITION 6
11/8/1998	5189074	MORTGAGE OF LEASE	
6/1/1999	5510062	LEASE	
6/1/1999	5510063	LEASE	
6/1/1999	5510064	LEASE	
6/1/1999	5510065	LEASE	EDITION 7
23/12/1999	6452051	DISCHARGE OF MORTGAGE	
23/12/1999	6452052	DISCHARGE OF MORTGAGE	
23/12/1999	6452053	MORTGAGE	EDITION 8

END OF PAGE 1 - CONTINUED OVER

advlegs

PRINTED ON 7/11/2022

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

7/11/2022 7:29PM

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Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
25/2/2000	6598299	CAVEAT	
14/7/2000	6946665	CAVEAT	
26/9/2000	7108646	LEASE	EDITION 9
13/8/2001	7844763	WITHDRAWAL OF CAVEAT	
13/8/2001	7844764	WITHDRAWAL OF CAVEAT	
13/8/2001	7844765	APPLICATION	
13/8/2001	7844766	TRANSFER	EDITION 10
8/4/2002	8489113	TRANSFER OF LEASE	
3/6/2002	8653402	LEASE	EDITION 11
10/12/2002	9203431	DEPARTMENTAL DEALING TO UPLIFT CT	EDITION 12
5/7/2003	9758118	DISCHARGE OF MORTGAGE	
5/7/2003	9758119	LEASE	
5/7/2003	9758120	VARIATION OF LEASE	
5/7/2003	9758122	LEASE	
5/7/2003	9758123	LEASE	
5/7/2003	9758124	LEASE	
5/7/2003	9758125	VARIATION OF LEASE	
5/7/2003	9758126	TRANSFER	EDITION 13
21/7/2003	9807187	TRANSFER OF LEASE	
5/8/2003	9807187	DE-REGISTERED - TRANSFER OF LEASE	
5/8/2003	9851111	DEPARTMENTAL DEALING	
5/8/2003	9807187	SUB-LEASE	
31/3/2004	AA406729	MORTGAGE OF LEASE	
20/7/2004	AA764219	LEASE	EDITION 14
1/8/2006	AC495673	DISCHARGE OF MORTGAGE	
12/10/2006	AC661933	LEASE	EDITION 15
23/10/2006	AC689061	TRANSFER OF LEASE	

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

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Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
19/12/2006	AC820243	MORTGAGE OF LEASE	
18/4/2008	AD899195	DEPARTMENTAL DEALING	
23/4/2008	AD846572	TRANSFER OF LEASE	
23/4/2008	AD846573	LEASE	
23/4/2008	AD846574	LEASE	EDITION 16
7/5/2008	AD937700	LEASE	EDITION 17
16/6/2008	AE21300	LEASE	EDITION 18
14/10/2008	AE264500	LEASE	
14/10/2008	AE264501	LEASE	EDITION 19
17/4/2009	AE614337	TRANSFER	EDITION 20
22/6/2009	AE767573	LEASE	EDITION 21
8/2/2010	AF298258	VARIATION OF LEASE	
8/2/2010	AF298259	LEASE	
8/2/2010	AF298260	LEASE	EDITION 22
21/6/2011	AG313421	CAVEAT	
17/12/2012	AH442056	DEPARTMENTAL DEALING	
26/2/2013	AH574517	WITHDRAWAL OF CAVEAT	
26/2/2013	AH574518	LEASE	
26/2/2013	AH574519	LEASE	EDITION 23
27/9/2013	AI50106	DEPARTMENTAL DEALING	
8/9/2014	AI873480	LEASE	EDITION 24
12/2/2015	AJ112991	LEASE	
12/2/2015	AJ112992	LEASE	
12/2/2015	AJ211949	MORTGAGE OF LEASE	EDITION 25
12/10/2015	AJ892308	LEASE	EDITION 26
16/2/2017	AM164496	LEASE	EDITION 27

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NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

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Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
26/4/2018	AN286580	LEASE	EDITION 28
14/11/2019	AP671336	LEASE	
14/11/2019	AP671337	LEASE	
14/11/2019	AP671346	TRANSFER OF LEASE	EDITION 29
22/1/2020	AP848484	TRANSFER OF LEASE	
19/3/2020	AP976775	MORTGAGE OF LEASE	
21/7/2020	AQ255530	LEASE	EDITION 30
10/12/2020	AQ624272	LEASE	EDITION 31
15/11/2021	AR615363	TRANSFER	EDITION 32

*** END OF SEARCH ***

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 136/869710

SEARCH DATE	TIME	EDITION NO	DATE
7/11/2022	7:29 PM	32	15/11/2021

LAND

LOT 136 IN DEPOSITED PLAN 869710
AT KURRI KURRI
LOCAL GOVERNMENT AREA CESSNOCK
PARISH OF HEDDON COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP869710

FIRST SCHEDULE

GEORGE VRACHLIOTIS
IN 3/12 SHARE
MARIA VRACHLIOTIS
IN 3/12 SHARE
VOTRAINT NO 124 PTY LIMITED
IN 6/12 SHARE
AS TENANTS IN COMMON (T AR615363)

SECOND SCHEDULE (15 NOTIFICATIONS)

- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM - SEE CROWN GRANT(S)
- 2 LAND EXCLUDES MINERALS - SEE CROWN GRANT(S) VOL. 1875 FOL. 114, VOL. 1937 FOL. 46 AND MEMORANDUM S700000A
- 3 LAND EXCLUDES MINERALS AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 4 EXCEPTING THE LAND BELOW A DEPTH FROM THE SURFACE OF 15.24 METRES BY THE CROWN GRANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 5 L833204 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 6 DP869710 EASEMENT FOR ELECTRICITY SUBSTATION 2.5 WIDE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 7 DP869710 EASEMENT FOR RIGHT OF FOOTWAY 1.2 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 8 AC661933 LEASE TO GRAHAM SUPERMARKETS PTY LIMITED OF SHOP 5, KINGSWAY PLAZA, BARTON STREET, KURRI KURRI. EXPIRES: 19/9/2015.
AC689061 TRANSFER OF LEASE AC661933 LESSEE NOW RITCHIES STORES PTY LIMITED
AF298258 VARIATION OF LEASE AC661933 OPTION OF RENEWAL

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 136/869710

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SECOND SCHEDULE (15 NOTIFICATIONS) (CONTINUED)

- NOW 10 YEARS
- 9 AF298259 LEASE TO RITCHIES STORES PROPRIETARY LIMITED OF SHOPS 10 & 11, KINGSWAY PLAZA, KURRI KURRI. EXPIRES: 30/9/2015. OPTION OF RENEWAL: 10 YEARS.
- 10 AJ892308 LEASE TO AUSTRALIAN POSTAL CORPORATION OF SHOPS 18 AND 19, KINGSWAY PLAZA, KURRI KURRI. EXPIRES: 30/6/2018. OPTION OF RENEWAL: 5 YEARS AND A FURTHER OPTION OF 5 YEARS.
- 11 AM164496 LEASE TO LOASAN PTY LIMITED OF SHOP 3, KINGSWAY PLAZA, 174-178 LANG STREET, KURRI KURRI. EXPIRES: 31/1/2018. OPTION OF RENEWAL: 2 YEARS.
- 12 AP671336 LEASE TO STACEY FORDHAM & BROOKE FORDHAM OF SHOP 6, KINGSWAY PLAZA, 174-178 LANG STREET, KURRI KURRI. EXPIRES: 31/8/2021. OPTION OF RENEWAL: 2 YEARS.
- 13 AP671337 LEASE TO KENNETH ALEXANDER WILSON, WILS PHARM PTY LTD & LL PHARMACY PTY LTD (SEE AP848484) OF SHOPS 12, 13 & 14 AND OFFICE SPACE AT KINGSWAY PLAZA, 174-178 LANG STREET, KURRI KURRI. EXPIRES: 30/6/2024. OPTION OF RENEWAL: 5 YEARS.
- AP976775 MORTGAGE OF LEASE AP671337 TO AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED
- 14 AQ255530 LEASE TO ANNA CHENERY SHOPS 7 & 8 IN THE PREMISES KNOWN AS KINGSWAY PLAZA, 174-178 LANG STREET, KURRI KURRI. EXPIRES: 6/2/2022. OPTION OF RENEWAL: 2 YEARS.
- 15 AQ624272 LEASE TO SHERIDAN VAN MEETEREN OF SHOP 15B, KINGSWAY PLAZA, 174-178 LANG STREET, KURRI KURRI. EXPIRES: 2/8/2023.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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APPENDIX D:

Aerial Photographs

Aerial Photographs

1944



1954



1966



1976



1987



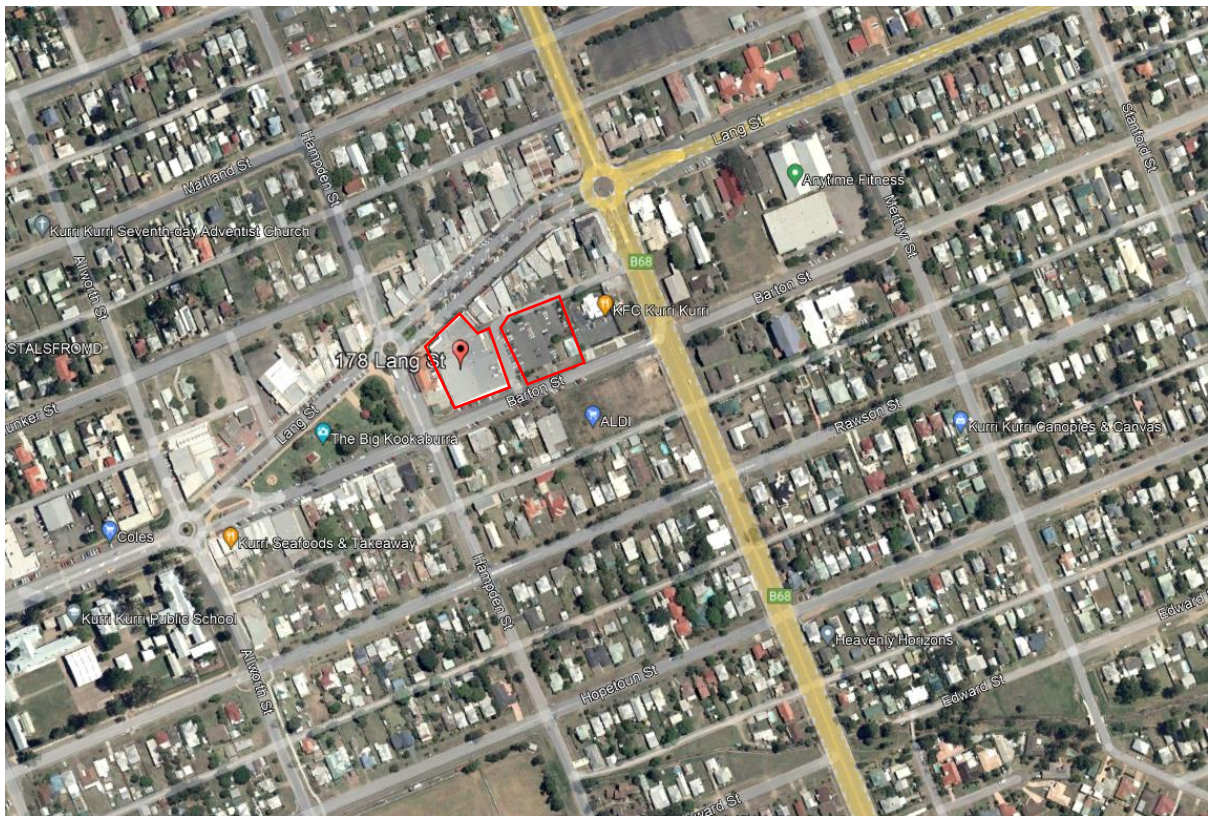
1993



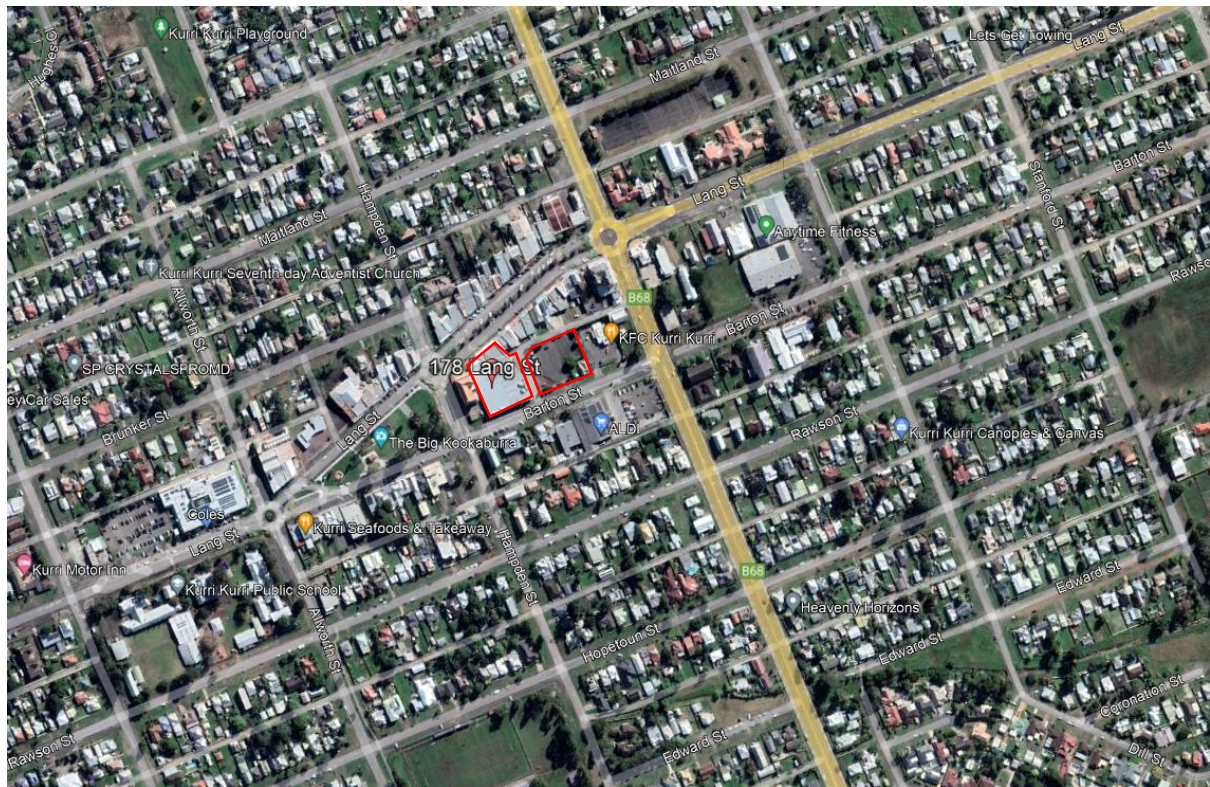
2004



2010



2022



APPENDIX E:

Site Photographs



Photograph 1 - Showing shopping centre building and car park



Photograph 2 - Showing Shop 4 inside shopping centre

	Client:	VOTRAINT No. 124 PTY LTD	Project No:	NEW22P-0213-AA
	Project:	PRELIMINARY & DETAILED CONTAMINATION ASSESSMENT	Date:	16/12/2022
	Location:	178 LANG ST, KURRI KURRI	No:	1 and 2
	Title:	SITE PHOTOGRAPHS		



Photograph 3 - Showing inside shopping centre building



Photograph 4 - Showing Shop 5 (former IGA) inside shopping centre

	Client:	VOTRAINT No. 124 PTY LTD	Project No:	NEW22P-0213-AA
	Project:	PRELIMINARY & DETAILED CONTAMINATION ASSESSMENT	Date:	16/12/2022
	Location:	178 LANG ST, KURRI KURRI	No:	3 and 4
	Title:	SITE PHOTOGRAPHS		



Photograph 5 - Showing Shop 17B inside shopping centre building



Photograph 6 - Showing plaque identifying opening date of shopping centre

	Client:	VOTRAINT No. 124 PTY LTD	Project No:	NEW22P-0213-AA
	Project:	PRELIMINARY & DETAILED CONTAMINATION ASSESSMENT	Date:	16/12/2022
	Location:	178 LANG ST, KURRI KURRI	No:	5 and 6
	Title:	SITE PHOTOGRAPHS		



Photograph 7 - Showing car park looking north-west



Photograph 8 - Showing car park looking south-west

	Client:	VOTRAINT No. 124 PTY LTD	Project No:	NEW22P-0213-AA
	Project:	PRELIMINARY & DETAILED CONTAMINATION ASSESSMENT	Date:	16/12/2022
	Location:	178 LANG ST, KURRI KURRI	No:	7 and 8
	Title:	SITE PHOTOGRAPHS		

APPENDIX F:

NSW EPA Records

Area No: 3210

The information below was correct at the time the notices were issued.

Site: United Petroleum Service Station Kurri Kurri

Address: 279-281 Lang STREET, KURRI KURRI

LGA: CESSNOCK CITY COUNCIL

Owner: Rana Petroleum Pty Ltd

Notices relating to this site (0 current and 4 former)

(Map) where available, maps show the part of the site affected by the notice

* notice matched search criteria

Notice recipient	Notice type & number	Status	Date
Name Withheld	Management Order 20121402	Former	Issued 17 Apr 2013
Name Withheld	Approved Voluntary Management Proposal 20111716	Former	Issued 28 Jul 2011
Not Applicable	Declaration of Investigation Area 15030	Former	Issued 09 Nov 2005 Ended 15 Apr 2020
Not Applicable	Notice to End Investigation Declaration 20194455	Issued	Issued 15 Apr 2020

KURRI KURRI	United Petroleum Service Station Kurri Kurri	279-281 Lang STREET	Service Station	Contamination formerly regulated under the CLM Act	-32.82047175	151.477646
KURRI KURRI	Kurri Kurri Smelter	Hart ROAD	Metal Industry	Regulation under CLM Act not required	-32.7871053	151.4828827

Summary Licence No: 13013

[View this licence](#) (PDF document 140 kb)

Licence holder: CENTRAL WASTE PLANT PTY LTD

Premises: CENTRAL WASTE PLANT PTY LTD

8 STYLES STREET, KURRI KURRI, NSW, 2327

LGA: CESSNOCK **Catchment:** Hunter

Administrative fee: \$2,336.00

Licence status: Issued

Activity type: Waste storage - other types of waste

Recovery of general waste

Licence review: Complete date 26 Feb 2020

Complete date 27 Feb 2015

Due date 26 Feb 2025

Pollution incident management

plan: Last tested 27 Feb 2020

Current Environmental Risk Level: Level 2

Summary Licence No: 20676

[View this licence](#) (PDF document 121 kb)

Licence holder: CLEANAWAY CO PTY LTD

Premises: TOX FREE AUSTRALIA KURRI KURRI
126 MITCHELL AVENUE, KURRI KURRI, NSW, 2327
LGA: CESSNOCK **Catchment:** Hunter

Administrative fee: \$4,672.00

Licence status: Surrendered

Activity type: Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste

Licence review: Complete date 18 Oct 2016
Due date 18 Oct 2021

Pollution incident management

plan: No

Current Environmental Risk Level: Level 1

Summary Licence No: 11973

[View this licence](#) (PDF document 196 kb)

Licence holder: HUNTER AND NEW ENGLAND AREA HEALTH SERVICE

Premises: Kurri Kurri Hospital

Lang Street, KURRI KURRI, NSW, 2327

LGA: CESSNOCK **Catchment:** Hunter

Administrative fee: \$516.00

Licence status: No_longer_in_force

Activity type: Hazardous, Industrial or Group A Waste Generation or Storage

Licence review: Complete date 10 Nov 2006

Due date 10 Nov 2011

Pollution incident management

plan: No

[View this licence](#) (PDF document 185 kb)

Licence holder: HUNTER WATER CORPORATION

Premises: KURRI KURRI WASTEWATER TREATMENT WORKS
OFF MCLEOD ROAD, KURRI KURRI, NSW, 2327
LGA: CESSNOCK **Catchment:** Hunter

Administrative fee: \$9,490.00

Licence status: Issued

Activity type: Sewage treatment processing by small plants

Licence review: Complete date 09 Sep 2020

Complete date 10 Jun 2020

Complete date 11 Jun 2015

Complete date 01 Feb 2011

Complete date 01 Feb 2006

Complete date 31 May 2002

Due date 09 Sep 2025

Pollution incident management

plan: Last tested 03 Dec 2021

Current Environmental Risk Level: Level 1

Summary Licence No: 11234

[View this licence](#) (PDF document 209 kb)

Licence holder: NATIONWIDE OIL PTY LTD

Premises: NATIONWIDE OIL PTY LTD

47 Wermol Street, KURRI KURRI, NSW, 2327

LGA: CESSNOCK **Catchment:** Hunter

Administrative fee: \$4,448.00

Licence status: Surrendered

Activity type: Hazardous, Industrial or Group A Waste Generation or Storage

Licence review: Complete date 25 May 2004

Due date 25 May 2009

Pollution incident management

plan: No

[View this licence](#) (PDF document 250 kb)

Licence holder: WESTON ALUMINIUM PTY LIMITED

Premises: WESTON ALUMINIUM

129 MITCHELL AVENUE, KURRI KURRI, NSW, 2327

LGA: CESSNOCK **Catchment:** Hunter

Administrative fee: \$24,090.00

Licence status: Issued

Activity type: Thermal treatment of general waste

Thermal treatment of hazardous and other waste

Scrap metal processing

Recovery of hazardous and other waste

Aluminium production (scrap metal)

Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste

Licence review: Complete date 03 Feb 2021

Complete date 08 Feb 2016

Complete date 08 Feb 2011

Complete date 21 Feb 2006

Complete date 01 Oct 2002

Due date 03 Feb 2026

Pollution incident management

plan: Last tested 31 Aug 2021

Current Environmental Risk Level: Level 3

APPENDIX G:

Section 10.7 Certificate



PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated
ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

Tom Hall
2 Murray Dwyer Circuit,
Mayfield
NSW 2304

Applicants Reference
Qualtest - Kurri Kurri

CERTIFICATE DETAILS

Certificate Number: 3206
Date of Certificate: 08/11/2022

PROPERTY DETAILS

Address: Kingsway Plaza (North) 178 Lang Street
KURRI KURRI NSW 2327
Title: LOT: 136 DP: 869710
Parcel No.: 27205

BACKGROUND INFORMATION

This certificate provides information on how the relevant parcel of land may be developed, including the planning restrictions that apply to development of the land, as at the date the certificate is issued. The certificate contains information Council is aware of through its records and environmental plans, along with data supplied by the State Government. The details contained in this certificate are limited to that required by Section 10.7 of the *Environmental Planning and Assessment Act, 1979*.

t 02 4993 4100 f 02 4993 2500
p: PO Box 152 Cessnock NSW 2325
e: council@cessnock.nsw.gov.au w: www.cessnock.nsw.gov.au
ABN 60 919 148 928



PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated

ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

1. Name of relevant planning instruments and development control plans

- (1) The following environmental planning instruments and development control plans apply to the carrying out of development on the land:

State Environmental Planning Policies

[State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development](#)

[State Environmental Planning Policy \(Building Sustainability Index: BASIX\) 2004](#)

[State Environmental Planning Policy \(Resilience and Hazards\) 2021](#)

[State Environmental Planning Policy \(Exempt and Complying Development Codes\) 2008](#)

[State Environmental Planning Policy \(Transport and Infrastructure\) 2021](#)

[State Environmental Planning Policy \(Resources and Energy\) 2021](#)

[State Environmental Planning Policy \(Primary Production\) 2021](#)

[State Environmental Planning Policy \(Planning Systems\) 2021](#)

[State Environmental Planning Policy \(Biodiversity and Conservation\) 2021](#)

[State Environmental Planning Policy \(Housing\) 2021](#)

[State Environmental Planning Policy \(Precincts—Regional\) 2021](#)

Local Environmental Plans

[Cessnock Local Environmental Plan 2011](#)

Development Control Plans

[Cessnock Development Control Plan 2010](#)

Note: Detailed information on the local environmental plans and State Environmental Planning Policies that are listed in this certificate are available at NSW Legislation – in force website.

- (2) The following proposed environmental planning instruments and draft development control plans are or have been the subject of community consultation or on public exhibition under the Environmental Planning and Assessment Act 1979, apply to the carrying out of development on the land and:

Council has been notified that the following Draft State Environmental Planning Policy was placed on public exhibition and may affect land use planning and development in Cessnock:

Draft State Environmental Planning Policies

[DRAFT SEPP - New Sustainable Buildings Incorporating BASIX \(in force from 1 October 2023\)](#)

[DRAFT SEPP - BASIX Higher Standards – Exhibition 17 November 2021 to 28 February 2022](#)



PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
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ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

DRAFT SEPP - Infrastructure and Education (Amendments) – Exhibition 15 December 2021 to 11 February 2022

DRAFT SEPP - Infrastructure (amendments)

Amendment – Changes to Landscape Rehydration Infrastructure Planning Rules – Exhibition 20 December 2021 to 28 February 2022

Amendment – Electricity generating works or solar energy systems – Exhibition 16 August 2021 to 13 September 2021

Amendment – Telecommunications and other communication facilities – Exhibition 16 August 2021 to 13 September 2021

DRAFT SEPP - Infrastructure Planning Rules – Exhibition 20 December 2021 to 28 February 2022

DRAFT SEPP - Planning Amendments for Agriculture (Agri - tourism) – Exhibition 9 March 2021 to 19 April 2021

DRAFT SEPP – Fun – Exhibition 29 October 2021 to 30 November 2021

Draft Planning Proposal for Local Environmental Plan

There are no Draft Local Environmental Plan/s affecting this land.

Draft Development Control Plan

No draft development control plans apply to the land.

2. Zoning and land use under relevant planning instruments

The following matters for each environmental planning instrument or draft environmental planning instrument that includes the land in a zone, however described-

(a) The identity of the zone, whether by reference to –

- (i) a name, such as “residential zone” or “heritage area”, or
- (ii) a number, such as “Zone No 2(a)”,

B2 Local Centre under the Cessnock Local Environmental Plan 2011.

(b) The purpose for which development in the zone –

- (i) may be carried out without development consent, and
- (ii) may not be carried out except with development consent, and
- (iii) is prohibited,

B2 Local Centre

2 Permitted without consent

Home occupations

3 Permitted with consent

PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated

ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

Boarding houses; Centre-based child care facilities; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Information and education facilities; Medical centres; Oyster aquaculture; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Seniors housing; Service stations; Sewage reticulation systems; Shop top housing; Tank-based aquaculture; Tourist and visitor accommodation; Any other development not specified in item

4) Prohibited Agriculture; Airstrips; Animal boarding or training establishments; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Freight transport facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Open cut mining; Pond-based aquaculture; Recreation facilities (major); Recreation facilities (outdoor); Residential accommodation; Resource recovery facilities; Sewage treatment plants; Sex services premises; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Warehouse or distribution centres; Waste disposal facilities; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies

- (c) **Whether additional permitted uses apply to the land,**
No

- (d) **Whether development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions,**
No

- (e) **Whether the land is in an area of outstanding biodiversity value under the Biodiversity Conservation Act 2016:**

The land is not land that includes or comprises biodiversity conservation under the Biodiversity Conservation Act 2016.

- (f) **Whether the land is a conservation area, however described,**

The land is not a conservation area under the Cessnock Local Environmental Plan 2011.

- (g) **Whether an item of environmental heritage, however described, is located on the land:**

An item of environmental heritage identified in Cessnock Local Environmental Plan 2011 is not situated on the land.

3. Contributions plans

1. **The name of each contributions plan under the Act, Division 7.1 applying to the land, including draft contributions plan.**



PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated

ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

Cessnock Section 7.12 Levy Contributions Plan 2017.

Cessnock City Wide Local Infrastructure Contributions Plan 2020.

2. If the land is in a special contributions area under the Act, Division 7.1, the name of the area.

No

4. Complying Development

- (1) Complying development may be carried out on the land under each of the following codes for complying development, to the extent stated, because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The following Complying Development Codes may allow complying development to be carried out on land in the following land uses zones

- Complying Development under (Part 4) **Housing Alterations Code** may be carried out on land within any zone.
- Complying Development under (Part 4A) **General Development Code** may be carried out on land within any zone.
- Complying Development under (Part 5) **Industrial and Business Alterations Code** may be carried out on land within any zone.
- Complying Development under the (Part 6) **Subdivisions Code** may be carried out on land within any zone.
- Complying Development under the (Part 7) **Demolition Code** may be carried out on land within any zone.
- Complying Development under the (Part 8) **Fire Safety Code** may be carried out on land within any zone.

- (2) Complying development may not be carried out on the land under each of the following codes for complying development, to the extent and for the reasons stated under clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Housing Code	Complying Development may not be carried out under the Housing Code as the subject land falls within a Local Environmental Plan zone that does not meet the requirements of the code.
Rural housing code	Complying Development MAY NOT be carried out under the Rural Housing Code as the subject land falls within a Local Environmental Plan zone that does not meet the requirements of the code.
Low Rise Housing Diversity Code	Complying Development may not be carried out

PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated

ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

	under the Low Rise Housing Diversity Code as the subject land falls within a Local Environmental Plan zone that does not meet the requirements of the code.
Greenfield Housing Code	Complying Development may not be carried out under the Greenfield Housing Code as the subject land falls within a Local Environmental Plan zone that does not meet the requirements of the code.
Housing Alterations Code	Complying Development may be carried out on the land under the Housing Alterations Code, subject to the development complying with the relevant standards contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
General Development Code (transitional development under former General Housing Code and related provisions)	Complying Development may be carried out on the land under the General Development Code, subject to the development complying with the relevant standards contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
Industrial and Business Alterations Code	Complying Development may be carried out on the land under the Industrial and Business Alterations Code, subject to the development complying with the relevant standards contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
Industrial and Business Buildings Code	Complying Development may be carried out on the land under the Industrial and Business Buildings Code, subject to the development complying with the relevant standards contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
Container Recycling Facilities Code	Complying Development may be carried out on the land under the Container Recycling Facilities Code, subject to the development complying with the relevant standards contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
Subdivisions Code	Complying Development may be carried out on the land under the Subdivision Code, subject to the development complying with the relevant standards contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
Demolition Code	Complying Development may be carried out on the

PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated

ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

	land under the Demolition Code, subject to the development complying with the relevant standards contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
Fire Safety Code	Complying Development may be carried out on the land under the Fire Safety Code, subject to the development complying with the relevant standards contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

5. Exempt Development

- (1) **If the land is land on which exempt development may be carried out under each of the exempt development codes under State Environmental Policy (Exempt and Complying Development Codes) 2008, because of that Policy, clause 1.16(1) (b1) -(d) or 1.16A.**

The exempt development may be carried out on the land under the following exempt development codes:

- Division 1: General Code
- Division 2: Advertising and Signage Code
- Division 3: Temporary Uses and Structures Code
- Division 4: Special Provisions _ COVID 19

- (2) **If exempt development may not be carried out on the land because of 1 of those clauses, the reasons why it may not be carried out under the clause.**

Biodiversity Conservation Act 2016 and Fisheries Management Act 1994	Exempt Development must not be carried out on land that is a declared area of outstanding biodiversity value under the Biodiversity Conservation Act 2016 or declared critical habitat under Part 7A of the Fisheries Management Act 1994
Wilderness Act 1977	Exempt Development must not be carried out on land that is, or is part of, a wilderness area (within the meaning of Wilderness Act 1987)
Heritage Act 1977	Exempt Development must not be carried out on land that is, or on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977, or that is subject to an interim heritage order under that Act
Schedule 4 _ Land excluded from the General Exempt Development Code	Exempt Development must not be carried out on land that is described or otherwise identified on a map specified in Schedule 4.
Land within 18 kilometres of Siding Spring Observatory	Exempt Development must not be carried out on Land within 18 kilometres of Siding Spring

PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated
ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

	Observatory
--	-------------

Note: Despite any references above advising that Exempt Development may be undertaken on the land, certain Exempt Development may be precluded from occurring on the land due to requirements contained in the remainder of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008. It is necessary to review the State Environmental Planning Policy in detail to ensure that specific types of exempt development may be undertaken on the land.

(3) If the council does not have sufficient information to ascertain the extent to which exempt development may or may not be carried out on the land, a statement that-

- (a) a restriction applies to the land, but it may not apply to all of the land, and**
- (b) the council does not have sufficient information to ascertain the extent to which exempt development may or may not be carried out on the land.**

Note: Despite any references above advising that Exempt Development may be undertaken on the land, certain Exempt Development may be precluded from occurring on the land due to requirements contained in the remainder of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008. It is necessary to review the State Environmental Planning Policy in detail to ensure that specific types of exempt development may be undertaken on the land.

(4) If the exempt development codes are varied, under that Policy, clause 1.12, in relation to the land.

There are no variations to the exempt development codes within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 that apply in the Cessnock local government area.

6. Affected building notices and building product rectification orders

- (1) Whether the Council is aware that -
 - (a) An affected building notice is in force in relation to the land, or
 - (b) A building product rectification order is in force in relation to the land that has not been fully complied with, or
 - (c) A notice of intention to make a building product rectification order given in relation to the land is outstanding.

- (2) In this section –
Affected building notice has the same meaning as in the Building Products (Safety) Act 2017, Part 4.
Building Product Rectification Order has the same meaning as in the Building Products (Safety) Act 2017.

There is not an affected building notice, as defined by the Building Product(Safety)Act 2017,in force in respect to the land.

There is not an outstanding building product rectification order, as defined by the Building Products (Safety) Act 2017, in force in respect to the land.

A notice of intent to make a building product rectification order, as defined by the Building Products(Safety) Act 2017, has not been served in respect to the land.

PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated
ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

7. Land reserved for acquisition

Whether an environmental planning instrument or proposed environmental planning instrument referred to in section 1 makes provision in relation to the acquisition of the land by an authority of the State, as referred to in the Act, section 3.15.

No

8. Road widening and road alignment

Whether or not the land is affected by any road widening or road realignment under:

- (a) Roads Act 1993 Part 3, Division 2, or
- (b) any environmental planning instrument, or
- (c) a resolution of the council.

The land is not affected by a road widening or road realignment proposal under:

- (a) Division 2 of Part 3 of the Roads Act 1993, or
- (b) any environmental planning instrument, or
- (c) any resolution of the council.

9. Flood related development controls

- (1) If the land or part of the land is within the flood planning area and subject to flood related development controls.

No

- (2) If the land or part of the land is between the flood planning area and the probable maximum flood and subject to flood related development controls.

No

Note: In this section –

Flood Planning Area has the same meaning as in the Floodplain Development Manual.

Floodplain Development Manual means the Floodplain Development Manual (ISBN 0 7347 5476 0) published by the NSW Government in April 2005.

Probable Maximum Flood has the same meaning as in the Floodplain Development Manual.

Details relating to flood risk and flood planning levels are provided on a flood certificate and flood data application form. See Cessnock City Council's website

[Flood Certificate and Flood Data Application Form](#)

10. Council and other public authority hazard risk restrictions

- (1) Whether any of the land is affected by an adopted policy that restricts the development of the land because of:



PLANNING CERTIFICATE

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ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated
ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

Landslip

No

Bushfire

No

Tidal Inundation

No

Subsidence

No

Acid Sulphate Soils

No

Contamination

No

Aircraft Noise

No

Salinity

No

Coastal Hazards

No

Sea Level Rise

No

Any Other Risk (other than flooding)

No

(2) Adopted policy means a policy adopted -

(a) by the council, or

(b) by another public authority, if the public authority has notified the council that the policy will be included in a planning certificate issued by the council.

11. Bush fire prone land

- (1) If any of the land is bushfire prone land, designated by the Commissioner of the NSW Rural Fire Service under the Act, section 10.3, a statement that all or some of the land is bushfire prone land.
- (2) If none of the land is bushfire prone land, a statement to that effect.

None of the land is bushfire prone land as defined in the Environmental Planning & Assessment Act 1979.

12. Loose-fill asbestos insulation



PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated

ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

If the land includes residential premises within the meaning of the *Home Building Act 1989* (Part 8, Division 1A), that are listed on the Register kept under that Division, a statement to that effect.

No

13. Mine subsidence

Whether the land is declared to be a mine subsidence district, within the meaning of the Coal Mine Subsidence Compensation Act 2017.

No

14. Paper subdivision information

(1) The name of a development plan adopted by a relevant authority that:

(a) applies to the land, or

(b) is proposed to be subject to a ballot.

There is no development plan adopted by a relevant authority that applies to the land of that is proposed to be subject to a consent ballot.

(2) The date of a subdivision order that applies to the land.

There is no subdivision order that applies to the land

(3) Words and expressions used in this section have the same meaning as in this Regulation, Part 10 and the Act, Schedule 7.

15. Property vegetation plans

The land is not land to which a property vegetation plan approved under Part 4 of the Native Vegetation Act 2003 (and that continues in force) applies, only insofar as the Council has been notified of the existence of the plan by the person or body that approved the plan under the Act.

16. Biodiversity stewardship sites

The land is not a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the Biodiversity Conservation Act 2016, but only insofar as the Council has been notified of the existence of the agreement by the Biodiversity Conservation Trust.

Note. Biodiversity stewardship agreements include biobanking agreements under Part 7A of the *Threatened Species Conservation Act 1995* that are taken to be biodiversity stewardship agreements under Part 5 of the *Biodiversity Conservation Act 2016*.

17. Biodiversity certified land

The land is not biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016.



PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated
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Note. Biodiversity certified land includes land certified under the *Threatened Species Conservation Act 1995*. Part 7AA that is taken to be certified under the *Biodiversity Conservation Act 2016*, Part 8.

18. Orders under *Trees (Disputes Between Neighbours) Act 2006*

Whether an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

No

19. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

If the *Coastal Management Act 2016* applies to the council, whether the owner, or a previous owner, of the land has given written consent to the land being subject to annual charges under the Local Government Act 1993, section 496B for coastal protection services that relate to existing coastal protection work.

No, the land is not subject to annual charges under the Local Government Act 1993, section 496B, for coastal protection services.

20. Western Sydney Aerotropolis

The State Environmental Planning Policy (Precincts—Western Parkland City) 2021 does not apply to land within the Cessnock local government area.

21. Development Consent Conditions for Seniors Housing

Development consent conditions for seniors housing

If [State Environmental Planning Policy \(Housing\) 2021](#), Chapter 3, Part 5 applies to the land, any conditions of a development consent granted after 11 October 2007 in relation to the land that are of the kind set out in that Policy, section 88(2).

No

22. Site compatibility certificates and development consent conditions for affordable rental housing

1. Whether there is a current site compatibility certificate under State Environmental Planning Policy (Housing) 2021, or a former site compatibility certificate, of which the council is aware, in relation to proposed development on the land and, if there is a certificate—

- a) the period for which the certificate is current, and
- b) that a copy may be obtained from the Department.



PLANNING CERTIFICATE

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ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated

ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

There is not a valid current or former site compatibility verification certificate for affordable rental housing on the land.

2. ***If State Environmental Planning Policy (Housing) 2021, Chapter 2, Part 2, Division 1 or 5 applies to the land, a statement setting out terms of a kind referred to in the Policy, clause 21(1) or 40(1).***

No, Council is not aware of a condition of a development consent in relation to the land that are of a kind referred to in State Environmental Planning Policy (Affordable Rental Housing) 2009, Clause 17(1) or 38(1).

Note: Any conditions of a development consent in relation to land that are of a kind referred to in State Environmental Planning Policy (Affordable Rental Housing) 2009, clause 17(1) or 38(1).
In this section, former site compatibility certificate means a site compatibility certificate issued under State Environmental Planning Policy (Affordable Rental Housing) 2009.

3. ***Any conditions of a development consent in relation to land that are of a kind referred to in State Environmental Planning Policy (Affordable Housing) 2009, clause 17(1) or 38(1).***

No

4. ***In this section-***

Former site compatibility certificate means a site compatibility certificate issued under State Environmental Planning Policy (Affordable Rental Housing) 2009.



PLANNING CERTIFICATE

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ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated
ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

Additional Matters

Matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

- (a) The land or part of the land is not significantly contaminated land within the meaning of the Contaminated Land Management Act 1997 at the date this certificate is issued.
- (b) The land is not subject to a management order within the meaning of the Contaminated Land Management Act 1997 at the date this certificate is issued.
- (c) The land is not the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997 at the date this certificate is issued.
- (d) The land is not the subject of an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997 at the date this certificate is issued.
- (e) The land is not the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 (if a copy of such a statement has been provided at any time) to the local authority issuing the certificate.

For further information, please contact Council's Assistant Strategic Planner on 02 4993 4100.

Peter Mickleson
Director Planning and Environment



PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated
ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

Tom Hall
2 Murray Dwyer Circuit,
Mayfield
NSW 2304

Applicants Reference
Qualtest - Kurri Kurri

CERTIFICATE DETAILS

Certificate Number: 3206
Date of Certificate: 08/11/2022

PROPERTY DETAILS

Address: Kingsway Plaza (North) 178 Lang Street
KURRI KURRI NSW 2327
Title: LOT: 136 DP: 869710
Parcel No.: 27205

BACKGROUND INFORMATION

This certificate provides information on how the relevant parcel of land may be developed, including the planning restrictions that apply to development of the land, as at the date the certificate is issued. The certificate contains information Council is aware of through its records and environmental plans, along with data supplied by the State Government. The details contained in this certificate are limited to that required by Section 10.7 of the *Environmental Planning and Assessment Act, 1979*.

t 02 4993 4100 f 02 4993 2500
p: PO Box 152 Cessnock NSW 2325
e: council@cessnock.nsw.gov.au w: www.cessnock.nsw.gov.au
ABN 60 919 148 928



PLANNING CERTIFICATE

ISSUED UNDER SECTION 10.7 (2) & (5)
ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
and associated
ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2021

Additional information pursuant to Section 10.7(5) of the *Environmental Planning & Assessment Act 1979*

(5) A council may, in a planning certificate, include advice on such other relevant matters affecting the land of which it may be aware.

Council's records do not indicate that the land the subject of this Certificate is subject to Noise Exposure.

For further information, please contact Council's Strategic Land Use Planning unit, of the Planning and Environment directorate on 02 4993 4100.

A handwritten signature in black ink, appearing to read "P. Mickleson", with a stylized flourish at the end.

Peter Mickleson
Director Planning and Environment

APPENDIX H:

Borehole Logs

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH01
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH
DATE: 1/12/22

DRILL TYPE: DIAMOND TIP CORING BIT / HAND AUGER
BOREHOLE DIAMETER: 80/200 mm

SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result		
PCD	Not Encountered	0.10m					CONCRETE SLAB - approximately 100mm thick.	M					CONCRETE SLAB
HA		E 0.20m 0.25m					SP						FILL: SAND - fine grained sand, pale brown.
		E 0.35m					CL					CLAY - low to medium plasticity, orange-brown, with some grey-brown, trace fine grained sand, trace fine grained angular to sub-angular gravel.	RESIDUAL SOIL
				0.5			Hole Terminated at 0.40 m Practical Refusal on possible weathered rock						
				1.0									
				1.5									
				2.0									

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₅₀	50mm Diameter tube sample	VS	Very Soft	<25	D Dry
 Water Level (Date and time shown)		CBR	Bulk sample for CBR testing	S	Soft	25 - 50	M Moist
 Water Inflow  Water Outflow		E	Environmental sample (Glass jar, sealed and chilled on site)	F	Firm	50 - 100	W Wet
Strata Changes		ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)	St	Stiff	100 - 200	W _p Plastic Limit
 Gradational or transitional strata  Definitive or distinct strata change		B	Bulk Sample	VSt	Very Stiff	200 - 400	W _L Liquid Limit
Field Tests		PID	Photoionisation detector reading (ppm)	H	Hard	>400	
DCP(x-y)		HP	Hand Penetrometer test (UCS kPa)	Fb	Friable		
				Density	V	Very Loose	Density Index <15%
					L	Loose	Density Index 15 - 35%
					MD	Medium Dense	Density Index 35 - 65%
					D	Dense	Density Index 65 - 85%
					VD	Very Dense	Density Index 85 - 100%

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH02
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH
DATE: 1/12/22

DRILL TYPE: DIAMOND TIP CORING BIT / HAND AUGER
BOREHOLE DIAMETER: 200/80 mm

SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
PCD	Not Encountered	0.10m				SP	CONCRETE SLAB - approximately 100mm thick.	M		HP	150	CONCRETE SLAB
HA					FILL: SAND - fine grained sand, brown.		FILL					
					CLAY - low to medium plasticity, orange to red-brown, with some grey-brown, fines of fine grained sand, trace fine grained angular to sub-angular gravel.		RESIDUAL SOIL					
				0.5			Hole Terminated at 0.50 m Practical Refusal					
				1.0								
				1.5								
				2.0								
											</	

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₅₀	50mm Diameter tube sample	VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR	Bulk sample for CBR testing	S	Soft	25 - 50	M Moist
Water Inflow		E	Environmental sample (Glass jar, sealed and chilled on site)	F	Firm	50 - 100	W Wet
Water Outflow		ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)	St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B	Bulk Sample	VSt	Very Stiff	200 - 400	W _L Liquid Limit
Gradational or transitional strata				H	Hard	>400	
Definitive or distinct strata change				Fb	Friable		
		Field Tests		Density			
		PID	Photoionisation detector reading (ppm)	V	Very Loose	Density Index <15%	
		DCP(x-y)	Dynamic penetrometer test (test depth interval shown)	L	Loose	Density Index 15 - 35%	
		HP	Hand Penetrometer test (UCS kPa)	MD	Medium Dense	Density Index 35 - 65%	
				D	Dense	Density Index 65 - 85%	
				VD	Very Dense	Density Index 85 - 100%	

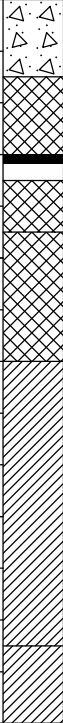
ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH03
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH
DATE: 1/12/22

DRILL TYPE: DIAMOND TIP CORING BIT / HAND AUGER
BOREHOLE DIAMETER: 200/80 mm

SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result		
PCD	HA	Not Encountered				SP	CONCRETE SLAB - approximately 150mm thick.	M				CONCRETE SLAB	
							0.15m					FILL: Gravelly SAND - fine to medium grained, pale brown to brown, fine grained angular to sub-angular gravel, trace fines of low plasticity.	FILL
							0.20m					ASPHALT	ASPHALT
							0.30m					FILL: Gravelly SAND - fine to coarse grained, green-brown with some grey, fine grained angular to sub-angular gravel, trace fines of low plasticity.	FILL
							0.35m					FILL: Gravelly SAND - fine to coarse grained, dark brown to black, fine grained sub-rounded to sub-angular gravel, trace fines of low plasticity.	
							0.45m					CLAY - medium plasticity, orange-brown to red-brown, trace fine grained sand.	RESIDUAL SOIL
							0.55m						
							0.70m						
							0.80m						
</													

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)		Moisture Condition	
Water		U ₃₀ 50mm Diameter tube sample		VS Very Soft		<25		D Dry	
Water Level (Date and time shown)		CBR Bulk sample for CBR testing		S Soft		25 - 50		M Moist	
Water Inflow		E Environmental sample (Glass jar, sealed and chilled on site)		F Firm		50 - 100		W Wet	
Water Outflow		ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)		St Stiff		100 - 200		W _p Plastic Limit	
Strata Changes		B Bulk Sample		VSt Very Stiff		200 - 400		W _L Liquid Limit	
Gradational or transitional strata		Field Tests		H Hard		>400			
Definitive or distinct strata change		PID Photoionisation detector reading (ppm)		Fb Friable					
		DCP(x-y) Dynamic penetrometer test (test depth interval shown)		Density		V Very Loose		Density Index <15%	
		HP Hand Penetrometer test (UCS kPa)		L Loose		MD Medium Dense		Density Index 15 - 35%	
				D Dense		VD Very Dense		Density Index 35 - 65%	
								Density Index 65 - 85%	
								Density Index 85 - 100%	



ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRANT PTY LTD C/- JNA ADVISORY PTY LTD

PROJECT: PROPOSED COMMERCIAL DEVELOPMENT

LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO:

BH04

PAGE:

1 OF 1

JOB NO:

NEW22P-0213

LOGGED BY:

TH / BE

DATE:

1/12/22

DRILL TYPE: DIAMOND TIP CORING BIT / HAND AUGER

SURFACE RL:

BOREHOLE DIAMETER: 80/200 mm

DATUM:

Drilling and Sampling					Material description and profile information						Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result		
PCD	Not Encountered	0.15m		0.5		SP	CONCRETE SLAB - approximately 130mm thick.	M				CONCRETE SLAB	
HA		E 0.25m					0.13m					FILL: SAND - fine to coarse grained, pale brown, trace fine to medium grained angular to sub-rounded gravel.	FILL
		0.55m					0.55m					Increasing in gravel content.	RESIDUAL SOIL
		E 0.65m					CH					CLAY - medium to high plasticity, orange-brown.	
							0.80m 0.81m	Silty SANDSTONE - fine grained, pale orange and pale grey, estimated medium strength. Hole Terminated at 0.81 m Practical Refusal on weathered rock	D			SLIGHTLY WEATHERED ROCK	
				1.0									
				1.5									
				2.0									

LEGEND:

Water

-  Water Level
 (Date and time shown)
 Water Inflow
 Water Outflow

Strata Changes

- Strata Changes**
- — — Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- | | |
|-----------------|--|
| U ₅₀ | 50mm Diameter tube sample |
| CBR | Bulk sample for CBR testing |
| E | Environmental sample
(Glass jar, sealed and chilled on site) |
| ASS | Acid Sulfate Soil Sample
(Plastic bag, air expelled, chilled) |
| B | Bulk Sample |

Field Tests

- | | |
|----------|---|
| PID | Photoionisation detector reading (ppm) |
| DCP(x-y) | Dynamic penetrometer test (test depth interval shown) |
| HP | Hand Penetrometer test (UCS kPa) |

	Consistency

- | | |
|-----|------------|
| VS | Very Soft |
| S | Soft |
| F | Firm |
| St | Stiff |
| VSt | Very Stiff |
| H | Hard |
| Fb | Friable |

UCS (kPa)

- <25
25 - 50
50 - 100
100 - 200
200 - 400
>400

Moisture Condition

- | | |
|-------|---------------|
| D | Dry |
| M | Moist |
| W | Wet |
| W_p | Plastic Limit |
| W_l | Liquid Limit |

Density

- | <u>Density</u> | | |
|----------------|--------------|-------------------------|
| V | Very Loose | Density Index <15% |
| L | Loose | Density Index 15 - 35% |
| MD | Medium Dense | Density Index 35 - 65% |
| D | Dense | Density Index 65 - 85% |
| VD | Very Dense | Density Index 85 - 100% |

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH05
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 1/12/22

DRILL TYPE: DIAMOND TIP CORING BIT / HAND AUGER
BOREHOLE DIAMETER: 80/200 mm

SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result			
PCD	Not Encountered	0.15m					0.15m CONCRETE SLAB - approximately 150mm thick.	M					CONCRETE SLAB	
HA		E 0.25m					SP						0.25m FILL: SAND - fine to medium grained, brown, trace fine grained sub-angular to angular gravel.	FILL
		0.30m					CH						CLAY - medium to high plasticity, brown to red-brown, with some pale grey, trace fine grained sand.	RESIDUAL SOIL
		E 0.40m										0.40m 0.41m Silty SANDSTONE - fine grained, pale orange and pale grey, estimated medium strength. Hole Terminated at 0.41 m Practical Refusal on weathered rock	SLIGHTLY WEATHERED ROCK	
				0.5										
				1.0										
				1.5										
				2.0										

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₅₀	50mm Diameter tube sample	VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR	Bulk sample for CBR testing	S	Soft	25 - 50	M Moist
Water Inflow		E	Environmental sample (Glass jar, sealed and chilled on site)	F	Firm	50 - 100	W Wet
Water Outflow		ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)	St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B	Bulk Sample	VSt	Very Stiff	200 - 400	W _L Liquid Limit
Gradational or transitional strata				H	Hard	>400	
Definitive or distinct strata change				Fb	Friable		
Field Tests		PID	Photoionisation detector reading (ppm)	Density		V Very Loose	Density Index <15%
DCP(x-y)			Dynamic penetrometer test (test depth interval shown)	L	Loose		Density Index 15 - 35%
HP			Hand Penetrometer test (UCS kPa)	MD	Medium Dense		Density Index 35 - 65%
				D	Dense		Density Index 65 - 85%
				VD	Very Dense		Density Index 85 - 100%



ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRANT PTY LTD C/- JNA ADVISORY PTY LTD

PROJECT: PROPOSED COMMERCIAL DEVELOPMENT

LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO:

BH06

PAGE:

1 OF 1

JOB NO:

NEW22P-0213

LOGGED BY:

TH / BE

DATE:

1/12/22

DRILL TYPE: DIAMOND TIP CORING BIT / HAND AUGER

SURFACE RL:

BOREHOLE DIAMETER: 80/200 mm

DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
PCD							CONCRETE SLAB - approximately 160mm thick.					CONCRETE
HA	Not Encountered	0.20m				SP	FILL: SAND - fine to medium grained, brown, trace fine to medium grained angular to sub-angular gravel.	M				FILL
		0.30m				CL	CLAY - low to medium plasticity, grey-brown, with some black.			HP	80 - 100	COLLUVIUM / POSSIBLE FILL
		0.40m				CL						
				0.5		CL				HP	150	
						CI	CLAY - medium plasticity, orange to red-brown, with pale grey, trace fine grained sand.					
						CL	CLAY - low to medium plasticity, pale grey and pale brown, with fine grained sand.					
				1.0		CL				HP	80	
							Hole Terminated at 1.00 m Practical Refusal on possible weathered rock					
				1.5								
				2.0								

LEGEND:

Water

-  Water Level
 (Date and time shown)
 Water Inflow
 Water Outflow

Strata Changes

- Strata Changes**
- — Gradational or transitional strata
 - Definitive or distinct strata change

Notes, Samples and Tests

- | | |
|-----------------|--|
| U ₅₀ | 50mm Diameter tube sample |
| CBR | Bulk sample for CBR testing |
| E | Environmental sample
(Glass jar, sealed and chilled on site) |
| ASS | Acid Sulfate Soil Sample
(Plastic bag, air expelled, chilled) |
| B | Bulk Sample |

Field Tests

- | | |
|----------|---|
| PID | Photoionisation detector reading (ppm) |
| DCP(x-y) | Dynamic penetrometer test (test depth interval shown) |
| HP | Hand Penetrometer test (UCS kPa) |

Consistency

- | | | |
|-----|------------|-----------|
| VS | Very Soft | <25 |
| S | Soft | 25 - 50 |
| F | Firm | 50 - 100 |
| St | Stiff | 100 - 200 |
| VSt | Very Stiff | 200 - 400 |
| H | Hard | >400 |
| Fb | Friable | |

Density

- Density**
- | | |
|----|--------------|
| V | Very Loose |
| L | Loose |
| MD | Medium Dense |
| D | Dense |
| VD | Very Dense |

Moisture Condition

- | | |
|-------|---------------|
| D | Dry |
| M | Moist |
| W | Wet |
| W_p | Plastic Limit |
| W_l | Liquid Limit |

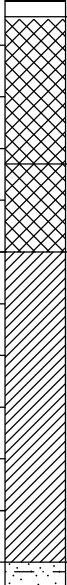
- Density Index <15%
Density Index 15 - 35%
Density Index 35 - 65%
Density Index 65 - 85%
Density Index 85 - 100%

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH07
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations			
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result				
AD/T	Not Encountered	0.10m				GP	0.05m FILL: ASPHALT - approximately 45mm thick.	M				ASPHALT			
		E 0.20m	FILL: Sandy GRAVEL / Gravelly SAND - fine to medium grained, rounded to sub-angular, pale orange-brown, fine to coarse grained sand, trace fines of low plasticity.	FILL - PAVEMENT GRAVEL											
		0.30m				CI	0.33m FILL: Sandy CLAY - medium plasticity, red-brown to dark brown, with some grey, fine to coarse grained sand, with fine to coarse grained (mostly fine to medium grained) angular to sub-angular gravel, trace fines of low plasticity, trace tile fragments.				HP	350	FILL		
		E 0.40m					0.50m FILL: Sandy CLAY - medium plasticity, red-brown to dark brown, with some grey, fine to coarse grained sand, with fine to coarse grained (mostly fine to medium grained) angular to sub-angular gravel, trace fines of low plasticity, trace tile fragments.				HP	380	RESIDUAL SOIL		
		0.50m				CH	CLAY - medium to high plasticity, red-brown, with pale grey, trace pale orange, trace fine grained sand.	M ~ w _p	VS _t	HP	350				
		E 0.60m					HP			450					
		1.00m													
		E 1.10m													

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₃₀ 50mm Diameter tube sample		VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR Bulk sample for CBR testing		S	Soft	25 - 50	M Moist
Water Inflow		E Environmental sample (Glass jar, sealed and chilled on site)		F	Firm	50 - 100	W Wet
Water Outflow		ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)		St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B Bulk Sample		VSt	Very Stiff	200 - 400	W _L Liquid Limit
Gradational or transitional strata		Field Tests		H	Hard	>400	
Definitive or distinct strata change		PID Photoionisation detector reading (ppm)		Fb	Friable		
		DCP(x-y) Dynamic penetrometer test (test depth interval shown)		V	Very Loose		Density Index <15%
		HP Hand Penetrometer test (UCS kPa)		L	Loose		Density Index 15 - 35%
				MD	Medium Dense		Density Index 35 - 65%
				D	Dense		Density Index 65 - 85%
				VD	Very Dense		Density Index 85 - 100%

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH08
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations										
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result											
AD/T	Not Encountered	0.10m				GP	0.03m FILL: ASPHALT - approximately 30mm thick.	M		HP	320	ASPHALT FILL - PAVEMENT GRAVEL										
		E 0.20m					FILL: Sandy GRAVEL / Gravelly SAND - fine to medium grained, rounded to sub-angular, pale orange-brown, fine to coarse grained sand, trace fines of low plasticity.															
		0.50m				E 0.60m	0.5	CI	0.40m Sandy CLAY - medium plasticity, dark grey to dark grey-brown, fine to coarse (mostly fine) grained sand, with fine to medium grained rounded to sub-rounded gravel.			M > w _p	VSt	HP	350	COLLUVIUM / POSSIBLE FILL						
		0.50m CLAY - medium to high plasticity, red-brown, with pale grey, trace pale orange, trace fine grained sand.																				
		CH				Pale grey and orange to red-brown																
		1.60m Silty SANDSTONE - fine grained, pale orange and pale grey, estimated low to medium strength.				D							SLIGHTLY WEATHERED ROCK									
		1.70m																				

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₃₀	50mm Diameter tube sample	VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR	Bulk sample for CBR testing	S	Soft	25 - 50	M Moist
Water Inflow		E	Environmental sample (Glass jar, sealed and chilled on site)	F	Firm	50 - 100	W Wet
Water Outflow		ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)	St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B	Bulk Sample	VSt	Very Stiff	200 - 400	W _L Liquid Limit
Gradational or transitional strata		Field Tests		H	Hard	>400	
Definitive or distinct strata change		PID	Photoionisation detector reading (ppm)	Fb	Friable		
		DCP(x-y)	Dynamic penetrometer test (test depth interval shown)	Density	V	Very Loose	Density Index <15%
		HP	Hand Penetrometer test (UCS kPa)	L	Loose		Density Index 15 - 35%
				MD	Medium Dense		Density Index 35 - 65%
				D	Dense		Density Index 65 - 85%
				VD	Very Dense		Density Index 85 - 100%

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH09
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling				Material description and profile information				Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	
AD/T	Not Encountered	0.10m					0.04m FILL: ASPHALT - approximately 40mm thick.	D		ASPHALT
		E 0.20m				GP	FILL: Sandy GRAVEL - fine to coarse grained, pale brown to brown, fine to medium grained angular to sub-angular gravel, trace fines of low plasticity.			FILL - PAVEMENT GRAVEL
		0.40m					0.40m FILL: Gravelly SAND - fine to coarse grained, brown to dark brown, fine to medium grained angular to sub-angular gravel, trace fines of low plasticity.	M		FILL
		E 0.50m				SP				
		0.85m					0.85m Gravelly CLAY - medium to high plasticity, brown to red-brown, trace orange, trace fine to medium grained rounded to sub-rounded gravel.	M		
		E 0.90m				CH	0.90m Silty SANDSTONE - fine grained, pale orange and pale grey, estimated low to medium strength.	H		RESIDUAL SOIL
							0.91m Hole Terminated at 0.91 m Refusal			SLIGHTLY WEATHERED ROCK

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₃₀	50mm Diameter tube sample	VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR	Bulk sample for CBR testing	S	Soft	25 - 50	M Moist
Water Inflow		E	Environmental sample (Glass jar, sealed and chilled on site)	F	Firm	50 - 100	W Wet
Water Outflow		ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)	St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B	Bulk Sample	VSt	Very Stiff	200 - 400	W _L Liquid Limit
Gradational or transitional strata		Field Tests		H	Hard	>400	
Definitive or distinct strata change		PID	Photoionisation detector reading (ppm)	Fb	Friable		
		DCP(x-y)	Dynamic penetrometer test (test depth interval shown)	V	Very Loose	Density Index <15%	
		HP	Hand Penetrometer test (UCS kPa)	L	Loose	Density Index 15 - 35%	
				MD	Medium Dense	Density Index 35 - 65%	
				D	Dense	Density Index 65 - 85%	
				VD	Very Dense	Density Index 85 - 100%	

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH10
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
AD/T	Not Encountered	0.10m				GP	0.04m FILL: ASPHALT - approximately 40mm thick.	M				ASPHALT
		E 0.20m					FILL: Sandy GRAVEL - fine to coarse grained, pale brown to brown, fine to medium grained angular to sub-angular gravel, trace fines of low plasticity.					FILL - PAVEMENT GRAVEL
		0.40m					FILL: Gravelly SAND - fine to coarse grained, brown to dark brown, fine to medium grained angular to sub-angular gravel, trace fines of low plasticity, trace asbestos fragment.					FILL
		E 0.50m					0.65m					0.70m Silty SANDSTONE - fine grained, pale orange and pale grey, estimated low to medium strength.
							Hole Terminated at 0.70 m Refusal					
				1.0								
				1.5								
				2.0								

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition	
Water		U ₃₀	50mm Diameter tube sample	VS	Very Soft	<25	D	Dry
Water Level (Date and time shown)		CBR	Bulk sample for CBR testing	S	Soft	25 - 50	M	Moist
Water Inflow		E	Environmental sample (Glass jar, sealed and chilled on site)	F	Firm	50 - 100	W	Wet
Water Outflow		ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)	St	Stiff	100 - 200	W _p	Plastic Limit
Strata Changes		B	Bulk Sample	VSt	Very Stiff	200 - 400	W _L	Liquid Limit
Gradational or transitional strata				H	Hard	>400		
Definitive or distinct strata change				Fb	Friable			
		Field Tests		Density				
		PID	Photoionisation detector reading (ppm)	V	Very Loose		Density Index <15%	
		DCP(x-y)	Dynamic penetrometer test (test depth interval shown)	L	Loose		Density Index 15 - 35%	
		HP	Hand Penetrometer test (UCS kPa)	MD	Medium Dense		Density Index 35 - 65%	
				D	Dense		Density Index 65 - 85%	
				VD	Very Dense		Density Index 85 - 100%	

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH11
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information				Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered	0.10m					0.04m FILL: ASPHALT - approximately 40mm thick.	D - M				ASPHALT
		E 0.20m			GP	FILL: Sandy GRAVEL - fine to medium grained, angular to sub-angular, pale brown to brown, fine to coarse grained sand, trace fines of low plasticity.	FILL - PAVEMENT GRAVEL					
		0.30m				0.30m FILL: Gravelly SAND - fine to coarse grained, brown to dark brown, fine to medium grained angular to sub-angular gravel, trace fines of low plasticity.	FILL					
		0.40m			SP							
		0.80m				0.80m CLAY - medium to high plasticity, red-brown, with grey, trace pale orange, trace fine to medium grained rounded to sub-rounded gravel.	M > w _p	St	HP	150	RESIDUAL SOIL	
		E 0.90m			CH	Pale grey, with orange to red-brown and pale brown.						
	</											

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₃₀ 50mm Diameter tube sample		VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR Bulk sample for CBR testing		S	Soft	25 - 50	M Moist
Water Inflow		E Environmental sample (Glass jar, sealed and chilled on site)		F	Firm	50 - 100	W Wet
Water Outflow		ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)		St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B Bulk Sample		VSt	Very Stiff	200 - 400	W _L Liquid Limit
Gradational or transitional strata		Field Tests		H	Hard	>400	
Definitive or distinct strata change		PID Photoionisation detector reading (ppm)		Fb	Friable		
		DCP(x-y) Dynamic penetrometer test (test depth interval shown)		Density		V Very Loose	Density Index <15%
		HP Hand Penetrometer test (UCS kPa)		L	Loose	MD Medium Dense	Density Index 15 - 35%
				D	Dense	VD Very Dense	Density Index 35 - 65%
							Density Index 65 - 85%
							Density Index 85 - 100%

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH12
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
AD/T	Not Encountered	0.10m					0.04m FILL: ASPHALT - approximately 40mm thick.	M				ASPHALT
		E 0.20m				GP	FILL: Sandy GRAVEL - fine to medium grained, angular to sub-angular, pale brown to brown, fine to coarse grained sand, trace fines of low plasticity.					FILL - PAVEMENT GRAVEL
		0.50m		0.5			0.40m FILL: Gravelly SAND - fine to coarse grained, brown to dark brown, fine to medium grained angular to sub-angular gravel, trace fines of low plasticity, trace clay pockets.					FILL
		E 0.60m				SP						
		1.00m		1.0								
		E 1.10m					1.20m Silty SANDSTONE - fine grained, pale orange and pale grey, estimated low to medium strength. Hole Terminated at 1.21 m Refusal	D			SLIGHTLY WEATHERED ROCK	
				1.5								
				2.0								

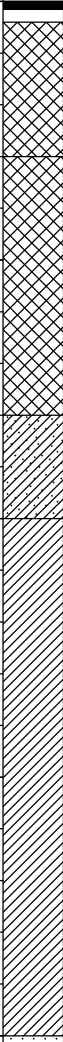
LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₅₀	50mm Diameter tube sample	VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR	Bulk sample for CBR testing	S	Soft	25 - 50	M Moist
Water Inflow		E	Environmental sample (Glass jar, sealed and chilled on site)	F	Firm	50 - 100	W Wet
Water Outflow		ASS	Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)	St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B	Bulk Sample	VSt	Very Stiff	200 - 400	W _L Liquid Limit
Gradational or transitional strata				H	Hard	>400	
Definitive or distinct strata change				Fb	Friable		
		Field Tests		Density			
		PID	Photoionisation detector reading (ppm)	V	Very Loose	Density Index <15%	
		DCP(x-y)	Dynamic penetrometer test (test depth interval shown)	L	Loose	Density Index 15 - 35%	
		HP	Hand Penetrometer test (UCS kPa)	MD	Medium Dense	Density Index 35 - 65%	
				D	Dense	Density Index 65 - 85%	
				VD	Very Dense	Density Index 85 - 100%	

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH13
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information				Field Test		Structure and additional observations			
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result		
AD/T	Not Encountered	0.10m				GP	0.04m FILL: ASPHALT - approximately 40mm thick.	M				ASPHALT		
		E 0.20m	FILL: Sandy GRAVEL - fine to medium grained, angular to sub-angular, pale brown to brown, fine to coarse grained sand, trace fines of low plasticity.	FILL - PAVEMENT GRAVEL										
		0.30m		CL		0.30m FILL: Sandy CLAY - low plasticity, dark brown, fine to medium grained sand, trace fine grained sub-angular to angular gravel, trace fines of low plasticity.	M > w _p		HP	180	FILL			
		E 0.40m	FILL: Sandy CLAY - low plasticity, dark brown, fine to medium grained sand, trace fine grained sub-angular to angular gravel, trace fines of low plasticity.											
		0.80m		CI		0.80m Sandy CLAY - medium plasticity, brown, with orange to red-brown, fine to coarse grained sand, with some fine grained sub-angular to angular gravel.					St - VSt	HP	220	RESIDUAL SOIL
		E 0.90m	Sandy CLAY - medium plasticity, brown, with orange to red-brown, fine to coarse grained sand, with some fine grained sub-angular to angular gravel.											
				CI		1.00m CLAY - medium plasticity, grey-white, with some orange-brown, trace fine grained sand.			HP	150				
											Silty SANDSTONE band (approximately 50mm thick).			

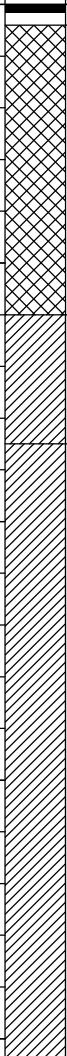
LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₃₀ 50mm Diameter tube sample		VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR Bulk sample for CBR testing		S	Soft	25 - 50	M Moist
Water Inflow		E Environmental sample (Glass jar, sealed and chilled on site)		F	Firm	50 - 100	W Wet
Water Outflow		ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)		St	Stiff	100 - 200	w _p Plastic Limit
Strata Changes		B Bulk Sample		VSt	Very Stiff	200 - 400	w _L Liquid Limit
Gradational or transitional strata		Field Tests		H	Hard	>400	
Definitive or distinct strata change		PID Photoionisation detector reading (ppm)		Fb	Friable		
		DCP(x-y) Dynamic penetrometer test (test depth interval shown)		V	Very Loose	Density Index <15%	
		HP Hand Penetrometer test (UCS kPa)		L	Loose	Density Index 15 - 35%	
				MD	Medium Dense	Density Index 35 - 65%	
				D	Dense	Density Index 65 - 85%	
				VD	Very Dense	Density Index 85 - 100%	

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH14
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations				
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result					
AD/T	Not Encountered	0.10m					0.04m FILL: ASPHALT - approximately 40mm thick.	M				ASPHALT				
		E 0.20m					FILL: Sandy GRAVEL - fine to medium grained, angular to sub-angular, pale brown to brown, fine to coarse grained sand, trace fines of low plasticity.					FILL - PAVEMENT GRAVEL				
						GP										
		0.50m		0.5												
		E 0.60m														
										0.60m	CLAY - low to medium plasticity, grey with some red-brown and orange, trace fine grained sub-rounded to sub-angular gravel.		St	HP	150	COLLUVIUM / RESIDUAL SOIL
													HP	110		
										0.85m	CLAY - medium plasticity, red-brown, with pale grey, trace pale orange, trace fine grained sand.		VSt	HP	280	RESIDUAL SOIL
		1.00m		1.0												
		E 1.10m											HP	200		
											</					

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)		Moisture Condition	
Water		U ₃₀ 50mm Diameter tube sample		VS Very Soft		<25		D Dry	
Water Level (Date and time shown)		CBR Bulk sample for CBR testing		S Soft		25 - 50		M Moist	
Water Inflow		E Environmental sample (Glass jar, sealed and chilled on site)		F Firm		50 - 100		W Wet	
Water Outflow		ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)		St Stiff		100 - 200		W _p Plastic Limit	
Strata Changes		B Bulk Sample		VSt Very Stiff		200 - 400		W _L Liquid Limit	
Gradational or transitional strata		Field Tests		H Hard		>400			
Definitive or distinct strata change		PID Photoionisation detector reading (ppm)		Fb Friable					
		DCP(x-y) Dynamic penetrometer test (test depth interval shown)		Density		V Very Loose		Density Index <15%	
		HP Hand Penetrometer test (UCS kPa)				L Loose		Density Index 15 - 35%	
						MD Medium Dense		Density Index 35 - 65%	
						D Dense		Density Index 65 - 85%	
						VD Very Dense		Density Index 85 - 100%	

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH15
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result		
AD/T	Not Encountered	0.10m				GP	0.04m FILL: ASPHALT - approximately 40mm thick.	D				ASPHALT	
		FILL: Sandy GRAVEL - fine to medium grained, angular to sub-angular, pale brown to brown, fine to coarse grained sand, trace fines of low plasticity.					M	FILL - PAVEMENT GRAVEL					
		E 0.20m				GP	0.30m FILL: ASPHALT - approximately 40mm thick.	D				ASPHALT	
		0.34m FILL: Sandy GRAVEL - fine to medium grained, angular to sub-angular, pale brown to brown, fine to coarse grained sand, trace fines of low plasticity.					M	FILL - PAVEMENT GRAVEL					
		0.50m				SP	0.50m FILL: Gravelly SAND - fine to coarse grained, brown to dark brown, fine to medium grained angular to sub-angular gravel, trace clay fines of low plasticity.	M				FILL	
		E 0.60m					With clay.						
		1.10m				CI	FILL: CLAY - medium plasticity, dark brown, with some grey-brown, trace glass fragments.	M ~ w _p					
		E 1.20m											
		1.50m					1.60m	D					
		E 1.60m					1.90m						
		1.91m				Silty SANDSTONE - fine grained, pale orange and pale grey, estimated low to medium strength. Hole Terminated at 1.91 m Refusal		SLIGHTLY WEATHERED ROCK					

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)	Moisture Condition
Water		U ₃₀ 50mm Diameter tube sample		VS	Very Soft	<25	D Dry
Water Level (Date and time shown)		CBR Bulk sample for CBR testing		S	Soft	25 - 50	M Moist
Water Inflow		E Environmental sample (Glass jar, sealed and chilled on site)		F	Firm	50 - 100	W Wet
Water Outflow		ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)		St	Stiff	100 - 200	W _p Plastic Limit
Strata Changes		B Bulk Sample		VSt	Very Stiff	200 - 400	W _L Liquid Limit
Gradational or transitional strata		Field Tests		H	Hard	>400	
Definitive or distinct strata change		PID Photoionisation detector reading (ppm)		Fb	Friable		
		DCP(x-y) Dynamic penetrometer test (test depth interval shown)		Density	V Very Loose	Density Index <15%	
		HP Hand Penetrometer test (UCS kPa)			L Loose	Density Index 15 - 35%	
					MD Medium Dense	Density Index 35 - 65%	
					D Dense	Density Index 65 - 85%	
					VD Very Dense	Density Index 85 - 100%	

ENGINEERING LOG - BOREHOLE

CLIENT: VOLTRAIT PTY LTD C/- JNA ADVISORY PTY LTD
PROJECT: PROPOSED COMMERCIAL DEVELOPMENT
LOCATION: 178 LANG STREET, KURRI KURRI

BOREHOLE NO: BH16
PAGE: 1 OF 1
JOB NO: NEW22P-0213
LOGGED BY: TH / BE
DATE: 5/12/22

DRILL TYPE: 2.7 TONNE EXCAVATOR WITH AUGER ATTACHMENT
BOREHOLE DIAMETER: 300 mm
SURFACE RL:
DATUM:

Drilling and Sampling					Material description and profile information					Field Test		Structure and additional observations
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	
AD/T	Not Encountered	0.10m					0.05m FILL: ASPHALT - approximately 50mm thick.					ASPHALT
		E 0.20m				GP	FILL: Sandy GRAVEL - fine to medium grained, angular to sub-angular, pale brown to brown, fine to coarse grained sand, trace fines of low plasticity.					FILL - PAVEMENT GRAVEL
		0.30m					0.30m FILL: Gravelly SAND - fine to coarse grained, brown to dark brown, fine to medium grained angular to sub-angular gravel, trace fines of low plasticity, trace brick fragments.					FILL
		E 0.40m				SP		M				
				0.5								
		1.00m		1.0			0.90m CLAY - medium plasticity, pale grey, with red-brown.					RESIDUAL SOIL
		1.10m					Red-brown.					
				1.5		CI		M > w _p	St	HP	180	
						1.85m 1.86m Silty SANDSTONE - fine grained, pale orange and pale grey, estimated low to medium strength. Hole Terminated at 1.86 m Refusal	D		HP	150	SLIGHTLY WEATHERED ROCK	
				2.0								

LEGEND:		Notes, Samples and Tests		Consistency		UCS (kPa)		Moisture Condition	
Water		U ₃₀ 50mm Diameter tube sample		VS	Very Soft	<25		D	Dry
Water Level (Date and time shown)		CBR Bulk sample for CBR testing		S	Soft	25 - 50		M	Moist
Water Inflow		E Environmental sample (Glass jar, sealed and chilled on site)		F	Firm	50 - 100		W	Wet
Water Outflow		ASS Acid Sulfate Soil Sample (Plastic bag, air expelled, chilled)		St	Stiff	100 - 200		W _p	Plastic Limit
Strata Changes		B Bulk Sample		VSt	Very Stiff	200 - 400		W _L	Liquid Limit
Gradational or transitional strata		Field Tests		H	Hard	>400			
Definitive or distinct strata change		PID Photoionisation detector reading (ppm)		Fb	Friable				
		DCP(x-y) Dynamic penetrometer test (test depth interval shown)		Density		V Very Loose		Density Index <15%	
		HP Hand Penetrometer test (UCS kPa)		L Loose		MD Medium Dense		Density Index 15 - 35%	
				D Dense		VD Very Dense		Density Index 35 - 65%	
								Density Index 65 - 85%	
								Density Index 85 - 100%	

APPENDIX I:

Tables

Table 1 - Soil Analytical Results - TRH, BTEX, PAHs, Metals
178 Lang Street, Kurri Kurri



						Field ID	BH01_0.1-0.2	BH02_0.1-0.2	BH03_0.25-0.35	BH04_0.15-0.25	BH05_0.15-0.25	BH06_0.2-0.3	BH07_0.1-0.2	BH08_0.1-0.2	BH09_0.1-0.2	BH10_0.1-0.2	BH10_0.4-0.5	BH10_0.4-0.5 ACM	BH11_0.3-0.4	BH12_0.5-0.6
						Date	1/12/2022	1/12/2022	1/12/2022	1/12/2022	1/12/2022	1/12/2022	5/12/2022	5/12/2022	5/12/2022	5/12/2022	5/12/2022	5/12/2022	5/12/2022	5/12/2022
Analytes		Units	LOR	HIL/HSL D ¹	EIL/ESL D	Mgmt Limits														
pH & CEC	pH (1:5 Aqueous extract)	pH units	0.1				-	-		-	-	-	-	-	-	-	-	-	-	-
	Cation Exchange Capacity	meq/100g	0.1				-	-		-	-	-	-	-	-	-	-	-	-	-
Metals	Arsenic	mg/kg	2	3000	160		< 2	< 2	8.2	< 2	< 2	< 2	7.2	7	6.2	-	8.4	-	8	6.7
	Cadmium	mg/kg	0.4	900			< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-	< 0.4	-	< 0.4	< 0.4
	Chromium	mg/kg	5	3600	680**		< 5	10	9.8	< 5	7.2	15	7.8	6.1	5.2	-	22	-	20	8.5
	Copper	mg/kg	5	240000	300**		< 5	7.7	17	15	5.3	7.3	12	11	10	-	23	-	6.4	8.7
	Lead	mg/kg	5	1500	1800		< 5	< 5	8	< 5	< 5	< 5	5.1	5.5	< 5	-	210	-	55	13
	Mercury	mg/kg	0.1	730			< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	2	-	0.7	< 0.1
	Nickel	mg/kg	5	6000	260*		< 5	11	24	13	8.4	17	11	12	9.9	-	12	-	< 5	7.9
	Zinc	mg/kg	5	400000	720*		< 5	27	67	13	10	19	45	42	40	-	220	-	160	44
PAHs	Acenaphthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Acenaphthylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Benzo(a)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Benzo(a)pyrene	mg/kg	0.5		1.4		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Benzo(a)pyrene TEQ	mg/kg	0.5	40			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-	0.6	-	0.6	0.6
	Benzo(b&j)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Benzo(ghi)perylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Benzo(k)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Chrysene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Dibenzo(ah)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Fluorene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Naphthalene	mg/kg	0.5	NL	370		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Phenanthrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	Total PAH (18)	mg/kg	0.5	4000			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
BTEX	Benzene	mg/kg	0.1	4	95		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1
	Toluene	mg/kg	0.1	NL	135		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1
	Ethylbenzene	mg/kg	0.1	NL	185		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1
	Xylenes - Total	mg/kg	0.3	NL	95		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	-	< 0.3	< 0.3
TRH	Naphthalene	mg/kg	0.5		215		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	-	< 0.5	< 0.5
	TRH C6-C10	mg/kg	20		215	700	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	-	< 20	< 20
	TRH C6-C10 less BTEX (F1)	mg/kg	20	310			< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	-	< 20	< 20
	TRH >C10-C16	mg/kg	50		170	5200	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	< 50	-	< 50	< 50
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	NL			< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	< 50	-	< 50	< 50
	TRH >C16-C34	mg/kg	100		2500	10000	< 100	< 100	180	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	-	< 100	< 100
	TRH >C34-C40	mg/kg	100		6600	10000	< 100	< 100	170	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	-	< 100	< 100
Asbestos	Asbestos			Detected			-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Chrysotile asbestos detected.	ND	ND

Notes

EIL based on pH of 6.6, CEC of 9.5meq/100m, and Clay content 10% from samples onsite, and background levels from Olszowy et al (1995) Trace Element Concentrations in Soils from Rural and Urban Areas of Australia, Old Suburbs, High Traffic, 25% percentile

ND Not detected

NL Not limiting

Result Concentration exceeds adopted health investigation/screening level (Commercial/Industrial, Clay, 0-1m)

Result Concentration exceeds the adopted ecological investigation/screening levels

Result Concentration exceeds adopted Management Limits

1 ASC NEPM (2013) Table 1A(1): Health Investigation Levels (HILs) commercial/industrial

2 ASC NEPM (2013) Soil Health Screening Levels for Vapour Intrusion, Commercial/Industrial, Clay 0m to <1m

3 ASC NEPM (2013) Soil Ecological Investigation & Screening Levels, commercial/industrial

4 ASC NEPM (2013) Management Limits for TPH Fractions F1-F4 in Soil, adjusted as described in report



						Field ID	BH13_0.1-0.2	BH14_0.1-0.2	BH15_0.5-0.6	BH16_0.3-0.4	SA BH07_0.1-0.2	SA BH07_0.5-0.6	SA BH07_1.0-1.1
						Date	5/12/2022	5/12/2022	5/12/2022	5/12/2022	5/12/2022	5/12/2022	5/12/2022
Analytes		Units	LOR	HIL/HSL D ¹	EIL/ESL D	Mgmt Limits							
pH & CEC	pH (1:5 Aqueous extract)	pH units	0.1				-	-	-	-	7.8	5.4	6.7
	Cation Exchange Capacity	meq/100g	0.1				-	-	-	-	8.1	9.4	11
Metals	Arsenic	mg/kg	2	3000	160		6.5	5.6	12	11	-	-	-
	Cadmium	mg/kg	0.4	900			< 0.4	< 0.4	0.7	0.5	-	-	-
	Chromium	mg/kg	5	3600	680**		5.3	< 5	23	26	-	-	-
	Copper	mg/kg	5	240000	300**		10	8.6	44	33	-	-	-
	Lead	mg/kg	5	1500	1800		< 5	< 5	300	320	-	-	-
	Mercury	mg/kg	0.1	730			< 0.1	< 0.1	0.1	0.3	-	-	-
	Nickel	mg/kg	5	6000	260*		11	8.7	38	23	-	-	-
	Zinc	mg/kg	5	400000	720*		42	35	440	450	-	-	-
PAHs	Acenaphthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Acenaphthylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Benzo(a)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Benzo(a)pyrene	mg/kg	0.5		1.4		< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Benzo(a)pyrene TEQ	mg/kg	0.5	40			0.6	0.6	0.6	0.6	-	-	-
	Benzo(b&j)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Benzo(ghi)perylene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Benzo(k)fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Chrysene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Dibenzo(ah)anthracene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Fluoranthene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	0.8	-	-	-
	Fluorene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Naphthalene	mg/kg	0.5	NL	370		< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Phenanthrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	Pyrene	mg/kg	0.5				< 0.5	< 0.5	< 0.5	0.8	-	-	-
	Total PAH (18)	mg/kg	0.5	4000			< 0.5	< 0.5	< 0.5	1.6	-	-	-
BTEX	Benzene	mg/kg	0.1	4	95		< 0.1	< 0.1	< 0.1	< 0.1	-	-	-
	Toluene	mg/kg	0.1	NL	135		< 0.1	< 0.1	< 0.1	< 0.1	-	-	-
	Ethylbenzene	mg/kg	0.1	NL	185		< 0.1	< 0.1	< 0.1	< 0.1	-	-	-
	Xylenes - Total	mg/kg	0.3	NL	95		< 0.3	< 0.3	< 0.3	< 0.3	-	-	-
TRH	Naphthalene	mg/kg	0.5		215		< 0.5	< 0.5	< 0.5	< 0.5	-	-	-
	TRH C6-C10	mg/kg	20		215	700	< 20	< 20	< 20	< 20	-	-	-
	TRH C6-C10 less BTEX (F1)	mg/kg	20	310			< 20	< 20	< 20	< 20	-	-	-
	TRH >C10-C16	mg/kg	50		170	5200	< 50	< 50	< 50	< 50	-	-	-
	TRH >C10-C16 less Naphthalene (F2)	mg/kg	50	NL			< 50	< 50	< 50	< 50	-	-	-
	TRH >C16-C34	mg/kg	100		2500	10000	< 100	< 100	110	< 100	-	-	-
	TRH >C34-C40	mg/kg	100		6600	10000	< 100	< 100	< 100	< 100	-	-	-
Asbestos	Asbestos			Detected			ND	ND	ND	ND	-	-	-

Notes

EIL based on pH of 6.6, CEC of 9.5meq/100m, and Clay content 10% from samples onsite, and background levels from

* Olszowy et al (1995) Trace Element Concentrations in Soils from Rural and Urban Areas of Australia, Old Suburbs, High Traffic, 25% percentile

ND Not detected

NL Not limiting

Result Concentration exceeds adopted health investigation/screening level (Commercial/Industrial, Clay, 0-1m)

Result Concentration exceeds the adopted ecological investigation/screening levels

Result Concentration exceeds adopted Management Limits

1 ASC NEPM (2013) Table 1A(1): Health Investigation Levels (HILs) commercial/industrial

2 ASC NEPM (2013) Soil Health Screening Levels for Vapour Intrusion, Commercial/Industrial, Clay 0m to <1m

3 ASC NEPM (2013) Soil Ecological Investigation & Screening Levels, commercial/industrial

4 ASC NEPM (2013) Management Limits for TPH Fractions F1-F4 in Soil, adjusted as described in report

Table 2 - Soil Analytical Results - OCP,Phenols
178 Lang Street, Kurri Kurri



					Field ID	BH02_0.1-0.2	BH03_0.25-0.35	BH06_0.2-0.3	BH10_0.4-0.5	BH14_0.1-0.2
					Date	1/12/2022	1/12/2022	1/12/2022	5/12/2022	5/12/2022
Analytes		Units	LOR	HIL-D ¹	EIL-D ²					
OCPs	4.4'-DDD	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	4.4'-DDE	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	4.4'-DDT	mg/kg	0.05		640	< 0.05	-	< 0.05	< 0.05	< 0.5
	a-HCH	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Aldrin	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Aldrin and Dieldrin (Total)*	mg/kg	0.05	45		< 0.05	-	< 0.05	< 0.05	< 0.5
	b-HCH	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Chlordanes - Total	mg/kg	0.1	530		< 0.1	-	< 0.1	< 0.1	< 1
	DDT + DDE + DDD (Total)*	mg/kg	0.05	3600		< 0.05	-	< 0.05	< 0.05	< 0.5
	d-HCH	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Dieldrin	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Endosulfan I	mg/kg	0.05	2000		< 0.05	-	< 0.05	< 0.05	< 0.5
	Endosulfan II	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Endosulfan sulphate	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Endrin	mg/kg	0.05	100		< 0.05	-	< 0.05	< 0.05	< 0.5
	Endrin aldehyde	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Endrin ketone	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	g-HCH (Lindane)	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Heptachlor	mg/kg	0.05	50		< 0.05	-	< 0.05	< 0.05	< 0.5
	Heptachlor epoxide	mg/kg	0.05			< 0.05	-	< 0.05	< 0.05	< 0.5
	Hexachlorobenzene	mg/kg	0.05	80		< 0.05	-	< 0.05	< 0.05	< 0.5
	Methoxychlor	mg/kg	0.05	2500		< 0.05	-	< 0.05	< 0.05	< 0.5
	Toxaphene	mg/kg	0.5	160		< 0.5	-	< 0.5	< 0.5	< 10
	Vic EPA IWRG 621 OCP (Total)*	mg/kg	0.1			< 0.1	-	< 0.1	< 0.1	< 1
	Vic EPA IWRG 621 Other OCP (Total)*	mg/kg	0.1			< 0.1	-	< 0.1	< 0.1	< 1
Phenols	2.4.5-Trichlorophenol	mg/kg	1			-	< 1	-	-	-
	2.4.6-Trichlorophenol	mg/kg	1			-	< 1	-	-	-
	2.4-Dichlorophenol	mg/kg	0.5			-	< 0.5	-	-	-
	2.6-Dichlorophenol	mg/kg	0.5			-	< 0.5	-	-	-
	2-Chlorophenol	mg/kg	0.5			-	< 0.5	-	-	-
	4-Chloro-3-methylphenol	mg/kg	1			-	< 1	-	-	-
	Pentachlorophenol	mg/kg	1	660		-	< 1	-	-	-
	Tetrachlorophenols - Total	mg/kg	10			-	< 10	-	-	-
	Total Halogenated Phenol*	mg/kg	1			-	< 1	-	-	-
	2.4-Dimethylphenol	mg/kg	0.5			-	< 0.5	-	-	-
	2.4-Dinitrophenol	mg/kg	5			-	< 5	-	-	-
	2-Cyclohexyl-4.6-dinitrophenol	mg/kg	20			-	< 20	-	-	-
	2-Methyl-4.6-dinitrophenol	mg/kg	5			-	< 5	-	-	-
	2-Methylphenol (o-Cresol)	mg/kg	0.5			-	< 0.5	-	-	-
	2-Nitrophenol	mg/kg	1			-	< 1	-	-	-
	3&4-Methylphenol (m&p-Cresol)	mg/kg	1			-	< 1	-	-	-
	4-Nitrophenol	mg/kg	5			-	< 5	-	-	-
	Dinoseb	mg/kg	20			-	< 20	-	-	-
	Phenol	mg/kg	0.5	240000		-	< 0.5	-	-	-
	Total cresols*	mg/kg	1	25000		-	< 1	-	-	-
	Total Non-Halogenated Phenol*	mg/kg	20			-	< 20	-	-	-

Notes

Result	Concentration exceeds adopted health investigation level (Commercial/Industrial)
Result	Concentration exceeds the adopted ecological investigation/screening levels

1 ASC NEPM (2013) - Table 1A(1): Health Investigation Levels

2 ASC NEPM (2013) Soil Ecological Investigation & Screening Levels, commercial/industrial

Table 3 - Quality Control Results
178 Lang Street, Kurri Kurri

				BH07_0.1-0.2	D.5.12.22	RPD %	BH07_0.1-0.2	T.5.12.22	RPD %
				5/12/2022	5/12/2022		5/12/2022	5/12/2022	
				Primary	Duplicate		Primary	Triplicate	
Analytes		Units	LOR						
Metals	Arsenic	mg/kg	2	7.2	7.1	1	7.2	6	18
	Cadmium	mg/kg	0.4	< 0.4	< 0.4	0	< 0.4	<1	0
	Chromium	mg/kg	5	7.8	5.8	29	7.8	6	26
	Copper	mg/kg	5	12	11	9	12	10	18
	Lead	mg/kg	5	5.1	5.2	2	5.1	<5	0
	Mercury	mg/kg	0.1	< 0.1	< 0.1	0	< 0.1	< 0.1	0
	Nickel	mg/kg	5	11	11	0	11	9	20
	Zinc	mg/kg	5	45	45	0	45	39	14
PAHs	Acenaphthene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Acenaphthylene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Anthracene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Benzo(a)anthracene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Benzo(a)pyrene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Benzo(a)pyrene TEQ	mg/kg	0.5	0.6	0.6	0	0.6	0.6	0
	Benzo(b&j)fluoranthene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Benzo(ghi)perylene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Chrysene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Dibenzo(ah)anthracene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Fluoranthene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Fluorene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Naphthalene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Phenanthrene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Pyrene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
	Total PAH (18)	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	< 0.5	0
BTEX	Benzene	mg/kg	0.1	< 0.1	< 0.1	0	< 0.1	<0.2	0
	Toluene	mg/kg	0.1	< 0.1	< 0.1	0	< 0.1	<0.5	0
	Ethylbenzene	mg/kg	0.1	< 0.1	< 0.1	0	< 0.1	<0.5	0
	Xylenes - Total	mg/kg	0.3	< 0.3	< 0.3	0	< 0.3	<0.5	0
TRH	Naphthalene	mg/kg	0.5	< 0.5	< 0.5	0	< 0.5	<1	0
	TRH C6-C10	mg/kg	20	< 20	< 20	0	< 20	<10	0
	TRH C6-C10 less BTEX (F1)	mg/kg	20	< 20	< 20	0	< 20	<10	0
	TRH >C10-C16	mg/kg	50	< 50	< 50	0	< 50	<50	0
	TRH >C10-C16 less Naphthalene	mg/kg	50	< 50	< 50	0	< 50	<50	0
	TRH >C16-C34	mg/kg	100	< 100	< 100	0	< 100	<100	0
	TRH >C34-C40	mg/kg	100	< 100	< 100	0	< 100	<100	0

*RPDs have only been considered where a concentration is greater than 10 times the LOR.

**High RPDs are in bold (Acceptable RPD range is 30% (>10 x EQL))

APPENDIX J:

Data Validation Report

QA/QC DATA VALIDATION REPORT**Job No: NEW22P-0213-AA****Eurofins report: 947926-S, 947926-AID****ALS reports: ES2244543_0_COA****1. SAMPLE HANDLING**

Item	Yes/No	Comments
Were the sample holding times met?	Yes	
Were the samples in proper custody between collection in the field and reaching the laboratory?	Yes	
Were the samples properly and adequately preserved?	Yes	
Were the samples received by the laboratory in good condition?	Yes	

Sampling Handling was:

Satisfactory :	✓	Partially Satisfactory:	Unsatisfactory:
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2. PRECISION AND ACCURACY ASSESSMENT

Item	Yes/No	Comment
Was a NATA registered laboratory used?	Yes	-
Did the laboratory perform the requested tests?	Yes	-
Were the laboratory methods adopted NATA endorsed?	Yes	-
Were the appropriate test procedures followed?	Yes	-
Were the reporting limits satisfactory?	Yes	-
Was the NATA seal on the reports?	Yes	-
Were the reports signed by an authorised person?	Yes	-

Laboratory Precision and Accuracy was:

Satisfactory :	✓	Partially Satisfactory:	Unsatisfactory:
-----------------------	---	--------------------------------	------------------------

3. FIELD QA/QC**Soil Samples**

	Soil
No. Samples Analysed	16
No. of Duplicates	1
No. of Triplicates	1
No. of Wash Blanks	0
No. of Trip Blanks	0
No. of Trip Spikes	0

No. Days Sampling

Item	Soil
Number of Days Sampling	2
Number of Sampling Events	1

Field Duplicates

Item	Yes/No	Comments
Were an adequate number of field duplicates collected?	Yes	Duplicates collected at a rate of 16 per samples.
Were RPDs within control limits? No Limit for 5-10 x EQL and 30% for >10 x EQL	Yes	RPDs were within the acceptable range.

Trip Blanks/Trip Spikes

Item	Yes/No	Comments
Were an adequate number of trip blanks and trip spikes collected?	N/A	No trip spikes or blanks were collected as VOCs were not a primary contaminant of concern. This was supported by field observations.
Were the trip blanks free of contaminants? (If no, comment whether the contaminants present are also detected in the samples and whether they are common laboratory chemicals).	N/A	
Were the trip spikes within recovery limits (between 80% and 120%)	N/A	

Rinsate Samples

Item	Yes/No	Comments
Were an adequate number of rinsate samples used? (1 per day of using reusable sampling)	No	No rinsate samples were collected. As samples reported concentrations below the adopted criteria, and there was no evidence

QA/QC DATA VALIDATION REPORT

equipment – trowel, hand auger etc)		of cross-contamination, the absence of a rinsate sample is not considered to affect the data usability.
Were the rinsate samples free of contaminants? (If no, comment whether the contaminants present are also detected in the samples and whether they are common laboratory chemicals).	N/A	

4. LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

A) Type of QA/QC Sample	Yes/No	Comments
Laboratory Blanks/Reagent Blanks (at least 1 per batch)	Yes	-
Laboratory Duplicates (at least 1 per batch or 1 per 10 samples)	Yes	-
Matrix Spikes, Matrix Spike Duplicates (1 for each soil type)	Yes	-
Laboratory Control Spike	Yes	-
Surrogate (where appropriate)	Yes	-

Item	Yes/No	Comments
B) Were the laboratory blanks and/or reagent blanks free of contamination?	Yes	-
C) Were the spike recoveries within control limits? I: Organics/inorganics/metals (50% to 150%) II: Phenols (20% to 130%)	Yes	-
D) Were the RPDs of the laboratory duplicates within control limits?	Yes	For an RPD for moisture the lab quoted code Q15 which states "The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report." Based on this, the RPDs is not considered to affect the data usability.
E) Were the surrogate recoveries within control limits?	Yes	-

Laboratory Internal QA/QC was:

Satisfactory :	✓	Partially Satisfactory:	Unsatisfactory:
----------------	---	-------------------------	-----------------

5. DATA USABILITY

Item	Yes/No	Comments
Was the data directly usable?	Yes	
Was the data usable with the following corrections/modifications? (see comments)	NA	
Was the data not usable?	NA	

APPENDIX K:

Laboratory Documentation



CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing | ABN 50 005 085 521

☐ Sydney Laboratory
Unit F3 Bld F 16 Mers Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1 21 Smallwood Place Murarie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2 M1 South Highway (Kardinya WA 8125)
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
8 Moncrieff Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVIC@eurofins.com

1/6

Company		Qualtest		Project No		NEW22P-0213		Project Manager		Emma Coleman		Sampler(s)		Tom Hall					
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		Voltraint, Kurri Kurri		EDD Format		Excel		Handed over by							
Contact Name		Emma Coleman		Analyses Where results are requested, please specify "Total" or "Filtered" SUITE code must be used to attach SUITE pricing		Suite B7 (TRH, BTEX, PAH, Metals) Asbestos (presence/absence) OCPs Phenols						Email for Invoice		accounts@qualtest.com.au					
Phone No		0429 359 411										Email for Results		libbybetz@qualtest.com.au emmacoleman@qualtest.com.au billysnow@qualtest.com.au tomhall@qualtest.com.au					
Special Directions												Containers		Change container type & size if necessary.		Required Turnaround Time (TAT)		Default will be 5 days if not ticked.	
Purchase Order												500mL Plastic 250mL Plastic 125mL Plastic 200mL Amber Glass 40mL VOA vial Sterile Jar- Faecal Coliforms Jar (Glass or HDPE) Other (Asbestos AS4964, WA Guidelines)		☐ Overnight (reporting by 9am) ♦ ☐ Same day ♦ ☐ 1 day ♦ ☐ 2 days ♦ ☐ 3 ☒ 5 days (Standard) ☐ Other()					
Quote ID No		180622QUAN-3																	
No	Client Sample ID	Sampled Date/Time dd/mm/yyyy hh:mm	Matrix Soil (S) Water (W)																
1	BH01 0.1-0.2	1/12/22	SOIL	X										1	1				
2	BH01 0.25-0.35	1/12/22	SOIL											1					
3	BH02 0.1-0.2	1/12/22	SOIL	X	X	X								1	1				
4	BH02 0.2-0.3	1/12/22	SOIL											1					
5	BH03 0.1-0.2	1/12/22	SOIL											1	1				
6	BH02 0.3-0.35	1/12/22	SOIL				X							1	1				
7	BH02 0.35-0.45	1/12/22	SOIL	X	X									1	1				
8	BH03 0.45-0.55	1/12/22	SOIL											1	1				
9	BH03 0.7-0.8	1/12/22	SOIL											1					
10	BH04 0.15-0.25	1/12/22	SOIL	X	X									1	1				
Total Counts				4	3	1	1							10	7				
Method of Shipment				☐ Courier (#) ☐ Hand Delivered ☐ Postal		Name		Signature		Date		Time		Temperature					
Laboratory Use Only				Received By <i>Davidson Stoyan</i>		SYD BNE MEL PER ADL NTL DRW		Signature <i>[Signature]</i>		Date 6/12/22		Time 2:40 PM		Temperature 15.3					
				Received By		SYD BNE MEL PER ADL NTL DRW		Signature		Date		Time		Report No 947926					

Eurofins Environment Testing Australia Pty Ltd

(Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.)

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☐ **Sydney Laboratory**
Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory**
Unit 1/21 Smallwood Place Mooloolah QLD 4557
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory**
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory**
5 Monastery Road Dingley VIC 3175
03 8564 5000 Email: Sam@Vetcare.vic.gov.au

2/e

Company		Qualtest		Project No		NEW22P-0213		Project Manager		Emma Coleman		Sampler(s)		Tom Hall															
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		Voltraint, Kurri Kurri		EDD Format ESdat, EDuIS etc		Excel		Handed over by																	
Contact Name		Emma Coleman		Analyses: Where results are required, please specify 'Total' or 'Filtered' SUITE code must be used to attract SUITE pricing		Suite B7 (TRH, BTEX, PAH, Metals)		Asbestos (presence/absence)		OCPs		ALS Suite S-26 (TRH, BTEX, PAH, Metals)		Email for Invoice		accounts@qualtest.com.au													
Phone No														Email for Results		libbybetz@qualtest.com.au emmacoleman@qualtest.com.au billysnow@qualtest.com.au tomhall@qualtest.com.au													
Special Directions														Containers		Required Turnaround Time (TAT)													
Purchase Order														Change container type & size if necessary.		Default will be 5 days if not ticked.													
Quote ID No		180622QUAN-3										500mL Plastic		250mL Plastic		125mL Plastic		200mL Amber Glass		40mL VOA vial		Sterile Jar- Faecal Coliforms		Jar (Glass or HDPE)		Other (Asbestos AS4984, WA Guidelines)		Sample Comments / Dangerous Goods Hazard Warning	
No		Client Sample ID		Sampled Date/Time dd/mm/yy hh:mm		Matrix Solid (S) Water (W)																							
1		BH04 0.55-0.65		1/12/22		SOIL																		1					
2		BH05 0.15-0.25		1/12/22		SOIL		X		X														1		1			
3		BH05 0.3-0.4		1/12/22		SOIL																		1					
4		BH06 0.2-0.3		1/12/22		SOIL		X		X		X												1		1			
5		BH06 0.3-0.4		1/12/22		SOIL																		1					
6		BH07 0.1-0.2		5/12/22		SOIL		X		X														1		1			
7		D.5.12.22		5/12/22		SOIL		X																1					
8		T.5.12.22		5/12/22		SOIL								X										1				SEND TO ALS	
9		BH07 0.3-0.4		5/12/22		SOIL																		1					
10		BH08 0.1-0.2		5/12/22		SOIL		X		X														1		1			
								Total Counts		5		4		1										10		4			
Method of Shipment		☐ Courier (#)		☐ Hand Delivered		☐ Postal		Name				Signature				Date				Time									
Laboratory Use Only		Received By		Jaidon Blaydon		SYD BNE MEL PER ADL NTL DRW		Signature		2		Date		6/12/22		Time		2:40		Temperature		15.3							
		Received By				SYD BNE MEL PER ADL NTL DRW		Signature				Date				Time				Report No		947926							

Eurofins Environment Testing Australia Pty Ltd

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☐ **Sydney Laboratory**
Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 Emails.Sydney@NSW.gov.au

☐ **Brisbane Laboratory**
Unit 1/21 Shillington Place Murrumbidgee QLD 4172
07 5502 4600 Email: SampleQld@ecmfrp.com

Perth Laboratory
Unit 2, 91 Thatch Mignaly & Knight, WA 6105
08 9221 9800 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory**
 1 Stoddery Road Dandenong South VIC 3175
 Tel 8584 5500 Email: SampleVIC@melbore.com

316

[illegible]

Eurofins Environment Testing Australia Pty Ltd

Submission of samples to the laboratory will be deemed as acceptance of Eurofins' Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

☐ Sydney Laboratory

02 9900 8400 Email: Sample145@atpnet.com

Brisbane Laboratory

Unit 1 21 Smalwood Place Murarie QLD 4172
07 3902 4500 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory☐ Melbourne Laboratory

03 8564 5000 Enquiries@plebiscite.com.au

4/6

Company		Qualtest		Project No		NEW22P-0213		Project Manager		Emma Coleman		Sampler(s)		Tom Hall			
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		Voltraint, Kurri Kurri		EDD Format ESoil, EQoS etc		Excel		Handed over by					
Contact Name		Emma Coleman		Analyse: Where results are requested, please specify "Total" or "Filtered" SUITE code must be used to attach SUITE pricing.		Suite B7 (TRH, BTEX, PAH, Metals)		Asbestos (presence/absence)		OCPs				Email for Invoice		accounts@qualtest.com.au	
Phone No														Email for Results		libbybetz@qualtest.com.au emmacoleman@qualtest.com.au billysnow@qualtest.com.au tomhall@qualtest.com.au	
Special Directions														Containers		Required Turnaround Time (TAT)	
Purchase Order														Change container type & size if necessary		Default will be 5 days if not ticked	
Quote ID No		180622QUAN-3															
No	Client Sample ID	Sampled Date/Time dd/mm/yyyy hh:mm	Matrix Solid (S) Water (W)														
1	BH12 0.5-0.6	5/12/22	SOIL	X	X												
2	BH12 1.0-1.1	5/12/22	SOIL														
3	BH13 0.1-0.2	5/12/22	SOIL	X	X												
4	BH13 0.3-0.4	5/12/22	SOIL														
5	BH13 0.8-0.9	5/12/22	SOIL														
6	BH14 0.1-0.2	5/12/22	SOIL	X	X	X											
7	BH14 0.5-0.6	5/12/22	SOIL														
8	BH14 0.6-0.7	5/12/22	SOIL														
9	BH15 0.1-0.2	5/12/22	SOIL														
10	BH15 0.5-0.6	5/12/22	SOIL	X	X												
Total Counts				4	4	1											
Method of Shipment				☐ Courier (#) ☐ Hand Delivered ☐ Postal		Name		Signature		Date		Time		Temperature		Report No	
Laboratory Use Only				Received By <u>Jaelyn Stougoner</u> SYD BNE MEL PER ADL <u>NTL</u> DRW Received By SYD BNE MEL PER ADL NTL DRW		Signature <u>[Signature]</u>		Date <u>6/12/22</u>		Time <u>2:40 PM</u>		Temperature <u>15.3</u>		Report No <u>94292</u>			

Eurofins Environment Testing Australia Pty Ltd

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☐ Sydney Laboratory

Unit F2, Fin F, TC Mars Road Little Cove West NSW 2265
02 9500 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory

Unit 1 21 Smalwood Place Murarie QLD 4172
3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory☐ Melbourne Laboratory

6 Monterey Road Dandenong South VIC 3175
03 8564 5000 Enquiries@vicfire.com.au

5/6

Company		Qualtest		Project No.		NEW22P-0213						Project Manager		Emma Coleman								Sampler(s)		Tom Hall	
Address		2 Murray Dwyer Circuit NSW 2304		Project Name		Voltraint, Kurri Kurri						EDD Format ESdaL, EQuIS etc		Excel								Handed over by			
Contact Name		Emma Coleman		Analyses Where results are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.		Suite B7 (TRH, BTEX, PAH, Metals) Asbestos (presence/absence) OCFs CEC Exchangeable sodium Suite L2 (pH, EC, Cl, SO4)														Email for Invoice		accounts@qualtest.com.au			
Phone No.																				Email for Results		libbybelz@qualtest.com.au ammccoleman@qualtest.com.au bilysnow@qualtest.com.au tomhall@qualtest.com.au			
Special Directions																									
Purchase Order																									
Quote ID No.		180622QUAN-3																							
Client Sample ID		Sampled Date/Time dd/mm/yyyy hh:mm		Matrix Solid (S) Water (W)																					
BH15 1.1-1.2		5/12/22		SOIL																					
BH15 1.5-1.6		5/12/22		SOIL																					
BH16 0.1-0.2		5/12/22		SOIL																					
BH16 0.3-0.4		5/12/22		SOIL		X X																			
BH16 1.0-1.1		5/12/22		SOIL																					
SA BH07 0.1-0.2		5/12/22		SOIL						X X X															
SA BH07 0.5-0.6		5/12/22		SOIL						X X X															
SA BH07 1.0-1.1		5/12/22		SOIL						X X X															
SA BH09 0.1-0.2		5/12/22		SOIL																					
SA BH09 0.5-0.6		5/12/22		SOIL																					
Total Counts						1 1				3 3 3															
Method of Shipment		☐ Courier (#) ☐ Hand Delivered ☐ Postal		Name		Signature		Date		Time		Temperature		Report No.											
Laboratory Use Only		Received By Jaidyn Slonegre		SYD BNE MEL PER ADL NTL DRW		Signature [Signature]		Date 6/12/22		Time 2:40pm		Temperature 15.3		Report No. 947924											

Eurofins Environment Testing Australia Pty Ltd

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

Eurofins | Environment Testing ABN 50 005 085 521

☐ Sydney Laboratory

02 9900 8400 : Email: TempleNSW@excite.com

☐ Brisbane Laboratory

Unit 1 21 Smallwood Place Murarie QLD 4172

07 3602 4800 Frank.Samuel@QD.org.au

☐ Perth Laboratory

08 9251 9600 enquiries@viva.com.au

☐ Melbourne Laboratory

Jaidyn Slowgrove

From: Emma Coleman <EmmaColeman@qualtest.com.au>
Sent: Wednesday, 7 December 2022 2:02 PM
To: Jaidyn Slowgrove
Subject: RE: NEW22P-0213 Sample names not matching COC

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.
Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Jaidyn,
Ok, revised testing for BH03 samples as per below:
BH03 0.2-0.35 should be 0.2-0.25. No testing of this sample
BH03 0.25-0.35 - Suite B7, Phenols, asbestos (presence/absence)
BH03 0.4-0.5 no testing

Thanks

From: Jaidyn Slowgrove <JaidynSlowgrove@eurofins.com>
Sent: Wednesday, 7 December 2022 1:47 PM
To: Emma Coleman <EmmaColeman@qualtest.com.au>
Subject: RE: NEW22P-0213 Sample names not matching COC

Hi Emma,
I have samples BH03_0.2-0.35 (JAR,BAG), BH03_0.25-0.35 (JAR,BG) and BH03_0.4-0.5 (JAR BAG).
Along with this I also have 2 bag labelled BH08-

Jaidyn Slowgrove
Sample Receipt Officer
(he/him)
SANDGATE, NSW, 2304
Mobile: +61 473 758 881
E-mail: jaidynslowgrove@eurofins.com

From: Emma Coleman <EmmaColeman@qualtest.com.au>
Sent: Wednesday, 7 December 2022 1:40 PM
To: Jaidyn Slowgrove <JaidynSlowgrove@eurofins.com>
Subject: RE: NEW22P-0213 Sample names not matching COC

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.
Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Jaidyn,
Looks like I numbered some samples on the COC as BH02, when they are actually BH03. Are there any other BH03 samples? I'm trying to match up our log with what actually exists

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne

6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong

19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Sydney

179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra

Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091

Brisbane

1/21 Smallwood Place
Murarie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle

4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth

46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland

35 O'Rourke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch

43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Sample Receipt Advice

Company name: Qualtest
Contact name: Emma Coleman
Project name: VOLTRAIT KURRI KURRI
Project ID: NEW22P-0213
Turnaround time: 5 Day
Date/Time received: Dec 6, 2022 2:40 PM
Eurofins reference: 947926

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✓ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Emma Coleman - emmacoleman@qualtest.com.au.

Note: A copy of these results will also be delivered to the general Qualtest email address.

Qualtest
2 Murray Dwyer Circuit
Mayfield West
NSW 2304



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025—Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: Emma Coleman
Report 947926-AID
Project Name VOLTRAIT KURRI KURRI
Project ID NEW22P-0213
Received Date Dec 06, 2022
Date Reported Dec 16, 2022

Methodology:

Asbestos Fibre
 Identification

Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.

NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.

Unknown Mineral
 Fibres

Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity.

NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.

Subsampling Soil
 Samples

The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed.

NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.

Bonded asbestos-
 containing material
 (ACM)

The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.

NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Limit of Reporting

The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w).

The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).

NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.

Project Name VOLTRANT KURRI KURRI
Project ID NEW22P-0213
Date Sampled Dec 01, 2022 to Dec 05, 2022
Report 947926-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH02_0.1-0.2	22-De0014062	Dec 01, 2022	Approximate Sample 121g Sample consisted of: Brown coarse-grained sandy soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH04_0.15-0.25	22-De0014063	Dec 01, 2022	Approximate Sample 112g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH05_0.15-0.25	22-De0014064	Dec 01, 2022	Approximate Sample 95g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH06_0.2-0.3	22-De0014065	Dec 01, 2022	Approximate Sample 69g Sample consisted of: Brown coarse-grained sandy soil, cement and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH07_0.1-0.2	22-De0014066	Dec 05, 2022	Approximate Sample 117g Sample consisted of: Brown coarse-grained soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH08_0.1-0.2	22-De0014068	Dec 05, 2022	Approximate Sample 80g Sample consisted of: Brown coarse-grained soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH09_0.1-0.2	22-De0014069	Dec 05, 2022	Approximate Sample 304g Sample consisted of: Brown coarse-grained soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH10_0.1-0.2	22-De0014070	Dec 05, 2022	Approximate Sample 297g Sample consisted of: Brown coarse-grained soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH10_0.4-0.5	22-De0014071	Dec 05, 2022	Approximate Sample 412g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH10_0.4-0.5 ACM	22-De0014072	Dec 05, 2022	Approximate Sample 15g / 60x50x5mm Sample consisted of: Weathered white fibre cement material	Chrysotile asbestos detected.
BH11_0.3-0.4	22-De0014073	Dec 05, 2022	Approximate Sample 224g Sample consisted of: Brown coarse-grained sandy soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH12_0.5-0.6	22-De0014074	Dec 05, 2022	Approximate Sample 229g Sample consisted of: Brown coarse-grained soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH13_0.1-0.2	22-De0014075	Dec 05, 2022	Approximate Sample 226g Sample consisted of: Brown coarse-grained soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH14_0.1-0.2	22-De0014076	Dec 05, 2022	Approximate Sample 255g Sample consisted of: Brown coarse-grained soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH15_0.5-0.6	22-De0014077	Dec 05, 2022	Approximate Sample 142g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH16_0.3-0.4	22-De0014078	Dec 05, 2022	Approximate Sample 169g Sample consisted of: Brown fine-grained clayey soil, brick and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH03_0.25-0.35	22-De0014110	Dec 05, 2022	Approximate Sample 111g Sample consisted of: Brown coarse-grained soil, brick and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Dec 07, 2022	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Dec 07, 2022	Indefinite

Company Name: Qualtest
Address: 2 Murray Dwyer Circuit
Mayfield West
NSW 2304

Project Name: VOLTRAIT KURRI KURRI
Project ID: NEW22P-0213

Order No.:
Report #: 947926
Phone: 02 4968 4468
Fax: 02 4960 9775

Received: Dec 6, 2022 2:40 PM
Due: Dec 13, 2022
Priority: 5 Day
Contact Name: Emma Coleman

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Organochlorine Pesticides	Phenols (Speciated)	Aggressivity Soil Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Exchangeable Sodium Percentage (ESP)
Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
External Laboratory															
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID										
1	BH01_0.1-0.2	Dec 01, 2022		Soil	N22-De0014061							X		X	
2	BH02_0.1-0.2	Dec 01, 2022		Soil	N22-De0014062	X			X			X		X	
3	BH04_0.15-0.25	Dec 01, 2022		Soil	N22-De0014063	X						X		X	
4	BH05_0.15-0.25	Dec 01, 2022		Soil	N22-De0014064	X						X		X	
5	BH06_0.2-0.3	Dec 01, 2022		Soil	N22-De0014065	X			X			X		X	
6	BH07_0.1-0.2	Dec 05, 2022		Soil	N22-De0014066	X						X		X	
7	D.5.12.22	Dec 05, 2022		Soil	N22-De0014067							X		X	
8	BH08_0.1-0.2	Dec 05, 2022		Soil	N22-De0014068	X						X		X	
9	BH09_0.1-0.2	Dec 05, 2022		Soil	N22-De0014069	X						X		X	
10	BH10_0.1-0.2	Dec 05, 2022		Soil	N22-De0014070	X									
11	BH10_0.4-0.5	Dec 05, 2022		Soil	N22-De0014071	X			X			X		X	

Company Name: Qualtest
Address: 2 Murray Dwyer Circuit
Mayfield West
NSW 2304

Project Name: VOLTRAIT KURRI KURRI
Project ID: NEW22P-0213

Order No.:
Report #: 947926
Phone: 02 4968 4468
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Received: Dec 6, 2022 2:40 PM
Due: Dec 13, 2022
Priority: 5 Day
Contact Name: Emma Coleman

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Organochlorine Pesticides	Phenols (Speciated)	Aggressivity Soil Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Exchangeable Sodium Percentage (ESP)
Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
12	BH10_0.4-0.5 ACM	Dec 05, 2022		Building Materials	N22-De0014072		X								
13	BH11_0.3-0.4	Dec 05, 2022		Soil	N22-De0014073	X						X		X	
14	BH12_0.5-0.6	Dec 05, 2022		Soil	N22-De0014074	X						X		X	
15	BH13_0.1-0.2	Dec 05, 2022		Soil	N22-De0014075	X						X		X	
16	BH14_0.1-0.2	Dec 05, 2022		Soil	N22-De0014076	X			X			X		X	
17	BH15_0.5-0.6	Dec 05, 2022		Soil	N22-De0014077	X						X		X	
18	BH16_0.3-0.4	Dec 05, 2022		Soil	N22-De0014078	X						X		X	
19	SA BH07_0.1-0.2	Dec 05, 2022		Soil	N22-De0014079						X	X	X		X
20	SA BH07_0.5-0.6	Dec 05, 2022		Soil	N22-De0014080						X	X	X		X
21	SA BH07_1.0-1.1	Dec 05, 2022		Soil	N22-De0014081						X	X	X		X
22	BH01_0.25-0.35	Dec 01, 2022		Soil	N22-De0014082			X							

Company Name: Qualtest
Address: 2 Murray Dwyer Circuit
Mayfield West
NSW 2304

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Phone: 02 4968 4468
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Received: Dec 6, 2022 2:40 PM
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Contact Name: Emma Coleman

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Organochlorine Pesticides	Phenols (Speciated)	Aggressivity Soil Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Exchangeable Sodium Percentage (ESP)
Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
23	BH02_0.2-0.3	Dec 01, 2022		Soil	N22-De0014083			X							
24	BH03_0.1-0.2	Dec 01, 2022		Soil	N22-De0014084			X							
25	BH04_0.55-0.65	Dec 01, 2022		Soil	N22-De0014085			X							
26	BH05_0.3-0.4	Dec 01, 2022		Soil	N22-De0014086			X							
27	BH06_0.3-0.4	Dec 01, 2022		Soil	N22-De0014087			X							
28	BH07_0.3-0.4	Dec 05, 2022		Soil	N22-De0014088			X							
29	BH08_0.5-0.6	Dec 05, 2022		Soil	N22-De0014089			X							
30	BH09_0.4-0.5	Dec 05, 2022		Soil	N22-De0014090			X							
31	BH11_0.1-0.2	Dec 05, 2022		Soil	N22-De0014091			X							
32	BH11_0.8-0.9	Dec 05, 2022		Soil	N22-De0014092			X							
33	BH12_0.1-0.2	Dec 05, 2022		Soil	N22-De0014093			X							
34	BH12_1.0-1.1	Dec 05, 2022		Soil	N22-De0014094			X							
35	BH13_0.3-0.4	Dec 05, 2022		Soil	N22-De0014095			X							
36	BH14_0.5-0.6	Dec 05, 2022		Soil	N22-De0014096			X							

Company Name: Qualtest
Address: 2 Murray Dwyer Circuit
Mayfield West
NSW 2304

Project Name: VOLTRAIT KURRI KURRI
Project ID: NEW22P-0213

Order No.:
Report #: 947926
Phone: 02 4968 4468
Fax: 02 4960 9775

Received: Dec 6, 2022 2:40 PM
Due: Dec 13, 2022
Priority: 5 Day
Contact Name: Emma Coleman

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Organochlorine Pesticides	Phenols (Speciated)	Aggressivity Soil Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Exchangeable Sodium Percentage (ESP)
Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
37	BH14_0.6-0.7	Dec 05, 2022		Soil	N22-De0014097			X							
38	BH15_0.1-0.2	Dec 05, 2022		Soil	N22-De0014098			X							
39	BH15_1.1-1.2	Dec 05, 2022		Soil	N22-De0014099			X							
40	BH15_1.5-1.6	Dec 05, 2022		Soil	N22-De0014100			X							
41	BH16_0.1-0.2	Dec 05, 2022		Soil	N22-De0014101			X							
42	BH16_1.0-1.1	Dec 05, 2022		Soil	N22-De0014102			X							
43	SA BH09_0.1-0.2	Dec 05, 2022		Soil	N22-De0014103			X							
44	SA BH09_0.5-0.6	Dec 05, 2022		Soil	N22-De0014104			X							
45	SA BH09_0.85-0.9	Dec 05, 2022		Soil	N22-De0014105			X							
46	SA BH14_0.1-0.2	Dec 05, 2022		Soil	N22-De0014106			X							
47	SA BH14_0.5-0.6	Dec 05, 2022		Soil	N22-De0014107			X							

Company Name: Qualtest
Address: 2 Murray Dwyer Circuit
Mayfield West
NSW 2304

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Project ID: NEW22P-0213

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Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Organochlorine Pesticides	Phenols (Speciated)	Aggressivity Soil Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Exchangeable Sodium Percentage (ESP)
Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
48	SA BH14_1.0-1.1	Dec 05, 2022		Soil	N22-De0014108			X							
49	BH03_0.2-0.25	Dec 05, 2022		Soil	N22-De0014109			X							
50	BH03_0.25-0.35	Dec 05, 2022		Soil	N22-De0014110	X				X		X		X	
51	BH03_0.4-0.5	Dec 05, 2022		Soil	N22-De0014111			X							
52	SA BH09_0.8-0.9	Dec 05, 2022		Soil	N22-De0014362			X							
53	BH013_0.8-0.9	Dec 05, 2022		Soil	N22-De0014363			X							
54	SA BH07_0.8-0.9	Dec 05, 2022		Soil	N22-De0014364			X							
55	D.1.12.22	Dec 05, 2022		Soil	N22-De0014365			X							
56	BH03_0.7-0.8	Dec 05, 2022		Soil	N22-De0014378			X							
57	BH08-	Dec 05, 2022		Soil	N22-De0014382			X							
Test Counts						16	1	35	4	1	3	20	3	17	3

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (% w/w)
F/ffd	Airborne fibre filter loading as Fibres (N) per Fields counted (n)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (C)
g, kg	Mass, e.g. of whole sample (M) or asbestos-containing find within the sample (m)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (V = r x t)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (r)
min	Time (t), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration:
$$C = \left(\frac{A}{a}\right) \times \left(\frac{N}{r}\right) \times \left(\frac{1}{V}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{r}\right) \times \left(\frac{1}{V}\right)$$

Asbestos Content (as asbestos):
$$\% w/w = \frac{(m \times P_A)}{M}$$

Weighted Average (of asbestos):
$$\%_{wA} = \frac{\sum (m \times P_A) \times x}{x}$$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (PA)</i> .
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (% w/w).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
HSG248	UK HSE HSG248, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (K) as derived from the effective filter area of the given AFM membrane used for collecting the sample (A) and the projected eyepiece graticule area of the specific microscope used for the analysis (a).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (%wA).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Bennel Jiri Senior Analyst-Asbestos

Authorised by:

Chamath JHM Annakkage Senior Analyst-Asbestos



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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Qualtest
2 Murray Dwyer Circuit
Mayfield West
NSW 2304



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Emma Coleman**

Report **947926-S**
 Project name **VOLTRAIT KURRI KURRI**
 Project ID **NEW22P-0213**
 Received Date **Dec 06, 2022**

Client Sample ID			BH01_0.1-0.2	BH02_0.1-0.2	BH04_0.15-0.25	BH05_0.15-0.25
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014061	N22-De0014062	N22-De0014063	N22-De0014064
Date Sampled			Dec 01, 2022	Dec 01, 2022	Dec 01, 2022	Dec 01, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	118	111	108	111
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH01_0.1-0.2	BH02_0.1-0.2	BH04_0.15-0.25	BH05_0.15-0.25
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014061	N22-De0014062	N22-De0014063	N22-De0014064
Date Sampled			Dec 01, 2022	Dec 01, 2022	Dec 01, 2022	Dec 01, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	123	85	69	85
p-Terphenyl-d14 (surr.)	1	%	133	95	80	121
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	10	< 5	7.2
Copper	5	mg/kg	< 5	7.7	15	5.3
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	11	13	8.4
Zinc	5	mg/kg	< 5	27	13	10
% Moisture	1	%	9.2	22	15	24
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4,4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4,4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4,4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-

Client Sample ID			BH01_0.1-0.2	BH02_0.1-0.2	BH04_0.15-0.25	BH05_0.15-0.25
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014061	N22-De0014062	N22-De0014063	N22-De0014064
Date Sampled			Dec 01, 2022	Dec 01, 2022	Dec 01, 2022	Dec 01, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchloroendate (surr.)	1	%	-	120	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	83	-	-

Client Sample ID			BH06_0.2-0.3	BH07_0.1-0.2	D.5.12.22	BH08_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014065	N22-De0014066	N22-De0014067	N22-De0014068
Date Sampled			Dec 01, 2022	Dec 05, 2022	Dec 05, 2022	Dec 05, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	111	124	116	131
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH06_0.2-0.3	BH07_0.1-0.2	D.5.12.22	BH08_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014065	N22-De0014066	N22-De0014067	N22-De0014068
Date Sampled			Dec 01, 2022	Dec 05, 2022	Dec 05, 2022	Dec 05, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	90	102	98	96
p-Terphenyl-d14 (surr.)	1	%	113	118	65	116
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	7.2	7.1	7.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	15	7.8	5.8	6.1
Copper	5	mg/kg	7.3	12	11	11
Lead	5	mg/kg	< 5	5.1	5.2	5.5
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	17	11	11	12
Zinc	5	mg/kg	19	45	45	42
% Moisture	1	%	22	5.1	4.7	3.9
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4,4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4,4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4,4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchloroendate (surr.)	1	%	101	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	90	-	-	-

Client Sample ID			BH09_0.1-0.2	BH10_0.4-0.5	BH11_0.3-0.4	BH12_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014069	N22-De0014071	N22-De0014073	N22-De0014074
Date Sampled			Dec 05, 2022	Dec 05, 2022	Dec 05, 2022	Dec 05, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	120	105	96	125
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	79	85	122	101
p-Terphenyl-d14 (surr.)	1	%	84	99	110	108
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID			BH09_0.1-0.2	BH10_0.4-0.5	BH11_0.3-0.4	BH12_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014069	N22-De0014071	N22-De0014073	N22-De0014074
Date Sampled			Dec 05, 2022	Dec 05, 2022	Dec 05, 2022	Dec 05, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	6.2	8.4	8.0	6.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.2	22	20	8.5
Copper	5	mg/kg	10	23	6.4	8.7
Lead	5	mg/kg	< 5	210	55	13
Mercury	0.1	mg/kg	< 0.1	2.0	0.7	< 0.1
Nickel	5	mg/kg	9.9	12	< 5	7.9
Zinc	5	mg/kg	40	220	160	44
% Moisture	1	%	4.6	11	9.6	8.4
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4,4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4,4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4,4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchloroendate (surr.)	1	%	-	103	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	92	-	-

Client Sample ID			BH13_0.1-0.2	BH14_0.1-0.2	BH15_0.5-0.6	BH16_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014075	N22-De0014076	N22-De0014077	N22-De0014078
Date Sampled			Dec 05, 2022	Dec 05, 2022	Dec 05, 2022	Dec 05, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	63	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	60	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	123	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	117	105	83	102
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.6
2-Fluorobiphenyl (surr.)	1	%	88	115	104	88
p-Terphenyl-d14 (surr.)	1	%	120	110	87	87
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	110	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	110	< 100

Client Sample ID			BH13_0.1-0.2	BH14_0.1-0.2	BH15_0.5-0.6	BH16_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014075	N22-De0014076	N22-De0014077	N22-De0014078
Date Sampled			Dec 05, 2022	Dec 05, 2022	Dec 05, 2022	Dec 05, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	6.5	5.6	12	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	0.7	0.5
Chromium	5	mg/kg	5.3	< 5	23	26
Copper	5	mg/kg	10	8.6	44	33
Lead	5	mg/kg	< 5	< 5	300	320
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.1	0.3
Nickel	5	mg/kg	11	8.7	38	23
Zinc	5	mg/kg	42	35	440	450
% Moisture	1	%	5.7	3.9	15	17
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 1	-	-
4,4'-DDD	0.05	mg/kg	-	< 0.5	-	-
4,4'-DDE	0.05	mg/kg	-	< 0.5	-	-
4,4'-DDT	0.05	mg/kg	-	< 0.5	-	-
a-HCH	0.05	mg/kg	-	< 0.5	-	-
Aldrin	0.05	mg/kg	-	< 0.5	-	-
b-HCH	0.05	mg/kg	-	< 0.5	-	-
d-HCH	0.05	mg/kg	-	< 0.5	-	-
Dieldrin	0.05	mg/kg	-	< 0.5	-	-
Endosulfan I	0.05	mg/kg	-	< 0.5	-	-
Endosulfan II	0.05	mg/kg	-	< 0.5	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.5	-	-
Endrin	0.05	mg/kg	-	< 0.5	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.5	-	-
Endrin ketone	0.05	mg/kg	-	< 0.5	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.5	-	-
Heptachlor	0.05	mg/kg	-	< 0.5	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.5	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.5	-	-
Methoxychlor	0.05	mg/kg	-	< 0.5	-	-
Toxaphene	0.5	mg/kg	-	< 10	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.5	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 1	-	-
Dibutylchloroendate (surr.)	1	%	-	107	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	131	-	-

Client Sample ID			SA BH07_0.1-0.2	SA BH07_0.5-0.6	SA BH07_1.0-1.1	BH03_0.25-0.35
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014079	N22-De0014080	N22-De0014081	N22-De0014110
Date Sampled			Dec 05, 2022	Dec 05, 2022	Dec 05, 2022	Dec 05, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	60
TRH C29-C36	50	mg/kg	-	-	-	160
TRH C10-C36 (Total)	50	mg/kg	-	-	-	220
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total*	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	113
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	-	-	-	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	-	-	< 50
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	-	-	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	-	-	-	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	104
p-Terphenyl-d14 (surr.)	1	%	-	-	-	89
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	180
TRH >C34-C40	100	mg/kg	-	-	-	170
TRH >C10-C40 (total)*	100	mg/kg	-	-	-	350

Client Sample ID			SA BH07_0.1-0.2	SA BH07_0.5-0.6	SA BH07_1.0-1.1	BH03_0.25-0.35
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N22-De0014079	N22-De0014080	N22-De0014081	N22-De0014110
Date Sampled			Dec 05, 2022	Dec 05, 2022	Dec 05, 2022	Dec 05, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	-	-	-	8.2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	9.8
Copper	5	mg/kg	-	-	-	17
Lead	5	mg/kg	-	-	-	8.0
Mercury	0.1	mg/kg	-	-	-	< 0.1
Nickel	5	mg/kg	-	-	-	24
Zinc	5	mg/kg	-	-	-	67
% Moisture	1	%	11	5.2	18	9.0
Chloride	10	mg/kg	23	52	42	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	98	160	130	-
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	7.8	5.4	6.7	-
Resistivity*	0.5	ohm.m	200	81	120	-
Sulphate (as SO4)	10	mg/kg	13	140	97	-
Exchangeable Sodium Percentage (ESP)	0.1	%	9.2	7.8	8.6	-
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	8.1	9.4	11	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2,4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2,4,5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2,4,6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2,6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4,6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1	mg/kg	-	-	-	< 1
2,4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2,4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 1
Total cresols*	0.5	mg/kg	-	-	-	< 1
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	111
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Dec 11, 2022	14 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	Dec 11, 2022	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Dec 11, 2022	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Dec 11, 2022	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Dec 11, 2022	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Dec 11, 2022	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Dec 10, 2022	14 Days
Chloride - Method: LTM-INO-4270 Anions by Ion Chromatography	Sydney	Dec 11, 2022	28 Days
pH (1:5 Aqueous extract at 25 °C as rec.) - Method: LTM-GEN-7090 pH by ISE	Sydney	Dec 11, 2022	7 Days
Sulphate (as SO ₄) - Method: In-house method LTM-INO-4270 Sulphate by Ion Chromatograph	Sydney	Dec 11, 2022	28 Days
Conductivity (1:5 aqueous extract at 25 °C as rec.) - Method: LTM-INO-4030 Conductivity	Melbourne	Dec 14, 2022	7 Days
Exchangeable Sodium Percentage (ESP) - Method: LTM-MET-3060 - Cation Exchange Capacity (CEC) & Exchangeable Sodium Percentage (ESP)	Melbourne	Dec 14, 2022	28 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Dec 11, 2022	14 Days
Cation Exchange Capacity - Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage	Melbourne	Dec 14, 2022	28 Days
Phenols (Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Dec 10, 2022	14 Days
Phenols (non-Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Dec 10, 2022	14 Days

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Mayfield West
NSW 2304

Project Name: VOLTRAIT KURRI KURRI
Project ID: NEW22P-0213

Order No.:
Report #: 947926
Phone: 02 4968 4468
Fax: 02 4960 9775

Received: Dec 6, 2022 2:40 PM
Due: Dec 13, 2022
Priority: 5 Day
Contact Name: Emma Coleman

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence / Presence	HOLD	Organochlorine Pesticides	Phenols (Speciated)	Aggressivity Soil Set	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	Exchangeable Sodium Percentage (ESP)
Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
External Laboratory															
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID										
1	BH01_0.1-0.2	Dec 01, 2022		Soil	N22-De0014061							X		X	
2	BH02_0.1-0.2	Dec 01, 2022		Soil	N22-De0014062	X			X			X		X	
3	BH04_0.15-0.25	Dec 01, 2022		Soil	N22-De0014063	X						X		X	
4	BH05_0.15-0.25	Dec 01, 2022		Soil	N22-De0014064	X						X		X	
5	BH06_0.2-0.3	Dec 01, 2022		Soil	N22-De0014065	X			X			X		X	
6	BH07_0.1-0.2	Dec 05, 2022		Soil	N22-De0014066	X						X		X	
7	D.5.12.22	Dec 05, 2022		Soil	N22-De0014067							X		X	
8	BH08_0.1-0.2	Dec 05, 2022		Soil	N22-De0014068	X						X		X	
9	BH09_0.1-0.2	Dec 05, 2022		Soil	N22-De0014069	X						X		X	
10	BH10_0.1-0.2	Dec 05, 2022		Soil	N22-De0014070	X									
11	BH10_0.4-0.5	Dec 05, 2022		Soil	N22-De0014071	X			X			X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
12	BH10_0.4-0.5 ACM	Dec 05, 2022		Building Materials	N22-De0014072		X								
13	BH11_0.3-0.4	Dec 05, 2022		Soil	N22-De0014073	X						X		X	
14	BH12_0.5-0.6	Dec 05, 2022		Soil	N22-De0014074	X						X		X	
15	BH13_0.1-0.2	Dec 05, 2022		Soil	N22-De0014075	X						X		X	
16	BH14_0.1-0.2	Dec 05, 2022		Soil	N22-De0014076	X			X			X		X	
17	BH15_0.5-0.6	Dec 05, 2022		Soil	N22-De0014077	X						X		X	
18	BH16_0.3-0.4	Dec 05, 2022		Soil	N22-De0014078	X						X		X	
19	SA BH07_0.1-0.2	Dec 05, 2022		Soil	N22-De0014079						X	X	X		X
20	SA BH07_0.5-0.6	Dec 05, 2022		Soil	N22-De0014080						X	X	X		X
21	SA BH07_1.0-1.1	Dec 05, 2022		Soil	N22-De0014081						X	X	X		X
22	BH01_0.25-0.35	Dec 01, 2022		Soil	N22-De0014082			X							

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Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
23	BH02_0.2-0.3	Dec 01, 2022		Soil	N22-De0014083			X							
24	BH03_0.1-0.2	Dec 01, 2022		Soil	N22-De0014084			X							
25	BH04_0.55-0.65	Dec 01, 2022		Soil	N22-De0014085			X							
26	BH05_0.3-0.4	Dec 01, 2022		Soil	N22-De0014086			X							
27	BH06_0.3-0.4	Dec 01, 2022		Soil	N22-De0014087			X							
28	BH07_0.3-0.4	Dec 05, 2022		Soil	N22-De0014088			X							
29	BH08_0.5-0.6	Dec 05, 2022		Soil	N22-De0014089			X							
30	BH09_0.4-0.5	Dec 05, 2022		Soil	N22-De0014090			X							
31	BH11_0.1-0.2	Dec 05, 2022		Soil	N22-De0014091			X							
32	BH11_0.8-0.9	Dec 05, 2022		Soil	N22-De0014092			X							
33	BH12_0.1-0.2	Dec 05, 2022		Soil	N22-De0014093			X							
34	BH12_1.0-1.1	Dec 05, 2022		Soil	N22-De0014094			X							
35	BH13_0.3-0.4	Dec 05, 2022		Soil	N22-De0014095			X							
36	BH14_0.5-0.6	Dec 05, 2022		Soil	N22-De0014096			X							

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Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
37	BH14_0.6-0.7	Dec 05, 2022		Soil	N22-De0014097			X							
38	BH15_0.1-0.2	Dec 05, 2022		Soil	N22-De0014098			X							
39	BH15_1.1-1.2	Dec 05, 2022		Soil	N22-De0014099			X							
40	BH15_1.5-1.6	Dec 05, 2022		Soil	N22-De0014100			X							
41	BH16_0.1-0.2	Dec 05, 2022		Soil	N22-De0014101			X							
42	BH16_1.0-1.1	Dec 05, 2022		Soil	N22-De0014102			X							
43	SA BH09_0.1-0.2	Dec 05, 2022		Soil	N22-De0014103			X							
44	SA BH09_0.5-0.6	Dec 05, 2022		Soil	N22-De0014104			X							
45	SA BH09_0.85-0.9	Dec 05, 2022		Soil	N22-De0014105			X							
46	SA BH14_0.1-0.2	Dec 05, 2022		Soil	N22-De0014106			X							
47	SA BH14_0.5-0.6	Dec 05, 2022		Soil	N22-De0014107			X							

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Melbourne Laboratory - NATA # 1261 Site # 1254											X		X		X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X	X		X	
48	SA BH14_1.0-1.1	Dec 05, 2022		Soil	N22-De0014108			X							
49	BH03_0.2-0.25	Dec 05, 2022		Soil	N22-De0014109			X							
50	BH03_0.25-0.35	Dec 05, 2022		Soil	N22-De0014110	X				X		X		X	
51	BH03_0.4-0.5	Dec 05, 2022		Soil	N22-De0014111			X							
52	SA BH09_0.8-0.9	Dec 05, 2022		Soil	N22-De0014362			X							
53	BH013_0.8-0.9	Dec 05, 2022		Soil	N22-De0014363			X							
54	SA BH07_0.8-0.9	Dec 05, 2022		Soil	N22-De0014364			X							
55	D.1.12.22	Dec 05, 2022		Soil	N22-De0014365			X							
56	BH03_0.7-0.8	Dec 05, 2022		Soil	N22-De0014378			X							
57	BH08-	Dec 05, 2022		Soil	N22-De0014382			X							
Test Counts						16	1	35	4	1	3	20	3	17	3

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	µg/L: micrograms per litre
ppm: parts per million	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Chloride	mg/kg	< 10			10	Pass	
Sulphate (as SO4)	mg/kg	< 10			10	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan I	mg/kg	0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4,5-Trichlorophenol	mg/kg	< 1			1	Pass	
2,4,6-Trichlorophenol	mg/kg	< 1			1	Pass	
2,6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4,6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1	Pass	
2,4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2,4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	%	85			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	93			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	90			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	100			70-130	Pass	
Benzo(b&j)fluoranthene	%	99			70-130	Pass	
Benzo(g,h,i)perylene	%	123			70-130	Pass	
Benzo(k)fluoranthene	%	97			70-130	Pass	
Chrysene	%	90			70-130	Pass	
Dibenz(a,h)anthracene	%	106			70-130	Pass	
Fluoranthene	%	87			70-130	Pass	
Fluorene	%	93			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	105			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	93			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pyrene	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	84			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	103			80-120	Pass	
Cadmium	%	99			80-120	Pass	
Chromium	%	109			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	109			80-120	Pass	
Mercury	%	116			80-120	Pass	
Nickel	%	111			80-120	Pass	
Zinc	%	98			80-120	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	121			70-130	Pass	
4,4'-DDD	%	129			70-130	Pass	
4,4'-DDE	%	102			70-130	Pass	
a-HCH	%	91			70-130	Pass	
Aldrin	%	122			70-130	Pass	
b-HCH	%	101			70-130	Pass	
d-HCH	%	110			70-130	Pass	
Dieldrin	%	101			70-130	Pass	
Endosulfan I	%	125			70-130	Pass	
Endosulfan II	%	105			70-130	Pass	
Endosulfan sulphate	%	110			70-130	Pass	
Endrin	%	115			70-130	Pass	
Endrin aldehyde	%	115			70-130	Pass	
Endrin ketone	%	121			70-130	Pass	
g-HCH (Lindane)	%	91			70-130	Pass	
Hexachlorobenzene	%	101			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	88			25-140	Pass	
2,4-Dichlorophenol	%	90			25-140	Pass	
2,4,5-Trichlorophenol	%	79			25-140	Pass	
2,4,6-Trichlorophenol	%	72			25-140	Pass	
2,6-Dichlorophenol	%	87			25-140	Pass	
4-Chloro-3-methylphenol	%	86			25-140	Pass	
Pentachlorophenol	%	77			25-140	Pass	
Tetrachlorophenols - Total	%	77			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	99			25-140	Pass	
2,4-Dimethylphenol	%	86			25-140	Pass	
2-Methylphenol (o-Cresol)	%	86			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	89			25-140	Pass	
4-Nitrophenol	%	85			25-140	Pass	
Dinoseb	%	75			25-140	Pass	
Phenol	%	93			25-140	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S22-De0026249	NCP	%	85			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B22-De0016045	NCP	%	97			70-130	Pass	
Toluene	B22-De0016045	NCP	%	121			70-130	Pass	
Ethylbenzene	B22-De0016045	NCP	%	92			70-130	Pass	
m&p-Xylenes	B22-De0016045	NCP	%	91			70-130	Pass	
o-Xylene	B22-De0016045	NCP	%	83			70-130	Pass	
Xylenes - Total*	B22-De0016045	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S22-De0026249	NCP	%	107			70-130	Pass	
TRH C6-C10	S22-De0026249	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	N22-De0010929	NCP	%	78			70-130	Pass	
Acenaphthylene	N22-De0010929	NCP	%	84			70-130	Pass	
Anthracene	N22-De0010929	NCP	%	82			70-130	Pass	
Benz(a)anthracene	N22-De0010929	NCP	%	86			70-130	Pass	
Benzo(a)pyrene	N22-De0010929	NCP	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	N22-De0010929	NCP	%	86			70-130	Pass	
Benzo(g,h,i)perylene	N22-De0010929	NCP	%	93			70-130	Pass	
Benzo(k)fluoranthene	N22-De0010929	NCP	%	98			70-130	Pass	
Chrysene	N22-De0010929	NCP	%	88			70-130	Pass	
Dibenz(a,h)anthracene	N22-De0010929	NCP	%	98			70-130	Pass	
Fluoranthene	N22-De0010929	NCP	%	86			70-130	Pass	
Fluorene	N22-De0010929	NCP	%	81			70-130	Pass	
Indeno(1,2,3-cd)pyrene	N22-De0010929	NCP	%	93			70-130	Pass	
Naphthalene	N22-De0010929	NCP	%	83			70-130	Pass	
Phenanthrene	N22-De0010929	NCP	%	79			70-130	Pass	
Pyrene	N22-De0010929	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	N22-De0010929	NCP	%	89			70-130	Pass	
4,4'-DDD	N22-De0010929	NCP	%	92			70-130	Pass	
4,4'-DDE	N22-De0010929	NCP	%	91			70-130	Pass	
4,4'-DDT	N22-De0010929	NCP	%	98			70-130	Pass	
a-HCH	N22-De0010929	NCP	%	83			70-130	Pass	
Aldrin	N22-De0010929	NCP	%	93			70-130	Pass	
b-HCH	N22-De0010929	NCP	%	92			70-130	Pass	
d-HCH	N22-De0010929	NCP	%	88			70-130	Pass	
Dieldrin	N22-De0010929	NCP	%	90			70-130	Pass	
Endosulfan I	N22-De0010929	NCP	%	85			70-130	Pass	
Endosulfan II	N22-De0010929	NCP	%	87			70-130	Pass	
Endosulfan sulphate	N22-De0010929	NCP	%	95			70-130	Pass	
Endrin	N22-De0010929	NCP	%	103			70-130	Pass	
Endrin aldehyde	N22-De0010929	NCP	%	94			70-130	Pass	
Endrin ketone	N22-De0010929	NCP	%	89			70-130	Pass	
g-HCH (Lindane)	N22-De0010929	NCP	%	82			70-130	Pass	
Heptachlor	N22-De0010929	NCP	%	86			70-130	Pass	
Heptachlor epoxide	N22-De0010929	NCP	%	88			70-130	Pass	
Hexachlorobenzene	N22-De0010929	NCP	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methoxychlor	N22-De0010929	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	N22-De0014063	CP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	N22-De0014063	CP	%	80			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	N22-De0014069	CP	%	99			75-125	Pass	
Cadmium	N22-De0014069	CP	%	96			75-125	Pass	
Chromium	N22-De0014069	CP	%	105			75-125	Pass	
Copper	N22-De0014069	CP	%	105			75-125	Pass	
Lead	N22-De0014069	CP	%	101			75-125	Pass	
Mercury	N22-De0014069	CP	%	108			75-125	Pass	
Nickel	N22-De0014069	CP	%	103			75-125	Pass	
Zinc	N22-De0014069	CP	%	94			75-125	Pass	
Spike - % Recovery									
				Result 1					
Chloride	N22-De0014080	CP	%	125			70-130	Pass	
Sulphate (as SO4)	N22-De0014080	CP	%	126			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	S22-De0011378	NCP	%	90			30-130	Pass	
4-Chloro-3-methylphenol	S22-De0011378	NCP	%	93			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
4-Nitrophenol	S22-De0011378	NCP	%	86			30-130	Pass	
Phenol	S22-De0011378	NCP	%	89			30-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	N22-De0014061	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	N22-De0014061	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	N22-De0014061	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	N22-De0014061	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	N22-De0014061	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	N22-De0014061	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	N22-De0014061	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	N22-De0014061	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	N22-De0014061	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g,h,i)perylene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Benzo(k)fluoranthene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1.2.3-cd)pyrene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S22-De0020211	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S22-De0020211	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	S22-De0020211	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	N22-De0014064	CP	%	24	22	7.0	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	N22-De0014067	CP	mg/kg	7.1	7.5	5.0	30%	Pass
Cadmium	N22-De0014067	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	N22-De0014067	CP	mg/kg	5.8	6.3	8.7	30%	Pass
Copper	N22-De0014067	CP	mg/kg	11	11	3.5	30%	Pass
Lead	N22-De0014067	CP	mg/kg	5.2	5.1	1.1	30%	Pass
Mercury	N22-De0014067	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	N22-De0014067	CP	mg/kg	11	12	4.1	30%	Pass
Zinc	N22-De0014067	CP	mg/kg	45	45	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C10-C14	N22-De0014074	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	N22-De0014074	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	N22-De0014074	CP	mg/kg	< 50	< 50	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	N22-De0014074	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	N22-De0014074	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	N22-De0014074	CP	mg/kg	< 100	< 100	<1	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	N22-De0014075	CP	mg/kg	6.5	5.6	15	30%	Pass
Cadmium	N22-De0014075	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	N22-De0014075	CP	mg/kg	5.3	5.1	4.0	30%	Pass
Copper	N22-De0014075	CP	mg/kg	10	9.2	9.7	30%	Pass
Lead	N22-De0014075	CP	mg/kg	< 5	< 5	<1	30%	Pass
Mercury	N22-De0014075	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	N22-De0014075	CP	mg/kg	11	10	7.4	30%	Pass
Zinc	N22-De0014075	CP	mg/kg	42	37	13	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	N22-De0014076	CP	%	3.9	5.9	40	30%	Fail
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	N22-De0014077	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	N22-De0014077	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	N22-De0014077	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	N22-De0014077	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	N22-De0014077	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	N22-De0014077	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	N22-De0014077	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	N22-De0014077	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	N22-De0014077	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Chloride	N22-De0014079	CP	mg/kg	23	24	2.2	30%	Pass
Conductivity (1:5 aqueous extract at 25 °C as rec.)	M22-De0030949	NCP	uS/cm	340	410	18	30%	Pass
pH (1:5 Aqueous extract at 25 °C as rec.)	N22-De0014079	CP	pH Units	7.8	7.7	<1	30%	Pass
Resistivity*	S22-De0021761	NCP	ohm.m	71	75	4.8	30%	Pass
Sulphate (as SO ₄)	N22-De0014079	CP	mg/kg	13	15	11	30%	Pass
Exchangeable Sodium Percentage (ESP)	B22-De0017737	NCP	%	2.8	2.8	<1	30%	Pass
Duplicate								
Cation Exchange Capacity				Result 1	Result 2	RPD		
Cation Exchange Capacity	B22-De0017737	NCP	meq/100g	3.5	3.1	13	30%	Pass
Duplicate								
Phenols (Halogenated)				Result 1	Result 2	RPD		
2-Chlorophenol	S22-De0019761	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dichlorophenol	S22-De0019761	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4,5-Trichlorophenol	S22-De0019761	NCP	mg/kg	< 1	< 1	<1	30%	Pass
2,4,6-Trichlorophenol	S22-De0019761	NCP	mg/kg	< 1	< 1	<1	30%	Pass
2,6-Dichlorophenol	S22-De0019761	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Chloro-3-methylphenol	S22-De0019761	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Pentachlorophenol	S22-De0019761	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Tetrachlorophenols - Total	S22-De0019761	NCP	mg/kg	< 10	< 10	<1	30%	Pass

Duplicate								
Phenols (non-Halogenated)				Result 1	Result 2	RPD		
2-Cyclohexyl-4,6-dinitrophenol	S22-De0019761	NCP	mg/kg	< 20	< 20	<1	30%	Pass
2-Methyl-4,6-dinitrophenol	S22-De0019761	NCP	mg/kg	< 5	< 5	<1	30%	Pass
2-Nitrophenol	S22-De0019761	NCP	mg/kg	< 1	< 1	<1	30%	Pass
2,4-Dimethylphenol	S22-De0019761	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dinitrophenol	S22-De0019761	NCP	mg/kg	< 5	< 5	<1	30%	Pass
2-Methylphenol (o-Cresol)	S22-De0019761	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	S22-De0019761	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
4-Nitrophenol	S22-De0019761	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Dinoseb	S22-De0019761	NCP	mg/kg	< 20	< 20	<1	30%	Pass
Phenol	S22-De0019761	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Andrew Black	Analytical Services Manager
Chamath JHM Annakkage	Senior Analyst-Asbestos
Mary Makarios	Senior Analyst-Metal
Mickael Ros	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Inorganic
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile
Ryan Phillips	Senior Analyst-Inorganic
Scott Beddoes	Senior Analyst-Inorganic



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

CERTIFICATE OF ANALYSIS

Work Order : **ES2244543**
Client : **QUALTEST LABORATORY(NSW) PTY LTD**
Contact : EMMA COLEMAN
Address : 2 MURRAY DWYER CIRUIT
MAYFIELD WEST 2304
Telephone : 02 4968 4468
Project : NEW22P-0213 Voltraint, Kurri Kurri
Order number : ----
C-O-C number : ----
Sampler : Tom Hall
Site : ----
Quote number : EN/333
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 6
Laboratory : Environmental Division Sydney
Contact : Customer Services ES
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 09-Dec-2022 09:30
Date Analysis Commenced : 14-Dec-2022
Issue Date : 19-Dec-2022 10:48



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alex Rossi	Organic Chemist	Sydney Inorganics, Smithfield, NSW
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		T.5.12.22	----	----	----	----
Sampling date / time		05-Dec-2022 00:00		----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2244543-001	-----	-----	-----	-----
Result				----	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	5.3	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	6	----	----	----	----
Copper	7440-50-8	5	mg/kg	10	----	----	----	----
Lead	7439-92-1	5	mg/kg	<5	----	----	----	----
Nickel	7440-02-0	2	mg/kg	9	----	----	----	----
Zinc	7440-66-6	5	mg/kg	39	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	T.5.12.22	----	----	----	----
Sampling date / time					05-Dec-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2244543-001	-----	-----	-----	-----
Result					----	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		94.0	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		104	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		78.2	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		97.6	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		99.9	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		104	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		76.9	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		103	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	T.5.12.22	----	----	----	----
				Sampling date / time	05-Dec-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2244543-001	-----	-----	-----	-----
				Result	----	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		106	----	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

QUALITY CONTROL REPORT

Work Order	: ES2244543	Page	: 1 of 7
Client	: QUALTEST LABORATORY(NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: EMMA COLEMAN	Contact	: Customer Services ES
Address	: 2 MURRAY DWYER CIRUIT MAYFIELD WEST 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: 02 4968 4468	Telephone	: +61-2-8784 8555
Project	: NEW22P-0213 Voltraint, Kurri Kurri	Date Samples Received	: 09-Dec-2022
Order number	: ----	Date Analysis Commenced	: 14-Dec-2022
C-O-C number	: ----	Issue Date	: 19-Dec-2022
Sampler	: Tom Hall		
Site	: ----		
Quote number	: EN/333		
No. of samples received	: 1		
No. of samples analysed	: 1		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alex Rossi	Organic Chemist	Sydney Inorganics, Smithfield, NSW
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4767989)									
ES2244505-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
ES2244513-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	30	34	12.6	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	20	21	5.4	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	11	13	18.1	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	42	45	6.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	21	22.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	37	38	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4767997)									
ES2244505-003	Anonymous	EA055: Moisture Content	----	0.1	%	22.4	21.5	4.4	0% - 20%
ES2244516-003	Anonymous	EA055: Moisture Content	----	0.1	%	27.0	28.7	5.9	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4767991)									
ES2244513-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2244614-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4767002)									
ES2244516-002	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4767002) - continued											
ES2244516-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			205-82-3								
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		ES2245046-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
				EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
				EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Fluorene	86-73-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Phenanthrene	85-01-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Anthracene	120-12-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Fluoranthene	206-44-0			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Pyrene	129-00-0			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Benz(a)anthracene	56-55-3			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Chrysene	218-01-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
	205-82-3										
EP075(SIM): Benzo(k)fluoranthene	207-08-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Benzo(a)pyrene	50-32-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Dibenz(a,h)anthracene	53-70-3			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Benzo(g,h,i)perylene	191-24-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4767001)											
ES2244516-002	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4767001) - continued									
ES2244516-002	Anonymous	EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2245046-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4767350)									
ES2244505-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2244505-009	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4767001)									
ES2244516-002	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2245046-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4767350)									
ES2244505-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2244505-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4767350)									
ES2244505-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2244505-009	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) LowHigh		
Result					
<5	121.1 mg/kg	91.7	88.0	113	
<1	0.74 mg/kg	128	70.0	130	
<2	19.6 mg/kg	104	68.0	132	
<5	52.9 mg/kg	110	89.0	111	
<5	60.8 mg/kg	92.4	82.0	119	
<2	15.3 mg/kg	95.2	80.0	120	
<5	139.3 mg/kg	86.0	66.0	133	
<0.1	0.087 mg/kg	92.0	70.0	125	
<0.5	6 mg/kg	93.6	77.0	125	
<0.5	6 mg/kg	97.7	72.0	124	
<0.5	6 mg/kg	100	73.0	127	
<0.5	6 mg/kg	102	72.0	126	
<0.5	6 mg/kg	106	75.0	127	
<0.5	6 mg/kg	97.6	77.0	127	
<0.5	6 mg/kg	102	73.0	127	
<0.5	6 mg/kg	102	74.0	128	
<0.5	6 mg/kg	93.1	69.0	123	
<0.5	6 mg/kg	102	75.0	127	
<0.5	6 mg/kg	89.5	68.0	116	
<0.5	6 mg/kg	98.0	74.0	126	
<0.5	6 mg/kg	96.4	70.0	126	
<0.5	6 mg/kg	99.2	61.0	121	
<0.5	6 mg/kg	103	62.0	118	
<0.5	6 mg/kg	95.5	63.0	121	
<50	300 mg/kg	115	75.0	129	
<100	450 mg/kg	110	77.0	131	
<100	300 mg/kg	105	71.0	129	
<10	26 mg/kg	104	68.4	128	



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4767001) - continued								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	114	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	106	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	103	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4767350)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	108	68.4	128
EP080: BTEXN (QCLot: 4767350)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	111	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	108	65.0	117
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	110	66.0	118
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	63.0	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4767989)							
ES2244505-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	96.3	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	90.1	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	97.3	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	99.5	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	98.9	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.6	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	95.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4767991)							
ES2244512-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	93.2	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4767002)							
ES2245046-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	99.8	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	101	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4767001)							
ES2245046-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	112	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	122	53.0	131

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 Work Order : ES2244543
 Client : QUALTEST LABORATORY(NSW) PTY LTD
 Project : NEW22P-0213 Voltraint, Kurri Kurri



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4767001) - continued							
ES2245046-001	Anonymous	EP071: C29 - C36 Fraction	----	2060 mg/kg	125	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4767350)							
ES2244505-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	115	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4767001)							
ES2245046-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	110	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	124	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	122	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4767350)							
ES2244505-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	117	70.0	130
EP080: BTEXN (QCLot: 4767350)							
ES2244505-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	96.2	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	102	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	105	70.0	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	105	70.0	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	102	70.0	130
		EP080: Napthalene	91-20-3	2.5 mg/kg	97.2	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2244543	Page	: 1 of 4
Client	: QUALTEST LABORATORY(NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: EMMA COLEMAN	Telephone	: +61-2-8784 8555
Project	: NEW22P-0213 Voltraint, Kurri Kurri	Date Samples Received	: 09-Dec-2022
Site	: ----	Issue Date	: 19-Dec-2022
Sampler	: Tom Hall	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) T.5.12.22	05-Dec-2022	----	----	----	14-Dec-2022	19-Dec-2022	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) T.5.12.22	05-Dec-2022	14-Dec-2022	03-Jun-2023	✓	16-Dec-2022	03-Jun-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) T.5.12.22	05-Dec-2022	14-Dec-2022	02-Jan-2023	✓	16-Dec-2022	02-Jan-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) T.5.12.22	05-Dec-2022	14-Dec-2022	19-Dec-2022	✓	16-Dec-2022	23-Jan-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) T.5.12.22	05-Dec-2022	14-Dec-2022	19-Dec-2022	✓	16-Dec-2022	19-Dec-2022	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) T.5.12.22	05-Dec-2022	14-Dec-2022	19-Dec-2022	✓	16-Dec-2022	19-Dec-2022	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) T.5.12.22	05-Dec-2022	14-Dec-2022	19-Dec-2022	✓	16-Dec-2022	19-Dec-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ES2244543

Client	: QUALTEST LABORATORY(NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: EMMA COLEMAN	Contact	: Customer Services ES
Address	: 2 MURRAY DWYER CIRUIT MAYFIELD WEST 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: emmacoleman@qualtest.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: 02 4968 4468	Telephone	: +61-2-8784 8555
Facsimile	: 02 4960 9775	Facsimile	: +61-2-8784 8500
Project	: NEW22P-0213 Voltraint, Kurri Kurri	Page	: 1 of 3
Order number	: ----	Quote number	: EN2018QUATES0001 (EN/333)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Tom Hall		

Dates

Date Samples Received	: 09-Dec-2022 09:30	Issue Date	: 12-Dec-2022
Client Requested Due Date	: 16-Dec-2022	Scheduled Reporting Date	: 16-Dec-2022

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 14.6°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: SOIL

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2244543-001	05-Dec-2022 00:00	T.5.12.22	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

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Croft's Environment Testing ABN 50 005 085 521

Unit F3 Bldg 16 Mars Road Lane Cove West NSW 2060
02 9900 8400 Email: SamplesNSW@curious.com

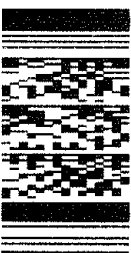
Unit 121 Smaewood Place Murray, Q1D 4T2
07 3902 4500 ErvinoSampleQ1.D@errolas.com

Unit 251 Leach Highway Kenosha WA 63101
OR 9251 9600 EnviroSampleWA@earthlink.com

646 Monterey Road, Danvers, CA 95618
03.8564.5000 EnviroSampleVc@verizon.com

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Environmental Division
Sydney
Work Order Reference
ES2244543



Telephone : + 61-2-8784 8555

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