

REPORT

Keymore Pty Ltd

Preliminary Environmental and
Hydrogeological Site Investigation
365 Princes Highway, Officer

Report prepared for:

Keymore Pty Ltd

Report prepared by:

Tonkin & Taylor Pty Ltd

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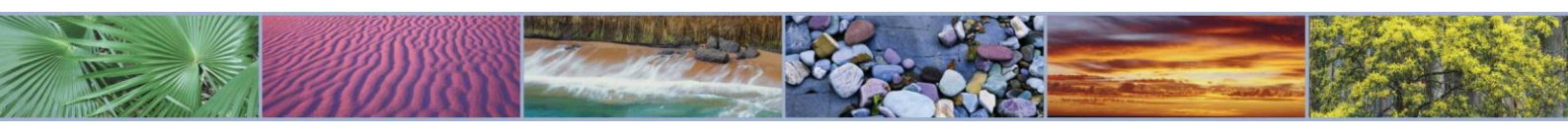


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1 Introduction

Tonkin & Taylor Pty Ltd (T&T) was engaged by Keymore Pty Ltd on behalf of Bosco Jonson Pty Ltd to conduct an environmental Preliminary Site Investigation (PSI) and hydrogeological assessment of a site located at 365 Princes Highway, Officer, Victoria. T&T understands the site is being considered for a low density residential subdivision. As part of the planning application process, Council has requested an investigation for potential contamination arising from past site use and assessment for the presence of shallow groundwater and its potential to impact on the development, or the development on groundwater quality.

From the information provided by Bosco Jonson the site has predominantly been used for agricultural purposes with possible clay products produced onsite from the turn of the century. A former clay borrow pit is located onsite, and now forms a dam in the south west corner of site.

T&T has recently undertaken an investigation at the site centred on the sediments of the dam located in the south west portion of the site and is undertaking level 1 supervision works for the filling of the dam. T&T has also completed a similar hydrogeological and contamination investigation for Keymore at the adjacent Timbertop Estate development to the west of the subject site.

1.1 Objectives

There are two main objectives of this site investigation. The first is to conduct a preliminary site investigation to identify potential sources of contamination associated with historic and current uses of the site. The second is to determine the prevailing hydrogeological conditions beneath the site and identify potential constraints groundwater may have on the proposed residential development.

1.2 Scope of works

The following scope of works was undertaken by T&T for this investigation.

- A desktop review for investigation of site history, including review of historical certificates of title, historical aerial photographs and local historical information. The review also incorporated an evaluation of hydrogeological conditions at the site including review of existing groundwater data, topographic and hydrologic features and readily available published reports, utilising information available from T&T's work on the adjacent site.
- An inspection of the site and surrounds to confirm the current layout and land use(s), the presence of potential contamination sources, indicators of historical contamination such as stressed vegetation or staining of soils, evidence of filling etc.
- Collection of 20 surface soil samples targeting the existing site infrastructure using a judgemental sampling pattern, with samples submitted for analysis for organochlorine pesticides and metals. Two samples were also analysed for an 'EPA screen' to confirm if any other common contaminants were present within soils derived from other historical uses of the site.
- Drilling of three boreholes to intersect shallow groundwater at the site, and installation of piezometers to a depth 5.0 metres below ground level (mbgl).
- Groundwater gauging to determine the standing water levels in the monitoring wells.
- Collection of samples of groundwater from the only well with sufficient groundwater and submission to the National Association of Testing Authorities (NATA) accredited analytical laboratories under Chain of Custody documentation to analyse for total dissolved solids (TDS), chloride, sulphate and pH.

- Provision of this report detailing the findings of the environmental PSI and hydrogeological assessment.

Works were undertaken in accordance with the National Environment Protection Council (1999) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) May 2013 Amendment (ASC NEPM), Australian Standard AS4482.1 2005 and industry practice.

2 Environmental Setting

2.1 Site location and description

The site is located at 365 Princes Highway, Officer, Victoria and comprises two separate adjoining parcels of land and is defined on the certificates of title as Plan numbers TP419047 and TP680282.

The site is generally square in shape with the southern boundary fronting the Princes Highway.

The site is approximately 3.8ha in size (refer to Figure 2).

2.1.1 Zoning

A review of the Department of Planning, Transport and Local Infrastructure planning property report indicates the site and surrounds are currently zoned as UGZ3 for Urban Growth 3 Zone use, which applies to land that has been identified for urban growth use and development. The Princes Highway to the south is zoned as RDZ1, which applies to land that is dedicated to roadways.

A review of the Department of Planning, Transport and Local Infrastructure planning property report indicates that the southern half of the site is subject to a heritage overlay, indicating that this portion of the site is of local or state significance. A Development Contributions Plan Overlay (DCPO) encompasses the site and the immediate surrounding area. The DCPO indicates the site and surrounding area are designated for development. There are no other planning overlays in the general vicinity of the site.

Property Planning Reports are provided in Appendix A.

2.1.2 Surrounding land uses

The area surrounding the site to the north, east and south is used for farming practices such as livestock grazing purposes with residential use to the west.

The specific land uses are detailed below.

- North – residential dwelling on a farm let.
- South – Princes Highway, further south is a commercial pottery business surrounded by pasture.
- East – farmland consisting of paddocks and pasture.
- West – a residential subdivision under construction.

2.2 Hydrogeological setting

2.2.1 Topography

The regional topography is characterised by low level undulating fluvial plains, sloping in a south south-westerly direction towards Cardinia Creek. The site is consistent with the surrounding topography, with a shallow grade running north to south. A central mounding in the northern portion of the site has an elevation of approximately 43 mAHD, which slopes down to approximately 34 mAHD in the centre of the southern boundary.

2.2.2 Regional geology

Both the 1:63,360 Cranbourne geological and 1:250,000 Queenscliff geological maps indicate that the site is underlain by upper Quaternary aged fluvial deposits consisting of alluvium, gravel, sand

and silt (including Cardinia sand) which overlay Silurian aged marine deposits including mudstone and sandstone.

2.2.3 Hydrology

A dam occupies the southeast quarter of the site. This dam is likely a result of previous quarrying activities at the site. Another dam is located on the neighbouring parcel of land to the west, also thought to have been the result of past quarrying activities. Cardinia creek is located 200m to the southeast of the site and flows into Western Port Bay, 17km to the south of site.

2.2.4 Hydrogeology

2.2.4.1 Flow systems

Information provided in The Port Phillip and Westernport Groundwater Flow Systems¹ places the site in an area of transition between the intermediate to regional groundwater flow systems of the Westernport plain (GFS17) and the Local and intermediate fractured Palaeozoic rock groundwater flow system (GFS15). Shallow groundwater at the site is most likely to be present in alluvial sediments in shoestring sands and gravels interbedded in clays and would develop limited localised flow systems (i.e. GFS15). This flow system is typically characterised by flat hydraulic gradients and highly variable hydraulic conductivity although at this location, locally steep hydraulic gradients may be expected. Recharge for this flow system is catchment wide, through surface rainfall infiltration.

Regional groundwater flow is expected to be broadly to the south, towards Western Port Bay, consistent with general site topography.

2.3 Environment Protection Authority Victoria

2.3.1 Priority Sites register

The list of Priority Sites published by EPA Victoria on 28 February 2014 was reviewed and confirmed that the site is not a priority site and is not in the immediate vicinity of a priority site. An extract of the register is contained in Appendix A.

2.3.2 Completed Environmental Audits

A review of the list of issued Certificates and Statements of Environmental Audit indicated that the site was not listed as having previously been the subject of an Environmental Audit. Additionally, no site in the general vicinity (within 1km) was identified on the list as having been subject to an Environment Audit.

¹ Dalhaus P.G., Heislars D.S., Brewin D., Leonard J.L., Dyson P.R. & Cherry D.P. (2004) Port Phillip and Westernport Groundwater Flow Systems. Port Phillip and Westernport Catchment Management Authority, Melbourne Victoria.

3 Site History

A review of site history was conducted to identify potential sources of contamination on the site. This included:

- A review of historical aerial photographs.
- Review of published historical and other mapping.
- Review of historical planning information.
- An interview with the current site occupier for information on the site's history.

Findings of the review are provided below.

3.1 Historical aerial photography

Historical aerial photographs for the site and the surrounding properties, dating from 1956, were obtained from the Aerial Photography Archive (Department of Sustainability and Environment) as part of the site history compilation. Depending on the size of the site, aerial photographs of scale larger than 1:20,000 generally do not provide sufficient detail to discern features on the site. The number of photographs available for review is therefore limited. Additional photographs are available in Google Earth and online from <http://www.nearmap.com/>, which generally date from the early 2000s to present.

A summary of aerial photographs that were inspected is provided in the table below. Copies of the photographs are provided in Appendix B.

Table 3-1: Review of Historical Aerial Photographs

Photograph	Observations
April 1956 Run: 19 Film: 1197 Photo: 41 Project: Princes Highway Project (Oakleigh-Drouin) Scale: 1:3,600	Site Observations The eastern side of the site is not visible in this photograph. The visible portion of the site comprised cleared farm land, with scattered mature trees. The former quarry is visible in the south west corner of the site, presumed to be from the excavation of clay for use by the pottery factories to the south of the site. The pit extended into the adjacent property to the west and appeared to be recently excavated, with no vegetation growth around the pit, and evidence of a haul road. Several structures are present to the north of the pit towards the centre of the site with a driveway leading to these from the southeast. Site Surrounds Observations Surrounding land comprised cleared farm land to the north and west, a commercial/ light industrial style building is present directly south of site across the Princes Highway.
April 1963 Run: 30 Film: 1828 Photo: 70 Project: Melbourne (1963) Project Scale: 1:9,600	Site Observations The entire site is visible in the photograph and shows the northern half of the site as cleared land with the quarry/pit in the south. The buildings and ancillary structures (sheds) are still present in the central portion of the site. At least two other buildings are visible to the east of the quarry/pit. Site Surrounds Observations The surrounding land remains largely unchanged from the previous image.

Photograph	Observations
July 1973 Run: 3 Film: 2800 Photo: 5 Project: Beaconsfield to Robinhood 1973 Bushfires 1973 Scale: 1:12,000	Site Observations The site appears largely unchanged from the previous image, with the exception of the quarry/pit being extended to the north along the western site boundary. Site Surrounds Observations No significant changes were noted on the surrounding land from the previous image.
February 1983 Run: 5 Film: 3751 Photo: 168 Project: Dandenong Ranges Bushfires Feb 83 Scale: 1:10,000	Site Observations The image quality is poor however it appears the buildings in the central northern portion of the site are no longer present. Burnt grassland (indicative of bushfire) is visible in this area of the site and may explain the absence of these structures. Site Surrounds Observations The wider aerial photograph shows more substantial burnt areas to the north and south of the site.
July 1991 Run: 28 Film: 4410 Photo: 84 Project: Melbourne Project Scale: 1:15,000	Site Observations The site appears largely unchanged from the previous image. A chimney is now visible on the eastern side of the building in the south east corner of the site, likely related to the kiln within this building. The quarry/pit has been extended marginally to the north west, and has become inundated with water, creating the dam that exists at the site presently. A collection of factory style buildings occupy the south east corner of the site. Site Surrounds Observations No significant changes noted on the surrounding land from the previous image, with the exception of regrowth of vegetation on the previously visible burnt areas.
November 2002 Google Earth image	Site Observations Several of the buildings in the southeast corner of the site have been demolished. The remaining building in this area appears to be partially demolished or collapsing. A shed is visible on the eastern side of the quarry/pit. Site Surrounds Observations No significant changes noted on the surrounding land from the previous image.
November 2009 Google Earth image	Site Observations The north west portion of the dam appears to have been drained with a bund wall placed on the southern extent of this area. Several stockpiles are present to the east of the shed adjacent to the dam. Vegetation along the north and east boundaries has been cleared Site Surrounds Observations No significant changes noted on the surrounding land from the previous image.

Photograph	Observations
April 2014 Nearmap image	Site Observations The site appears similar to the previous image with the exceptions of the addition of the soil stockpiles in the south eastern portion of the site and the removal of the building (shed) on the eastern side of the dam with a stockpile of demolition material present at this location. A smaller building on the south east corner of site has also been removed. Site Surrounds Observations The surrounding land appears largely unchanged from the previous image with the exception of development works for residential subdivision on the land to the west.

A review of the historical aerial photographs indicates that the site was used for quarrying activities for the manufacture of ceramic products from 1951 through to sometime between 1991 and 2002, during which time the quarry/pit became inundated creating the current dam occupying the southwest of the site. The buildings in the central portion of the site were removed between 1973 and 1983, possibly due to fire damage from bushfires identified in the photograph from 1983. The building (or shed) to the east of the dam was removed in the latter part of 2013, with demolition material still present at this location. The shed remains in the south eastern corner of the site. Few significant changes to the layout and use of the site have been observed since the 1991 photograph, with the exception of the removal of several buildings, possible draining/backfilling of the north west section of the quarry/pit and the addition of a few stockpile in the south eastern corner of the site.

From before 1956 to present day the majority of the surrounding land has been used predominantly for agricultural purposes. Development of the land to the west is underway for low density residential use.

3.2 Certificates of Title

The site consists of two separate parcels of land and was most recently defined on Certificates of Title Volume 6085/ Folio 898 and Volume 6085/Folio 899, both of which list Officer Properties Pty Ltd as the current and sole proprietor.

A review of the parent titles was conducted to establish historical ownership and subdivision/consolidation. A summary of the historical Certificates of Title is provided below.

Certificates of Title confirm that the site was originally divided into two separate land parcels which were combined in 1936 to form the site as it exists at present. Titles indicate that both parcels of the site were predominantly owned solely or in part by pottery makers from 1932 through to 2005. The property titles have changed ownership between private companies a number of times since 2005. No other proprietors of any potential environmental significance have owned the site.

An internet search of the private companies revealed nothing of potential environmental significance.

Copies of the Certificates of Title are provided in Appendix C.

3.3 Historical mapping

3.3.1 Historical geological maps

The 1969 Ringwood 1:63,360 scale geological map was reviewed². This map provides information on historical quarrying and similar activities. The site was formerly a “sand pit” indicating that sands and/or clays were previously extracted from site. The dam currently onsite has been formed as a result of these previous quarrying activities. Another sand pit site was located directly across Princes Highway to the south.

3.3.2 Street directory

The 1966 Melways map³ was inspected, however, Officer was outside the mapped area.

The 1991/92 Melways shows no detail for the site. Berwick Pottery is present immediately to the south across Princes Highway.

3.3.3 Planning overlays

A review of historical planning schemes from 1954, 1959, 1968 and 1985, available online⁴, revealed none of the planning schemes extended to Officer.

3.4 Other

3.4.1 Victorian heritage database

A search of the Victorian Heritage Database was undertaken online. No information was listed for the subject site.

3.4.2 Royal historical Society of Victoria

The Sands and McDougall Directory included Officer in its country towns from approximately 1920 and listed residents in alphabetical order with no street listings. The majority of these residents are shown as pursuing agricultural activities such as orchardists or farmers. The township was named after the Officer family who were early settlers in the area having moved from Deniliquin. The Melway's Street Directories show the land continues to be rural until more recently.

3.4.3 Previous site investigation

T&T has undertaken a geotechnical assessment for the site⁵, which also encompasses the land to the west. This assessment included sampling and analysis of sediments from the dam at the subject site.

3.4.4 Information from previous investigations on adjacent site

T&T (then Chadwick T&T) undertook a previous investigation⁶ of the land to the west of the subject site. The main findings of this initial assessment were localised hydrocarbon and

² Vandenberg, A.H.M., 1970. *Ringwood, 1:63,360 Geological Map Series*, Geological Survey of Victoria.

³ <http://melwayed1.melway.com.au/mwyedn1.htm>

⁴ DSE, undated. Planning Maps Online, <http://www.dse.vic.gov.au/planningschemes/index.html>

⁵ Assessment is still ongoing and had not been finalised at the time of reporting.

⁶ Chadwick T&T Pty Ltd (2010). Soil Contamination, hydrogeological & Geotechnical Assessment, 325 Princes Highway, Officer.

organochlorine pesticide (OCP) contamination of surface soils, none of which exceeded health and ecological criteria for residential land use. An additional investigation was undertaken by T&T in 2011⁷, predominantly targeting those areas identified in the 2010 report. Findings of this investigation reflected those of the previous report. Recommendations were made for the removal or remediation of surface soils at the hydrocarbon impacted locations exceeding human health criteria and several locations exceeding ecological criteria for metals.

Neither of the previous reports indicated contamination identified at the site adjacent to the west was likely to have migrated off site, either as dust or spray drift (from pesticide application) or through groundwater.

⁷ Tonkin & Taylor Pty Ltd (2011) Additional Site Contamination Assessment – Timbertop Estate, Officer.

4 Site Inspection

An inspection of the site was performed during the site works undertaken on 10 April 2014 in order to identify potentially contaminated areas of the site. Information considered during the initial site inspection included, but was not limited to, the following:

- Presence of buildings/ structures including evidence of historical structures.
- Presence of underground structures including underground storage tanks.
- Surface drainage/ stormwater system and other services.
- Condition of hardstand/ surface coverage.
- Lack of vegetation/ poorly growing or deformed vegetation.
- Areas of surface staining/ discoloured soil.
- Distinctive odours.
- Evidence of areas of fill or buried wastes.

4.1 Observations

Observations made during the site inspection are noted below. Photographs were taken of selected areas and can be found in Appendix E.

4.1.1 Site layout and structures

The site is roughly square in shape. The southern boundary fronts Princes Highway, with the site entrance gate located in the southeast corner. There is also a second entrance in the northwest corner leading from the subdivision under construction to the west.

There is one three roomed shed on the site, the shed is located on the south eastern corner adjacent to the driveway. It appeared disused and dilapidated, the north eastern of the three rooms contained the remnants of several inbuilt ovens or kilns, the remaining two rooms were found to be empty. There was storage of bricks and terracotta pipes on the northern side of the shed. An area of hardstand (i.e. concrete), which was approximately 3.5m by 3m in size, was identified adjacent to the driveway, to the north of the shed. The footprint of the previously backfilled section of the quarry has been recently re-excavated. T&T understands that as part of the geotechnical assessment, fill material that had been deposited at this location was being removed as it was geotechnically unsuitable. A dam (formally the quarry/pit) was identified occupying the southwest corner of the site and was full of water at the time of inspection.

4.1.2 Site surface

The site is predominantly covered with grass or exposed soil apart from limited areas of concrete surrounding the shed and the hardstand area. Two of the rooms of the shed were observed to have earthen floors with the remaining vacant room being concrete. The former quarry to the north of the dam has exposed silty clay at the surface. The areas surrounding the sheds are relatively flat, however, the site as a whole slopes to the south. There was a gravel and brick/pipe fragment roadway extending from the entrance on Princes Highway to the northwest of the hardstand further towards the centre of the site.

Residual debris was identified on the eastern edge of the excavation, approximately where the former buildings were located onsite. The debris consisted of scrap metal, brick, ceramic and some fragments of potential Asbestos Containing Material (ACM) and may be the remnants of an incineration pit. It appeared that a portion of this pit had been excavated as part of the current site works to remove previously deposited fill in this area. This excavation work had resulted in

the exposure of the vertical profile of the incineration pit. Further delineation of the lateral extent of the pit was restricted by the adjacent soil stockpiles. Fragments (majority less than 5 cm in diameter) of fibro-cement sheet (possibly ACM) were identified adjacent to the pit roughly where the former buildings were located onsite.

An area of the northeast corner of the site was observed to have two depressions which may have been created from the removal of trees, mulch stockpiles were present in the vicinity.

Several stockpiles of soil and ballast (i.e. crushed rock) were present running east to west onsite to the north of the kiln shed and immediately west of the hardstand.

There was a stockpile of corrugated iron sheeting and metal frame work in the centre of the site which is likely to have originated from the shed which previously occupied this location. Approximately a dozen soil stockpiles were identified at various locations across the site, several of which, located towards the centre of the site appeared to have originated from the excavation in this area based on the similar soils observed.

No potential ACM was observed in the shed area. No other materials that were considered to be asbestos containing were identified during our inspection.

4.1.3 Surrounding land

There were no indicators of significant contaminating activities on surrounding land that were considered likely to impact on the subject site. A summary of surrounding land uses is provided below.

Table 4-1: Surrounding Land Uses

Direction	Surrounding Land Use
North	Rural residential properties to the north.
East	Cleared vacant farmland, used for grazing.
South	Rural residential properties, with a pottery business immediately across Princes Highway.
West	Cleared vacant farmland, being part of the greater development site area. Area mostly under construction for low density residential housing.

5 Potential for Contamination

Based on the above information the soils beneath the site may have been affected by historical and recent uses of the site. The potentially contaminating activities and potential contaminants of concern (COPC) are summarised in Table 5-1 below.

Table 5-1: Potential for contamination

Description	Rationale/Details	Potential Contaminants	Media
Onsite			
Shed/s and infrastructure associated with past site use for quarrying and manufacture of ceramic products	Presence of the former quarry (dam) and kiln indicates past use of the site for ceramics and pottery manufacturing	Metals and PAHs	Soil
Use of potentially asbestos containing fibro-cement sheeting in former buildings	Fragments of cement sheeting observed in area of site previously occupied by structures.	Asbestos fibres	Soil
Incineration pit adjacent to location of former structures towards centre of site	Use of this area for waste disposal via incineration resulting in possible residual impacts	Various contaminants not consumed in combustion process (e.g. metals, asbestos) and by-products such as PAHs.	Soil
Paddock areas	Potential use as a pasture	Organochlorine Pesticides	Soil
Soil stockpiles	Unknown source of soils which may have been deposited at site without prior classification	A variety of contaminants dependant on the source of the soils	Soil
Stockpile of building material from former shed located east of the dam	Material could be considered solid inert waste and an aesthetic impact	Considered an aesthetic impact	N/A
Offsite			
None	Uses of surrounding land do not appear to provide a significant potential for offsite contamination to have impacted the soils at the subject site.	None	Soil

6 Assessment Criteria

6.1 Soil assessment criteria

The scope of works undertaken at the site was developed based on potential for contamination from previous site uses. Works were undertaken with consideration given to the following guidelines.

- Standards Australia AS4482.1 (2005) Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds.
- National Environment Protection Council (1999) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) May 2013 Amendment (ASC NEPM).

Consistent with the requirements of the State environment protection policy *Prevention and Management of Contamination of Land* (PMCL SEPP), analytical results were evaluated against relevant screening criteria provided in the ASC NEPM for assessing impacts on protected beneficial uses of land under a proposed residential land use setting. Protected beneficial uses include:

- Maintenance of Ecosystems
- Human Health
- Aesthetics
- Production of Food, Flora and Fibre
- Buildings and Structures

For the purposes of evaluating impacts on the 'Maintenance of Ecosystem' beneficial use, T&T evaluated analytical results against Ecological Investigation and Ecological Screening Levels (EILs and ESLs) from the ASC NEPM. The EILs are also typically adopted as an initial screen for potential impacts on the Production of Food, Flora and Fibre. The NEPM provided EILs that are based on added contaminant limits (ACLs) over and above the existing ambient background concentrations (ABC) to which natural flora and fauna may be adapted. For the purposes of the screening assessment, we have compared results against a range of ACLs provided in the NEPM for various soil characteristics (pH and CEC) that might be expected for the soil types encountered (silty clay). As a conservative position, the ABCs were generally set at 'zero'.

T&T also reviewed analytical results against Health Investigation and Health Screening Levels (HILs and HSLs) provided in the ASC NEPM and HSLs provided in Table 4 of CRC CARE technical report No. 10⁸ (when considering risk from direct contact). In both instances, the 'Residential A' setting was adopted for assessing impacts on the proposed residential land use.

No criteria are established for aesthetics; a qualitative assessment of impacts is considered based on the presence of odours, staining or non-natural materials in soils. Impacts on buildings and structures are assessed based on potential for soils or chemical contamination to be corrosive or damaging to construction material.

6.2 Groundwater assessment criteria

To evaluate the significance of shallow groundwater for infrastructure installed on the site, groundwater salinities (represented by sulphate and chloride) and pH were compared to Table 6.4.2(C) in AS2159-2009 *Australian Standard: Piling Design and Installation*. This table provides an

⁸ E. Friebe and P. Nadebaum, 2011. *CRC CARE technical report No. 10: Health Screening Levels for Petroleum Hydrocarbons in soil and groundwater*.

exposure classification rating for concrete piles under particular groundwater and soil conditions. This table has been summarised in Table 9-1 and has been used for comparison of analytical results.

7 Soil Analytical Program and Results

7.1 Soil sampling

On 10 April 2014, T&T attended the site and undertook an intrusive investigation comprising 20 test pit locations including soil sampling across the site using mechanical excavation (see Figure 2 for locations). Sampling of the site soils at these locations was undertaken to provide a better understanding of any potential contamination associated with past activities at the site. Records of the lithology and other observations for each of the test pit locations is contained in Appendix D.

Samples were obtained from the surface soils and approximately 0.5m bgl with care taken to minimise the potential for cross contamination.

Sampling, transport and analysis of samples was generally conducted in accordance with EPA Publication IWRG 701 *Sampling and Analysis of Waters, Waste Waters, Soils and Wastes*. Disposable gloves were used to collect samples which were placed in sterile jars for transport to the laboratory in ice-filled eskies.

The lithology encountered at each location was documented including a description of the physical characteristics of the soil. Two locations contained building debris or asphalt, one location (TP19) in the southeast driveway location and one location (TP07) in the centre of the site.

The lithology encountered across all the locations typically comprised clay with some silt and sand.

All soil samples recovered were submitted with Chain of Custody documentation to a laboratory accredited by the National Association of Testing Authorities (NATA) to perform all analyses as described in Table 7-1.

Table 7-1: Analytical Schedule

Sample Area	Number of locations	Depth of sample	Number of samples	No of Samples for analysis	Analyses
~3.8 ha	20	0.1 and 0.5	40	20	18 x Organochlorine Pesticides and metals ⁹ 2 x Broad screen analysis ¹⁰

7.2 Field observations

Soils within the incineration pit on the eastern side of the excavation in the north of the site exhibited discoloured soils (grey-white). Solid inert waste in the form of scrap metal, brick, ceramic and some fragments of potential ACM were identified in the incineration pit. A minor quantity of asphalt, possibly associated with the driveway was noted near the site entrance in the south east. Some building debris (e.g. brick, pieces of metal, etc.) was noted in the vicinity of

⁹ Metals screen including (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Mo, Se, Ag, Sn) as potential contaminants of concern.

¹⁰ Broad screen of selected analytes as listed in Table 1A(1) Health Investigation Levels for soil Contaminants (ASC) NEPM

TP07. An inspection of the former kiln and surrounding buildings did not identify any areas of deposited kiln waste that could be considered a source of potential PAH contamination.

Photos taken during the site works are contained in Appendix E.

7.3 Analytical results and discussion

Analytical results for the soil samples are presented in Table 1 in the attachments along with the adopted screening criteria. The NATA endorsed analytical reports with the Chain of Custody forms are also included in Appendix F. A brief discussion of the results is provided below.

All samples reported concentrations of measured contaminants below the adopted Health Investigation Levels (HILs) for residential sites.

One sample (TP11-0.1) reported a concentration for zinc above the EIL applicable to the site based on laboratory analysis of pH and Cation Exchange Capacity (CEC), as outlined in Table 1B(1) of the ASC NEPM. A statistical review of the data suggests that the 95% upper confidence limit of the average concentration for zinc is within the acceptable range for protection of the maintenance of ecosystem beneficial use in the context of a standard residential development. The results for standard deviation and the maximum reported concentration are also within the ASC NEPM criteria. The statistical results are contained in Appendix H.

No contaminants were identified that were considered likely to impact on the buildings and structures beneficial use.

8 Hydrogeological Assessment

8.1 Background

In 2005 a study was completed by SKM (2005a) for the Cardinia Shire for the Casey-Cardinia Growth Area, looking at constraints on urban development arising from presence of shallow watertable. A follow-on investigation (SKM, 2005b) developed guidelines for conducting hydrogeological investigations, which in short, provide for a staged approach for assessment, moving from preliminary desktop evaluation of the site, through to detailed investigations in those areas identified as highly or severely constrained, and subsequent preparation of a groundwater management plan specifically addressing the proposed development design.

Council requires developers to consider the hydrogeological conditions of the site, and where potential constraints are identified, to construct the development with consideration given to the potential influence of the development on shallow groundwater levels and the effects of salinisation on infrastructure such as roads, services, dwellings footings, and the environment (vegetation).

In general, where water levels are greater than 3 m below site surface, they are unlikely to impact on the development of the site. A review of the SKM (2005a) study indicates that groundwater may be present at shallow depths, from an estimated 5-10m below surface, down to 1.5-3 m below surface at the southern end of the site. This is reflected in the results of the hydrogeological investigation carried out by T&T on the site to the west.

8.2 Salinity

A review of the Victorian Groundwater Beneficial Use (DCNR, 1995)¹¹ map series indicates that the groundwater in the vicinity of the site is present in the Pre Cainozoic Aged bedrock aquifer, and Quaternary alluvial formation, consistent with Dalhaus et al (2004). Water quality ranges from relatively high quality (Segment A2, 501-1,000 mg/L TDS) in the bedrock aquifer to the north grading through Segment B (1,001-3,500 mg/L TDS) to Segment C (3,501 – 13,000) south of the Princes Highway.

A search of the 'Visualising Victoria's Groundwater' database was undertaken for existing groundwater bores on or in the vicinity of the site. No bores were found on the site. Three bores were located within 500 m of the site and were installed between 2011 and 2013 with depths ranging from 5.0 to 6.7 mbgl. No additional information on these wells was identified. A search performed as part of the assessment on the site to the west identified the nearest well (BORE 87304), approximately 800 m to the south of the subject site. This reported salinity in the order of 3,000 µS/cm (~2,100 mg/L TDS) in the most recent reading (in 2007), noting that concentrations have gradually been increasing over the 40 year monitoring record available for that bore. Chloride, sulphate and pH concentrations were also reviewed, on the basis of the aggressiveness of these parameters towards concrete structures. A summary is provided in Table 8-1.

Table 8-1 Indicative long term groundwater quality parameters

Sampling record	Chloride (mg/L)	Sulphate (mg/L)	pH (units)	EC (µS/cm)
4/09/1968 – 12/12/2007	480 to 960	0.3 – 42	6.9 – 8.6	1,750-3,360

¹¹ DSE (undated). *Melbourne Groundwater Map*.

<http://www.water.vic.gov.au/monitoring/groundwater/general/melbourne-groundwater-directory>

8.3 Well installation

Three groundwater monitoring wells were installed as part of this investigation. These wells were installed at representative locations across the site with information obtained from all wells used to detail the hydrogeological conditions of the site (and general area).

The locations of the three wells were:

- MW1 – located in the north west corner of the site.
- MW2 – located in the north east corner of the site.
- MW3 – located in the south east corner of the site adjacent to existing shed.

Refer to Figure 2 for groundwater well locations.

T&T obtained a Bore Construction Licence for each of the three wells from Southern Rural Water in accordance with requirements of the Water Act (1989). The Bore Construction Licence issued was WLE059398 encompassing all three wells. A copy of Bore Construction Licence is provided in Appendix G.

The drilling of MW1 to MW3 was undertaken on 3 April 2014 using solid flight augers. A target depth of 5.0 metres was nominated for the wells to determine the presence or absence of a shallow water table. Groundwater encountered at depths greater than 3 m is much less likely to impact on underground services, building footings, pavement subgrades and similar infrastructure. All wells were installed to depths between 5.0 to 5.2 mbgl.

Wells were constructed using 50mm diameter, class 18 PVC casing and machine slotted screen. The annulus was backfilled using 10mm diameter screening gravels to above the top of screen, then bentonite seal and cement-bentonite grout to ground level. Wells were finished with stand-up, steel covers.

Table 8-2 below summarises well construction details. Refer to Appendix D for borehole logs including well construction details.

Table 8-2: Summary of groundwater well details

Well ID	Total Depth (mbGL)	Screen Interval (m)	Lithology
MW1	5.0	2.0 – 5.0	0.0 – 0.1: <i>Top soil</i> 0.1 – 5.8: <i>silty CLAY</i>
MW2	5.0	2.0 – 5.0	0.0 – 0.2: <i>Top soil</i> 0.2 – 0.4: <i>silty CLAY</i> 0.4 – 5.0: <i>silty CLAY</i>
MW3	5.2	2.2 – 5.2	0.0 – 0.15: <i>Top soil</i> 0.15 – 5.0: <i>silty CLAY</i>

Following installation, wells were checked for the presence of groundwater using a dip meter. No groundwater was identified in any of the wells on the day of installation.

8.4 Groundwater levels and flow direction

Gauging of groundwater was undertaken on 22 April 2014 with only one well (MW3) found to have a measurable volume of groundwater (4.816 mTOC). As no groundwater was encountered in the remaining two wells, groundwater levels and flow direction at the site has been inferred from other available data. Information on groundwater from wells installed on the site to the west indicates groundwater at the subject site could vary between 0.5 and 1.5 mbgl. This is based on indicative groundwater levels from the two wells located closest to the subject site.

Water levels (depth to groundwater below site surface) showed considerable fluctuation during the 1960s and 1970s likely representing some influence from the historical farming activity throughout the Westernport basin. Water levels gradually rose through the 1980's to the mid-1990s, following which water levels fell significantly with the extended drought period of the late 1990s and 2000's. Long term fluctuation in groundwater levels may therefore be experienced at the site as a natural response to climatic variations.

Considering the topography and elevation of the site and T&T's general experience in the area, local to regional groundwater flow direction is likely to be in a southerly direction towards Western Port Bay.

8.5 Site inspection for salinisation

During field works the site area was inspected to look for evidence of land salinisation. No major indicators of salinity, such as salt scalds or patches of bare or degraded vegetation were noted. Comparison of plant species as indicators of salinity was outside of the scope of this investigation.

No surface discharges of groundwater were noted, although rainwater pooling was identified at the surface of the site in some areas.

8.6 Analytical results

Sampling of groundwater obtained from well MW3 was undertaken on 22 April 2014 (the remaining two wells did not contain sufficient groundwater for sampling). The results of the laboratory analysis are contained in the Table 8-3.

Table 8-3: Analytical groundwater results for MW3

Date of sampling	Analyte	Units	Reported Concentration
22/04/2014	Chloride	mg/L	900
22/04/2014	pH (Lab)	pH Units	6.7
22/04/2014	Sulphate as S	mg/L	55
22/04/2014	TDS	mg/L	1,900

9 Discussion of Hydrogeological Assessment

Groundwater levels and salinity have been evaluated in consideration of guidelines established in SKM (2005), relating to constraints to urban development from shallow water levels.

A review of the SKM report, which is based on interpretation of regional data, suggests that the majority of the site, corresponding to the higher portions of the site located on Silurian aged bedrock, would be classified as 'no significant constraints'.

A review of the soil types identified on the southern end of the site during the well installation (i.e. silty clay) indicates that a critical depth to groundwater of 2.3 m is appropriate for the site. The shallowest groundwater level was measured at ~4.2 mbgl in MW3, located in the south east corner of the site, with the remaining wells reported as dry at 5.0 mbgl. Seasonal fluctuation of groundwater was investigated on the site to the west with depth to groundwater fluctuating approximately 2.0 m seasonally in the wells installed at this site. T&T has therefore considered that the southern end of the site could be constrained by the presence of shallow groundwater.

The shallow groundwater at the southern end of the site is considered to be influenced by surface runoff and recharge from the surrounding hills to the north, along the natural drainage lines, which grade towards the dam in the southwest corner of the site. This drainage pattern is also recognised in the Officer Precinct Structure Plan, which has reserved land in the south portion of the site and adjacent land to the west, for drainage purposes. T&T understands that the proposed development for the site will retain the dam, and this land will be reserved as open space, for drainage purposes.

Table 9-1 from AS2159-2009 has been used for comparison of analytical results.

Table 9-1: Exposure classification for concrete piles (AS2159-2009)

Exposure conditions			Exposure classification
Sulfates (expressed as SO ₄) in groundwater (ppm)	pH	Chlorides in groundwater (ppm)	Soil Condition A (high permeability soils)
<1000	>5.5	<6000	Mild
1000 – 3000	4.5 – 5.5	6000 – 12,000	Moderate
3000 – 10,000	4.0 – 4.5	12,000 – 30,000	Severe
>10,000	<4.0	>30,000	Very Severe

Note: ppm is approximately equivalent to mg/L for liquids

The results from analysis of groundwater from the onsite well MW3 indicates the exposure classification for concrete structures at the site is considered to be Mild.

Results from the long term data set available from Bore 87304 supports the information obtained from the onsite bore MW3. Although there was a notable difference in water levels in the onsite well and at Bore 87304, that bore was considered to be installed in the same geological unit (alluvial sediments) and therefore indicative of the hydrogeological conditions at onsite well MW3, and indicative of water quality parameters characteristic of the alluvial groundwater flow system.

10 Quality Assurance and Quality Control

10.1 Quality control procedures

A quality assurance/quality control (QA/QC) program was implemented as part of field procedures, which are based on relevant Australian Standards.

The QA/QC program undertaken as part of the assessment by T&T included the following:

- Comparison of field and laboratory data.
- Preservation of samples with ice during field activities and transport from the field to the laboratory.
- Transportation of samples with accompanying Chain of Custody (COC) documentation.
- Collection of blind and split duplicate samples and calculation and review of relative percent difference (RPDs).
- Collection of field and rinsate blanks to identify potential cross contamination and influence of external contaminants.
- Compliance with recommended sample holding times.
- Review of laboratory internal QA/QC data including analysis of blanks, spikes and duplicates.

10.2 Field QC sampling program

The QC sampling program conducted as part of this investigation involved collection of replicate samples for data reliability purposes, assessing possible errors due to potential sources of cross contamination, inconsistencies in sampling, and analytical techniques etc.

A quantitative measure of the accuracy of the results obtained was undertaken by calculating the RPD values for each duplicate pair. The RPD values were calculated using the following equation:

$$\text{Relative Percent Difference} = \frac{\text{Result 1} - \text{Result 2}}{\text{Mean Result}} \times 100$$

Where, Result 1 = concentration obtained from the original sample

Result 2 = concentration obtained from the split or duplicate sample

The RPD was used to normalise each pair of results, allowing data interpretation of reliability. For RPD values that exceed a generally accepted 30 to 50% limit (AS 4482.1 – 2005), correlation of data between the sample pair is considered poor. QC samples collected included intra-laboratory and inter-laboratory replicate samples and field blanks for both the soil and groundwater sampling. The primary laboratory was Eurofins-mgt (Eurofins) and the secondary laboratory was Australian Laboratory Services (ALS). Summarised in Table 10-1 is the QC samples collected during the investigation works.

Table 10-1: QC sampling program

Sample Type	Matrix	Laboratory	Date Sampled	Primary Sample ID	Replicated Analysis
Blind Duplicate	Soil	Primary	10/04/2014	TP12/0.1	Metals and OCPs
Split Duplicate	Soil	Secondary	10/04/2014	TP12/0.1	Metals and OCPs
Field Blank	Soil	Primary	10/04/2014	QC2	Metals and OCPs
Field Blank	Water	Primary	22/04/2014	QC2	pH, sulphate, chloride, TDS

10.2.1 Laboratory internal Quality Control

The testing laboratories conducted their own internal QC program including sample duplicates, spike recoveries and method blanks in accordance with NATA certification requirements. Table 10-2 summarises the results of the laboratory internal quality control.

Table 10-2: Summary of laboratory internal Quality Control results

Laboratory	Report Number	Date Reported	Method Blank	Spike Recoveries (range %)	Internal Duplicate RPD (range)	Comments
Eurofins - mgt	414969	10/04/2014	n.d.	74 – 127	<1 – 45*	Results are considered acceptable
ALS	EM1403504	10/04/2014	n.d.	55.7 – 109	<1 – 85.7*	Results are considered acceptable
Eurofins - mgt	415887	22/04/2014	n.d.	104 – 120	<1 – 5	Results are considered acceptable

Note: n.d. = non-detect

* Ranges reported above the accepted RPD limit (30%) were due to results close to the limiting of reporting resulting in elevated spikes, however these still passed the internal laboratory QA.

10.3 Conclusions of QA/QC program

Based on the results of the QA/QC program as detailed above, the following is concluded:

- The internal laboratory quality control program reported acceptable results.
- The field sampling procedure was carried out in accordance with the T&T QA/QC program, which is based on sampling guidelines provided in the Australian Standard 4482.1 and 4482.2.
- The RPD between primary and duplicate samples were below the accepted range of 30-50%.
- Blank samples reported below detection for those analytes tested.
- Laboratories used were NATA accredited for the analyses performed.
- Samples were analysed within the applicable holding times.

It is concluded that the sampling and analytical programs were acceptable and the results obtained are of reliable quality to reach the conclusions made in this report regarding the contamination status of soils and groundwater salinity at the site.

11 Summary and Conclusions

11.1 Environmental investigation

T&T was engaged to conduct a preliminary site investigation to identify and assess potential sources of contamination associated with the site that may impact on the proposed use of the site for residential purposes.

Based on the background information and intrusive soil investigation past site activities may have contributed to onsite contamination. The issues identified during the background site investigation and the site inspection are:

- Concentrations for zinc exceeding adopted ecological criterion (EILs for urban residential and public open space) identified at one sampling location (TP11).
- Fragments of fibro-cement sheet potentially containing asbestos identified on the eastern side of the former quarry excavation in the north west corner of site.
- Remnants of a possible incineration pit inclusive of solid inert waste identified on eastern side of the excavation in the north central portion of site.
- Stockpiles of soil observed towards the central portion of site and west of the concrete hardstand area.
- Solid inert waste identified at surface in the vicinity of TP7, TP19 and the pile of building material on the eastern side of the dam.

No significant sources of offsite contamination were noted during the investigation.

Based on the results of the soil investigation no concentrations for the analytes tested were reported above the NEPM Health Investigation Levels 'A' for low density residential land use, indicating the site is suitable for residential use.

Although one location reported an exceedance of EIL for zinc, a statistical review of the data suggests that the 95% upper confidence limit of the average concentration is within the acceptable range for protection of the maintenance of ecosystem beneficial use in the context of a standard residential development. The results for standard deviation and the maximum reported concentration are also within the ASC NEPM criteria. Based on the statistical analysis of the overall zinc concentrations at the site, no further investigation of the zinc exceedance is considered warranted.

11.2 Environmental recommendations

Based on the above summary and conclusions, T&T recommends that prior to the site being suitable for the proposed redevelopment the following tasks are undertaken:

- Laboratory testing to determine the potential presence of asbestos in those materials identified during the T&T site inspection, and where appropriate, removal of any asbestos containing fibro-cement sheet in accordance with the Victorian Occupational Health and Safety Regulations.
- Removal of remnant site infrastructure including the stockpile of demolished building material to the east of the dam.
- Excavation and validation sampling of impacted soils and residual waste from incineration pit identified on eastern side of northern excavation as they are considered an aesthetic impact for a residential site.
- Removal or validation of various stockpiled soils on site.

11.3 Hydrogeological assessment

Based on the investigation completed, it is concluded that permanent groundwater across most of the northern and eastern portions of the site is likely to be at depths of >4m below surface and consequently unlikely to be a constraint on development. However, the southern end of the site may have shallower groundwater present (<2.3 m) during seasonal fluctuation and saturated soils may develop during wetter months, or following extended periods of rain.

However, salinity is relatively low (particularly chloride and sulphate ions) and the neutral pH results in a 'Mild' exposure classification in terms of the effect of groundwater on concrete structures (taken as indicative of likely subsurface infrastructure material). It is noted that evidence of salinisation of soils was not observed at the site.

11.4 Hydrogeological recommendations

Given the potentially shallow groundwater conditions at the southern end of the site, careful design of site infrastructure and overall site layout is recommended including, but not limited to:

- Additional groundwater sampling to assess for seasonal fluctuation.
- Should seasonal fluctuation indicate groundwater may impact on the proposed development, filling of the lower portions of the site to increase the depth to standing water levels may be warranted.
- Changes to landform or implementation of appropriate stormwater runoff measures to decrease infiltration.
- It is recognised that the site development plan incorporates a drainage reserve (open space) in the south west corner, to serve as a retention basin for surface and subsurface drainage, and that this is consistent with the Officer Precinct Structure Plan. Development of the site for 'open space use' in the lower lying areas may assist in minimising impacts on development from shallow groundwater should seasonal monitoring indicate this may impact on the proposed development.

12 Applicability

This report has been prepared for the benefit of Keymore Pty Ltd acting on behalf of Bosco Jonson Pty Ltd with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Recommendations and opinions in this report are based on data from discrete sampling locations. The nature and continuity of subsoil away from the sampling locations are inferred but it must be appreciated that actual conditions could vary from the assumed model.

The information presented in this report is considered by T&T to be accurate at the date of issue, and should only be regarded as representing likely site conditions at the time that the report was completed. Where information has been provided by others and referenced, T&T does not warrant the accuracy and/or validity of that information.

Tonkin & Taylor Pty Ltd

Environmental and Engineering Consultants

Report prepared by:

Authorised for Tonkin & Taylor Pty Ltd by:



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Tom Madill

Environmental Scientist



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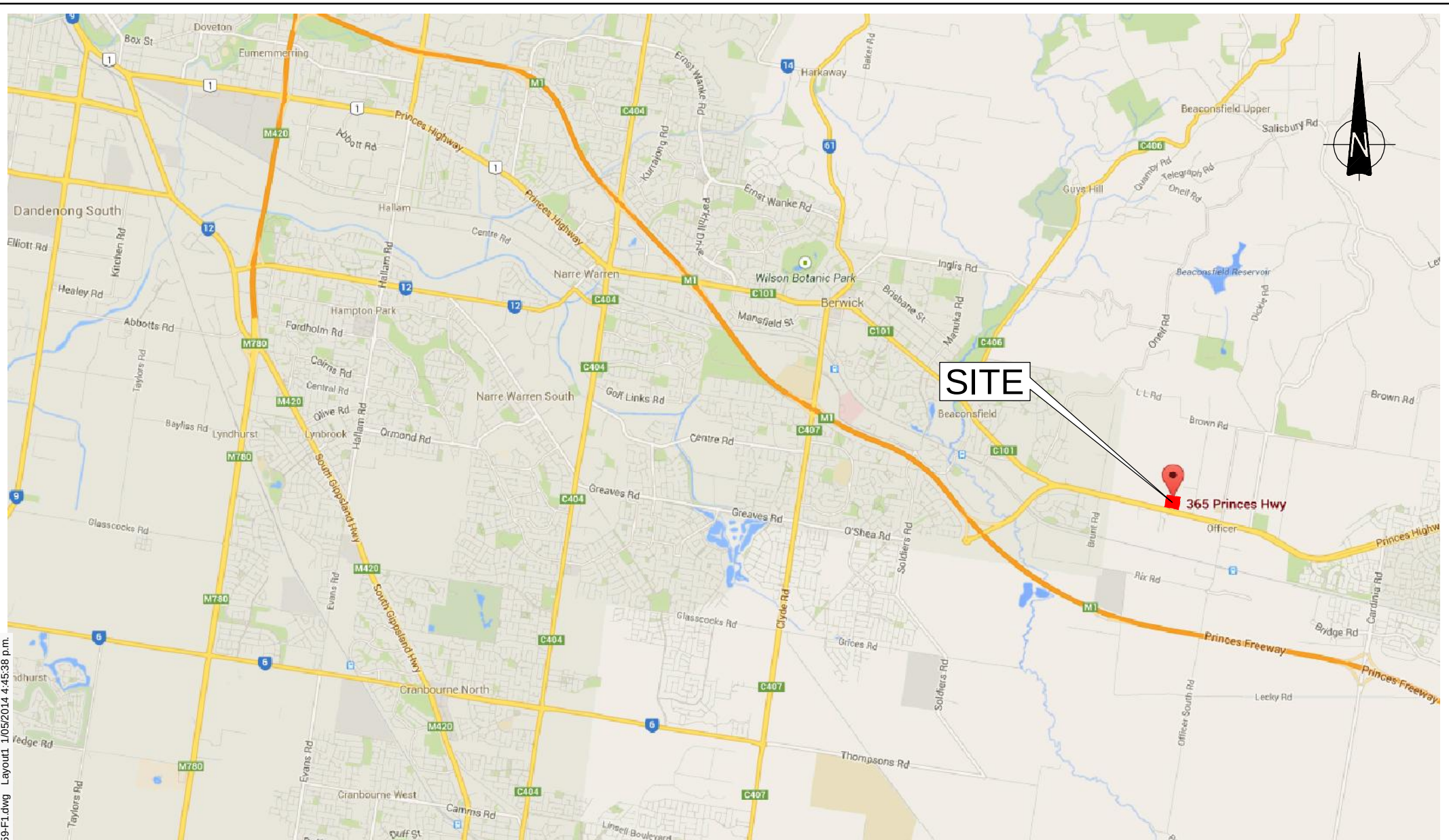
Tim Chadwick

Project Director

krk

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Figures



Street map sourced from Google Maps data
(Images Copyright: 2014).

SCALE 1: 7500
0 100 200 300 400 500 (m)



Tonkin & Taylor Pty Ltd

Environmental and Engineering Consultants
Kings Technology Park, Ground Floor, 95 Coventry St
Southbank, Victoria, 3006 - Ph: (03) 9863 8866
www.tonkintaylor.com.au

DRAWN	LJD	May.14
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APPROVED		
CADFILE :	4259-F1.dwg	
SCALES (AT A4 SIZE)	AS SHOWN	
PROJECT No.	4259	

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Site Location Plan

FIG. No. Figure 1

REV. 0

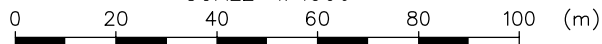


LEGEND

- Approximate site boundary
- Approximate testpit location
- Approximate monitoring well location

Aerials sourced from NearMaps data (Images Copyright: 2014).

SCALE 1: 1500



Tonkin & Taylor Pty Ltd

Environmental and Engineering Consultants
Kings Technology Park, Ground Floor, 95 Coventry St
Southbank, Victoria, 3006 Ph: (03) 9863 8686
www.tonkintaylor.com.au

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APPROVED		
CADFILE :	4259-F2.dwg	
SCALES (AT A4 SIZE)	1: 1500	
PROJECT No.	4259	

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Site Layout & Testpit & Monitoring Well Locations

FIG. No. Figure 2

REV. 0

Tables

Table 1: Soil Results Summary

		TP01 0.1	TP02 0.1	TP03 0.1	TP04 0.1	TP05 0.1	TP06 0.1	TP07 0.1	TP08 0.1	TP09 0.1	TP10 0.1	TP11 0.1	TP12 0.1	TP13 0.1	TP14 0.1	TP15 0.1	TP16 0.1	TP17 0.1	TP18 0.1	TP19 0.1	TP20 0.1
		10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014	10/04/2014
Lab. Report No.		414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909	414909
ChemName	Units	EQ1	NEPM 2013 HILs Residential A Soil		NEPM 2013 ESLs Urban residential and public open space, Fine Soil																
Halogenated Benzenes																					
Hexachlorobenzene	mg/kg	0.05	10		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pentachlorophenol	mg/kg	1	100		-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	<1
Herbicides																					
2,4,6-Trichlorophenoxy Acetic Acid	mg/kg	0.5	600		-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Hexachlorocyclopentadiene	mg/kg	0.5	900		-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Atrazine	mg/kg	0.2	300		-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	<0.2
2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.5	600		-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.5	600		-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Meoprop	mg/kg	0.5	600		-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Inorganics																					
Cyanide (Free)	mg/kg	5	250		-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	<5
Moisture Content (dried @ 103°C)	%	0.1			14	19	16	15	13	28	16	8.7	12	13	17	18	14	9.9	14	23	16
pH (aqueous extract)	pH Units	0.1			-	-	-	-	-	-	-	-	6.2	-	-	-	-	-	-	-	7.1
Lead																					
Lead	mg/kg	5	300	1,100	19	29	14	15	30	11	14	39	12	15	30	20	15	20	7.4	19	44
Metals																					
Arsenic	mg/kg	2	100	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	2.1	<2
Beryllium	mg/kg	2	60		-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	-	<2
Boron	mg/kg	10	4500		-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	<10
Cadmium	mg/kg	0.4	20		<0.4	0.5	<0.4	0.5	0.5	0.8	<0.4	0.7	<0.4	1.3	<0.4	0.7	0.4	<0.4	<0.4	0.7	<0.4
Chromium (hexavalent)	mg/kg	1	100		-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	<1
Chromium (III+IV)	mg/kg	5	100	400	18	26	24	25	28	66	22	36	21	28	19	16	13	34	16	17	19
Cobalt	mg/kg	5	100		-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	7.9
Copper	mg/kg	5	6000	190	<5	<5	<5	26	<5	5.6	<5	<5	6.8	14	<5	<5	<5	<5	<5	15	<5
Manganese	mg/kg	5	3000		-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	120
Mercury	mg/kg	0.1	40		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	10	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Nickel	mg/kg	5	400		<5	<5	<5	43	<5	12	<5	<5	6.5	5.8	<5	<5	<5	<5	<5	42	27
Selenium	mg/kg	2	200		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Silver	mg/kg	5			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tin	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Zinc	mg/kg	5	7600	400	<5	<5	<5	21	44	7.1	18	<5	15	13	690	9.5	160	<5	7.8	16	390
Organochlorine Pesticides																					
4,4'-DDE	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
p-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Alrin	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Alrin + Dieldrin	mg/kg	0.05	6		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlordane	mg/kg	0.1	50		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDE	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDE	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDE+DDE+DDD	mg/kg	0.05	240	180	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Dieldrin	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.05	10		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin ketone	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
p-BHC (Lindane)	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	mg/kg	0.05	6		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	mg/kg	0.05	300		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Propylene	mg/kg	0.1	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Organophosphorous Pesticides																					
Chlorpyrifos	mg/kg	0.2	160		-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	<0.2
PAH																					
Benzophenanthrene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
PAHPhenols																					
2-methylphenol	mg/kg	0.2			-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	<0.2
3,4,4-methylphenol	mg/kg	0.4			-	-	-	-	-	-	-	-	<0.4	-	-	-	-	-	-	-	<0.4
Acenaphthene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Acenaphthylene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Anthracene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Benzo[a]anthracene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Benzo[a]pyrene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Benzo[ghi]perylene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Carbazanthrene (PAHs and B[a]P) TPE	mg/kg	0.5	3		-	-	-	-	-	-	-	-	<1	21	21	21	21	21	21	21	21
Benzo[k]fluoranthene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Chrysene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Dibenz[a,h]anthracene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Fluoranthene	mg/kg	0.5			-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5
Fluorene	mg/kg	0.5			-	-	-	-	-	-											

Field_ID	MW3
Sampled_Date-Time	22/04/2014
Lab_Report_Number	415887

ChemName	Units	EQL		
Inorganics				
Chloride	mg/L	1		900
pH (Lab)	pH_Units	0.1		6.7
Sulphate as S	mg/L	5		55
TDS	mg/L	10		1,900

Field Duplicates

SOIL

Field Duplicates (SOIL)

Filter: ALL

SDG	1887	1887		1887	Interlab_D
Field_ID	TP12_0.1	QC1	RPD	TP12_0.1	QC1A
Sampled_Date-Time	10/04/2014	10/04/2014		10/04/2014	10/04/2014

ChemName	Units	EQL						
Halogenated Benzenes								
Hexachlorobenzene	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Inorganics								
Moisture Content (dried @ 103°C)	%	0.1	18.0	20.0	11	18.0		
Lead								
Lead	mg/kg	5	20.0	19.0	5	20.0	14.0	35
Metals								
Arsenic	mg/kg	2 (Primary): 5 (Interlab)	<2.0	<2.0	0	<2.0	<5.0	0
Cadmium	mg/kg	0.4 (Primary): 1 (Interlab)	<0.4	<0.4	0	<0.4	<1.0	0
Chromium (III+VI)	mg/kg	5 (Primary): 2 (Interlab)	16.0	14.0	13	16.0	14.0	13
Copper	mg/kg	5	<5.0	<5.0	0	<5.0	<5.0	0
Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0
Molybdenum	mg/kg	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<2.0	0
Nickel	mg/kg	5 (Primary): 2 (Interlab)	<5.0	<5.0	0	<5.0	2.0	0
Selenium	mg/kg	2 (Primary): 5 (Interlab)	<2.0	<2.0	0	<2.0	<5.0	0
Silver	mg/kg	5 (Primary): 2 (Interlab)	<5.0	<5.0	0	<5.0	<2.0	0
Tin	mg/kg	10 (Primary): 5 (Interlab)	<10.0	<10.0	0	<10.0	<5.0	0
Zinc	mg/kg	5	9.5	9.7	2	9.5	10.0	5
Organochlorine Pesticides								
4,4-DDE	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
chlordane	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
DDT	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.05	0	<0.05	<0.2	0
Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Endosulfan I	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Endosulfan II	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Endosulfan sulphate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Methoxychlor	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.05	0	<0.05	<0.2	0
Toxaphene	mg/kg	1	<1.0	<1.0	0	<1.0		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 80 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table 4: QC Results Summary

Field Blanks

[WATER](#)

Field Blanks (WATER)
Filter: ALL

SDG	1887	22/04/2014
Field_ID	QC2	QC2
Sampled_Date-Time	10/04/2014	22/04/2014
Sample_Type	Field_B	Rinsate

ChemName	Units	EQL		
Halogenated Benzenes				
Hexachlorobenzene	µg/l	0.1	<0.1	
Inorganics				
Chloride	mg/l	1		<1
pH (Lab)	pH_Units	0.1		7.3
Sulphate as S	mg/l	5		<5
TDS	mg/l	10		<10
Lead				
Lead (Filtered)	mg/l	0.001	<0.001	
Metals				
Arsenic (Filtered)	mg/l	0.001	<0.001	
Cadmium (Filtered)	mg/l	0.0002	<0.0002	
Chromium (III+VI) (Filtered)	mg/l	0.001	<0.001	
Copper (Filtered)	mg/l	0.001	<0.001	
Mercury (Filtered)	mg/l	0.0001	<0.0001	
Molybdenum (Filtered)	mg/l	0.005	<0.005	
Nickel (Filtered)	mg/l	0.001	<0.001	
Selenium (Filtered)	mg/l	0.001	<0.001	
Silver (Filtered)	mg/l	0.005	<0.005	
Tin (Filtered)	mg/l	0.005	<0.005	
Zinc (Filtered)	mg/l	0.001	<0.001	
Organochlorine Pesticides				
4,4-DDE	µg/l	0.1	<0.1	
a-BHC	µg/l	0.1	<0.1	
Aldrin	µg/l	0.1	<0.1	
b-BHC	µg/l	0.1	<0.1	
chlordane	µg/l	1	<1	
d-BHC	µg/l	0.1	<0.1	
DDD	µg/l	0.1	<0.1	
DDT	µg/l	0.1	<0.1	
Dieldrin	µg/l	0.1	<0.1	
Endosulfan I	µg/l	0.1	<0.1	
Endosulfan II	µg/l	0.1	<0.1	
Endosulfan sulphate	µg/l	0.1	<0.1	
Endrin	µg/l	0.1	<0.1	
Endrin aldehyde	µg/l	0.1	<0.1	
Endrin ketone	µg/l	0.1	<0.1	
g-BHC (Lindane)	µg/l	0.1	<0.1	
Heptachlor	µg/l	0.1	<0.1	
Heptachlor epoxide	µg/l	0.1	<0.1	
Methoxychlor	µg/l	0.1	<0.1	
Toxaphene	mg/l	0.01	<0.01	

Appendix A: Background Site Information

Planning Property Report

from www.dtpli.vic.gov.au/planning on 03 April 2014 12:02 PM

Address: 365 PRINCES HIGHWAY OFFICER 3809

Lot and Plan Number: Lot 1 TP419047

This property has a total of 2 parcels.

For full parcel details get the free Basic Property report at [Property Reports](#)

Local Government (Council): CARDINIA **Council Property Number:** 1701101200

Directory Reference: Melway 214 G3

Planning Zones

[ROAD ZONE - CATEGORY 1 \(RDZ1\)](#)

[URBAN GROWTH ZONE - SCHEDULE 3 \(UGZ3\)](#)

[SCHEDULE TO THE URBAN GROWTH ZONE - SCHEDULE 3](#)



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Zones Legend

ACZ - Activity Centre	IN1Z - Industrial 1	R1Z - Residential 1
B1Z - Commercial 1	IN2Z - Industrial 2	R2Z - Residential 2
B2Z - Commercial 1	IN3Z - Industrial 3	R3Z - Residential 3
B3Z - Commercial 2	LDRZ - Low Density Residential	RAZ - Rural Activity
B4Z - Commercial 2	MUZ - Mixed Use	RCZ - Rural Conservation
B5Z - Commercial 1	NRZ - Neighbourhood Residential	RDZ1 - Road - Category 1
C1Z - Commercial 1	PCRZ - Public Conservation & Resource	RDZ2 - Road - Category 2
C2Z - Commercial 2	PDZ - Priority Development	RGZ - Residential Growth
CA - Commonwealth Land	PPRZ - Public Park & Recreation	RLZ - Rural Living
CCZ - Capital City	PUZ1 - Public Use - Service & Utility	RUZ - Rural
CDZ - Comprehensive Development	PUZ2 - Public Use - Education	SUZ - Special Use
DZ - Dockland	PUZ3 - Public Use - Health Community	TZ - Township
ERZ - Environmental Rural	PUZ4 - Public Use - Transport	UFZ - Urban Floodway
FZ - Farming	PUZ5 - Public Use - Cemetery/Crematorium	UGZ - Urban Growth
GRZ - General Residential	PUZ6 - Public Use - Local Government	
GWAZ - Green Wedge A	PUZ7 - Public Use - Other Public Use	
GWZ - Green Wedge		-- Urban Growth Boundary

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Planning Overlays

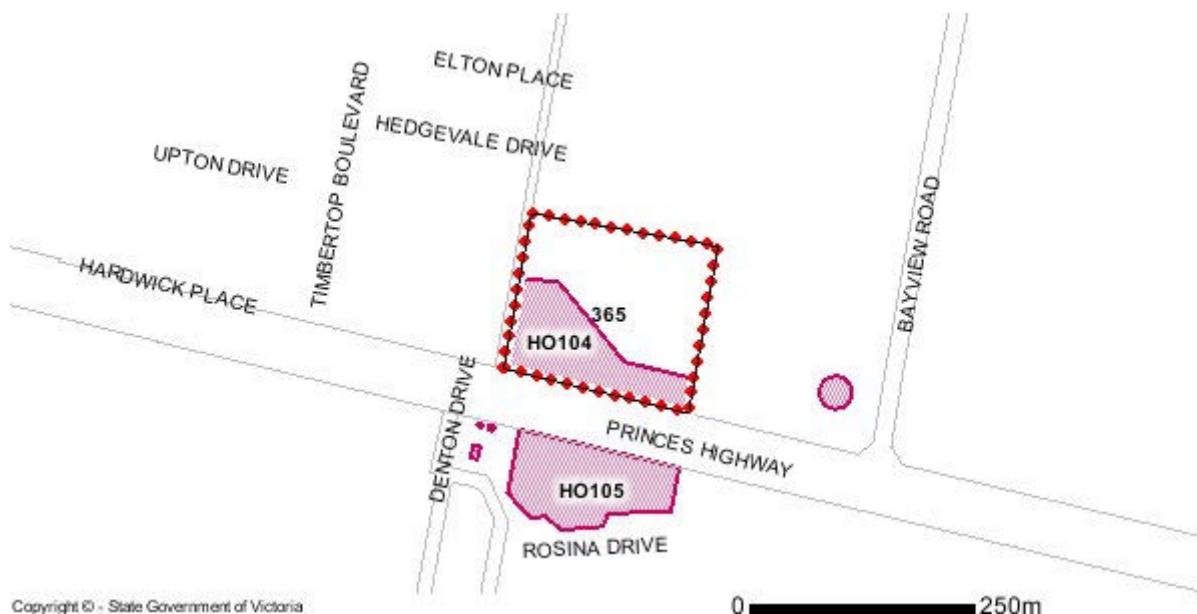
[DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY \(DCPO\)](#)

[DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY - SCHEDULE 4 \(DCPO4\)](#)



[HERITAGE OVERLAY \(HO\)](#)

[HERITAGE OVERLAY SCHEDULE \(HO104\)](#)



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Planning Overlays

OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

LAND SUBJECT TO INUNDATION OVERLAY (LSIO)



Overlays Legend

Airport Environs	Erosion Management	Parking
City Link Project	Environmental Significance	Public Acquisition
Development Contributions Plan	Floodway	Restructure
Design & Development	Heritage	Road Closure
Design & Development Part	Incorporated Plan	Special Building
Development Plan	Land Subject to Inundation & Floodway	Significant Landscape
Environmental Audit	Melbourne Airport Environs 1	Salinity Management
	Melbourne Airport Environs 2	State Resource
	Neighbourhood Character	Vegetation Protection
		Bushfire Management - Wildfire Management

Note: due to overlaps some colours on the maps may not match those in the legend.

Further Planning Information

Planning scheme data last updated on 27 March 2014.

A **planning scheme** sets out policies and requirements for the use, development and protection of land.

This report provides information about the zone and overlay provisions that apply to the selected land.

Information about the State, local, particular and general provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council or by visiting [Planning Schemes Online](#)

This report is NOT a **Planning Certificate** issued pursuant to Section 199 of the Planning & Environment Act 1987.

It does not include information about exhibited planning scheme amendments, or zonings that may affect the land.

To obtain a Planning Certificate go to [Titles and Property Certificates](#)

For details of surrounding properties, use this service to get the Reports for properties of interest

To view planning zones, overlay and heritage information in an interactive format visit [Planning Maps Online](#)

For other information about planning in Victoria visit www.dpcd.vic.gov.au/planning

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PRIORITY SITES REGISTER

Information as at 28 February 2014

BACKGROUND

EPA has a key responsibility in protecting beneficial uses of land. Many of these uses are regulated or controlled through a range of measures to prevent contamination of land and groundwater. Land contaminated by former waste disposal, industrial and similar activities is frequently discovered during changes to land use - for example, from industrial to residential use. In most cases these can be managed at the time that the change of land use occurs. Some sites however, present a potential risk to human health or to the environment and must be dealt with as a priority. Such sites are typically subject to clean-up and/or management under EPA directions.

WHAT ARE PRIORITY SITES?

Priority Sites are sites for which EPA has issued a Clean Up Notice pursuant to section 62A, or a Pollution Abatement Notice pursuant to section 31A or 31B (relevant to land and/or groundwater) of the Environment Protection Act 1970. Typically these are sites where pollution of land and/or groundwater presents a potential risk to human health or to the environment. The condition of these sites is not compatible with the current or approved use of the site without active management to reduce the risk to human health and the environment. Such management can include clean up, monitoring and/or institutional controls.

The Priority Sites Register does not list sites managed by voluntary agreements or sites subject to management by planning controls (e.g. sites managed in accordance with a section 173 agreement under the Planning and Environment Act 1987). Land purchasers should be aware of these limitations and make their own enquiries. A site is listed on the Priority Sites Register when EPA issues a Clean Up Notice or a Pollution Abatement Notice (relevant to land and/or groundwater). A notice is a means by which EPA formalises requirements to manage pollution. Sites are removed from the Priority Sites Register once all conditions of a Notice have been complied with. This is formalised through a Notice of Revocation pursuant to section 60B of the Act.

FURTHER INFORMATION

Additional information is available from:

EPA Information Centre
200 Victoria Street
Carlton VIC 3053
1300 EPA VIC (1300 372 842)
www.epa.vic.gov.au

Municipality	Suburb	Address	Issue	Notice Number
Alpine Shire Council	POREPUNKAH	Part There Of Allot. 8 Sec. 8 Parish Of Porepunkah	Former Landfill. Requires ongoing management	0090003842
Alpine Shire Council	POREPUNKAH	Part There Of Allot. 8 Sec. 8 Parish Of Porepunkah	Former Landfill. Requires ongoing management	0090003843
Ararat Rural City Council	ARARAT	26 Grano ST	Former Industrial Site. Requires assessment and/or clean up	0090001739
Ararat Rural City Council	ARARAT	McLellan ST	Railway yard. Requires assessment and/or clean up	0090001744
Ballarat City Council	BALLARAT	1003 Humffray ST	Former Industrial Site. Requires assessment and/or clean up	0090001857
Ballarat City Council	BALLARAT	Canadian Gully Reserve Geelong RD	Historical deposit of mine tailings. Requires assessment and/or clean up	0090000494
Ballarat City Council	BALLARAT	Volume 6747 Folio 250	Current Industrial Site. Requires assessment and/or clean up	0090001913
Ballarat City Council	MOUNT CLEAR	3 WHITEHORSE RD	Former Landfill. Requires ongoing management	0090003912
Ballarat City Council	WARRENHEIP	Ballarat-Burrumbeet RD	Accidental spill/leak (non-industrial site). Requires ongoing management	0090002430
Banyule City Council	GREENSBOROUGH	131 Grimshaw ST	Current Service Station. Requires assessment and/or clean up	0090002585
Bass Coast Shire Council	COWES	CROWN ALLOTMENT 104 PARISH OF PHILLIP ISLAND	Illegal dumping. Requires assessment and/or clean up	0090004751
Bass Coast Shire Council	COWES	CROWN ALLOTMENT 104 PARISH OF PHILLIP ISLAND	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090004251
Bass Coast Shire Council	WONTHAGGI	C/a 15 Section 58 Cameron St	Former Landfill. Requires ongoing management	0090003534
Bass Coast Shire Council	WONTHAGGI	C/a 15 Section 58 Cameron St	Former Landfill. Requires ongoing management	0090003535
Bass Coast Shire Council	WONTHAGGI	C/a 15 Section 58 Cameron St	Former Landfill. Requires ongoing management	0090003536
Baw Baw Shire Council	TRAFALGAR SOUTH	200 Giles RD	Former Landfill. Requires ongoing management	0090003781
Baw Baw Shire Council	TRAFALGAR SOUTH	200 Giles RD	Former Landfill. Requires ongoing management	0090003782
Bayside City Council	BRIGHTON	316 New ST	Former Service Station. Requires assessment and/or clean up	0090001698
Bayside City Council	CHELTENHAM	18 Hamlet ST	Current Industrial Site. Requires ongoing management	0090001671
Brimbank City Council	BROOKLYN	42 Market RD	Former Landfill. Requires ongoing management	0090004022
Brimbank City Council	BROOKLYN	44 McDonald RD	Former Landfill. Requires ongoing management	0090003591
Brimbank City Council	BROOKLYN	52 MARKET RD	Former Landfill. Requires ongoing management	0090004023
Brimbank City Council	BROOKLYN	594 Geelong RD	Former Landfill. Requires ongoing management	0090003478
Brimbank City Council	BROOKLYN	Bunting RD	Former Landfill. Requires ongoing management	0090002743
Brimbank City Council	BROOKLYN	The Western Side Of Jones RD	Former Landfill. Requires ongoing management	0090004024
Brimbank City Council	BROOKLYN	The Western Side Of Jones RD	Former Landfill. Requires ongoing management	0090004025
Brimbank City Council	DEER PARK	765 BALLARAT RD	Current Industrial Site. Requires assessment and/or clean up	0090001886
Brimbank City Council	KEILOR DOWNS	Green Gully RD	Former Landfill. Requires ongoing management	0090003524

Brimbank City Council	SUNSHINE	16 THIRD AV	Current Industrial Site. Requires assessment and/or clean up	0090003227
Brimbank City Council	SUNSHINE	47 McIntyre RD	Former Industrial Site. Requires ongoing management	0090001549
Brimbank City Council	SUNSHINE	6 FIRST AV	Illegal dumping. Requires assessment and/or clean up	0090004622
Brimbank City Council	SUNSHINE	Hulett ST	Former Landfill. Requires assessment and/or clean up	0090003670
Brimbank City Council	SUNSHINE	Hulett ST	Former Landfill. Requires assessment and/or clean up	0090003671
Brimbank City Council	Sunshine North	56 Baldwin AV	Accidental spill/leak (non-industrial site). Requires assessment and/or clean up	0090004645
Brimbank City Council	SUNSHINE NORTH	1 LANCE RD	Illegal dumping. Requires assessment and/or clean up	0090004422
Brimbank City Council	SUNSHINE NORTH	51 McIntyre RD	Current Industrial Site. Requires assessment and/or clean up	0090003274
Brimbank City Council	SUNSHINE NORTH	56 Spalding AV	Current Industrial Site. Requires assessment and/or clean up	0090002269
Brimbank City Council	SUNSHINE NORTH	56 Spalding AV	Current Industrial Site. Requires assessment and/or clean up	0090002270
Brimbank City Council	SUNSHINE NORTH	95 BUNNETT ST	Illegal dumping. Requires assessment and/or clean up	0090004701
Brimbank City Council	SUNSHINE WEST	94 BOUNDARY RD	Illegal dumping. Requires assessment and/or clean up	0090004620
Brimbank City Council	SYDENHAM	362 SYDENHAM RD	Former Landfill. Requires assessment and/or clean up	0090000921
Brimbank City Council	SYDENHAM	362 SYDENHAM RD	Former Landfill. Requires ongoing management	0090003753
Campaspe Shire Council	BAMAWM	Lot 2 Plan Of Subdivision 544316m Parish Of Torrumburry	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090001745
Campaspe Shire Council	DIGGORA	ODONNELL RD	Former Landfill. Requires ongoing management	0090003586
Campaspe Shire Council	DIGGORA	ODONNELL RD	Former Landfill. Requires ongoing management	0090003587
Campaspe Shire Council	DIGGORA	ODONNELL RD	Former Landfill. Requires ongoing management	0090003588
Campaspe Shire Council	ECHUCA	Echuca Landfill Echuca-Kyabram RD	Former Landfill. Requires ongoing management	0090003569
Campaspe Shire Council	KYABRAM	Graham RD	Former Landfill. Requires ongoing management	0090003563
Cardinia Shire Council	NAR NAR GOON	Five Mile RD	Former Landfill. Requires ongoing management	0090003597
Casey City Council	CRANBOURNE	Lot 7, 9, 10, 11 & 12 Stevensons Rd	Former Landfill. Requires ongoing management	0090000281
Casey City Council	NARRE WARREN NORTH	Quarry RD	Former Landfill. Requires ongoing management	0090003600
Central Goldfields Shire Council	CARISBROOK	Potts LANE	Former Landfill. Requires ongoing management	0090003566
Colac-Otway Shire Council	COLAC	Bruce ST	Former Landfill. Requires ongoing management	0090001464
Colac-Otway Shire Council	COLAC	Bruce ST	Former Landfill. Requires ongoing management	0090003696
Colac-Otway Shire Council	COROROOKE	Factory RD	Current Industrial Site. Requires assessment and/or clean up	0090002082
Colac-Otway Shire Council	MARENGO	42 FERRIER DR	Former Industrial Site. Requires assessment and/or clean up	0090004494
Colac-Otway Shire Council	MARENGO	Roberts RD	Former Landfill. Requires ongoing management	0090003634
Corangamite Shire Council	GLENORMISTON	Terang-Mortlake RD	Former Landfill. Requires ongoing management	0090003622
Darebin City Council	NORTHCOTE	Clifton ST	Former Landfill. Requires ongoing management	0090003493
Darebin City Council	PRESTON	140 High ST	Former Industrial Site. Requires assessment and/or clean up	0090000660
Darebin City Council	PRESTON	140 High ST	Former Industrial Site. Requires assessment and/or clean up	0090002948
Darebin City Council	PRESTON	194 Bell ST	Former Industrial Site. Requires assessment and/or clean up	0090002088
Darebin City Council	PRESTON	3 & 7 NEWMAN ST	Former Industrial Site. Requires assessment and/or clean up	0090003150
Darebin City Council	PRESTON	62 Albert ST	Current Industrial Site. Requires ongoing management	0090000535
Darebin City Council	PRESTON	67 High ST	Former Service Station. Requires assessment and/or clean up	0090001449
Darebin City Council	RESERVOIR	87 Newlands RD	Former Landfill. Requires ongoing management	0090003508
East Gippsland Shire Council	BAIRNSDALE	201 Main ST	Former Service Station. Requires assessment and/or clean up	0090001552
East Gippsland Shire Council	BAIRNSDALE	205 Main ST	Former Service Station. Requires assessment and/or clean up	0090001553
East Gippsland Shire Council	BAIRNSDALE	BOSWORTH RD	Former Landfill. Requires ongoing management	0090003783
East Gippsland Shire Council	BAIRNSDALE	BOSWORTH RD	Former Landfill. Requires ongoing management	0090003784
East Gippsland Shire Council	ORBOST	44 Salisbury ST	Former Service Station. Requires assessment and/or clean up	0090001588
Frankston City Council	Frankston	McClelland DR	Former Landfill. Requires ongoing management	0090003594
Frankston City Council	FRANKSTON	3 Rosella ST	Former Industrial Site. Requires assessment and/or clean up	0090003211
Frankston City Council	FRANKSTON	3 Rosella ST	Former Industrial Site. Requires assessment and/or clean up	0090003212

Frankston City Council	FRANKSTON	3 Rosella ST	Former Industrial Site. Requires assessment and/or clean up	0090003213
Glen Eira City Council	CAULFIELD SOUTH	371 Hawthorn RD	Former Service Station. Requires assessment and/or clean up	0090001532
Glen Eira City Council	CAULFIELD SOUTH	818 Glen Huntly RD	Former Service Station. Requires assessment and/or clean up	0090004221
Glenelg Shire Council	PORTLAND	210 Cape Nelson RD	Current landfill. Requires ongoing management	0090001966
Golden Plains Shire Council	MEREDITH	119 MEREDITH-MT MERCER RD	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090004477
Greater Bendigo City Council	MYERS FLAT	28 WILLIAMS RD	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090004173
Greater Bendigo City Council	White Hills	27 - 51 Powell ST (Crown Allotment 432E Section E)	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090004649
Greater Dandenong City Council	BANGHOLME	790 FRANKSTON-DANDENONG RD	Solid inert waste has been dumped at the site. Requires assessment and/or clean up	0090002377
Greater Dandenong City Council	DANDENONG	230 Frankston-Dandenong RD	Current Service Station. Requires assessment and/or clean up	0090002792
Greater Dandenong City Council	DANDENONG SOUTH	20 Cahill ST	Former Industrial Site. Requires assessment and/or clean up	0090002115
Greater Dandenong City Council	DANDENONG SOUTH	Greens Road GREENS RD	Former Industrial Site. Requires ongoing management	0090001391
Greater Dandenong City Council	SPRINGVALE	310 Springvale RD	Former Service Station. Requires ongoing management	0090001607
Greater Dandenong City Council	SPRINGVALE	917 Princes HWY	Former Industrial Site. Requires assessment and/or clean up	0090001557
Greater Dandenong City Council	SPRINGVALE SOUTH	Clarke RD	Former Landfill. Requires ongoing management	0090003850
Greater Dandenong City Council	SPRINGVALE SOUTH	East Side Of Clarke RD	Former Landfill. Requires ongoing management	0090000608
Greater Dandenong City Council	SPRINGVALE SOUTH	East Side Of Clarke RD	Former Landfill. Requires ongoing management	0090003691
Greater Dandenong City Council	SPRINGVALE SOUTH	East Side Of Clarke RD	Former Landfill. Requires ongoing management	0090003692
Greater Dandenong City Council	SPRINGVALE SOUTH	East Side Of Clarke RD	Former Landfill. Requires ongoing management	0090003693
Greater Geelong City Council	BALLAN	1 6511 Western FWY	Current Service Station. Requires assessment and/or clean up	0090004099
Greater Geelong City Council	BELMONT	180 Barwon Heads RD	Former Service Station. Requires assessment and/or clean up	0090002289
Greater Geelong City Council	CORIO	1500 Biddlecombe AV	Current landfill. Requires assessment and/or clean up	0090002361
Greater Geelong City Council	CORIO	246 Princes HWY	Current Service Station. Requires assessment and/or clean up	0090000150
Greater Geelong City Council	CORIO	391 Princes HWY	Former Service Station. Requires assessment and/or clean up	0090002217
Greater Geelong City Council	CORIO	83 Purnell RD	Current Service Station. Requires ongoing management	0090002343
Greater Geelong City Council	CORIO	Off Harpur RD	Former Service Station. Requires assessment and/or clean up	0090000782
Greater Geelong City Council	CORIO	Refinery RD	Current Industrial Site. Requires assessment and/or clean up	0090004215
Greater Geelong City Council	CORIO	Refinery RD	Current petroleum storage site. Requires ongoing management	0090000024
Greater Geelong City Council	DRYSDALE	97 High ST	Current Service Station. Requires ongoing management	0090001808
Greater Geelong City Council	EAST GEELONG	HEARNE PDE	Gun, pistol or rifle range. Requires assessment and/or clean up	0090000498
Greater Geelong City Council	GEELONG NORTH	1 Roseneath ST	Former chemical storage facility. Requires assessment and/or clean up	0090001664
Greater Geelong City Council	GEELONG WEST	151 Church ST	Former Service Station. Requires assessment and/or clean up	0090002218
Greater Geelong City Council	LARA	Princes HWY	Accidental spill/leak (non-industrial site). Requires assessment and/or clean up	0090001012
Greater Geelong City Council	MANIFOLD HEIGHTS	35 Shannon AV	Former Service Station. Requires assessment and/or clean up	0090004098
Greater Geelong City Council	MOOLAP	132 Point Henry RD	Current Industrial Site. Requires assessment and/or clean up	0090001832
Greater Geelong City Council	MOOLAP	132 Point Henry RD	Current Industrial Site. Requires assessment and/or clean up	0090001833
Greater Geelong City Council	NORLANE	5 PRINCES HWY	Former Industrial Site. Requires assessment and/or clean up	0090004126
Greater Geelong City Council	NORLANE	60 NORTH SHORE RD	Current Industrial Site. Requires assessment and/or clean up	0090004132
Greater Geelong City Council	NORTH GEELONG	343 MELBOURNE RD	Former Industrial Site. Requires assessment and/or clean up	0090004124
Greater Geelong City Council	NORTH GEELONG	Foreshore Area At End Of Crowle ST	Former Landfill. Requires assessment and/or clean up	0090004183
Greater Geelong City Council	NORTH GEELONG	Foreshore Area At End Of Crowle ST	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090000226
Greater Shepparton City Council	COSGROVE	205 COSGROVE-LEMNOS RD	Former Landfill. Requires ongoing management	0090003551
Greater Shepparton City Council	KIALLA WEST	7358 Goulburn Valley HWY	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090000083
Greater Shepparton City Council	SHEPPARTON NORTH	280 Daldy RD	Former Industrial Site. Requires assessment and/or clean up	0090001776

Hepburn Shire Council	CRESWICK	18 Clunes RD	Former Service Station. Requires assessment and/or clean up	0090000263
Hepburn Shire Council	CRESWICK	C/a 45a Parish Of Creswick County Of Talbot	Former Landfill. Requires ongoing management	0090003558
Hepburn Shire Council	CRESWICK	C/a 45a Parish Of Creswick County Of Talbot	Former Landfill. Requires ongoing management	0090003559
Hepburn Shire Council	CRESWICK	C/a 45a Parish Of Creswick County Of Talbot	Former Landfill. Requires ongoing management	0090003560
Hobsons Bay City Council	ALTONA	351 MILLERS RD	Current Industrial Site. Requires assessment and/or clean up	0090000597
Hobsons Bay City Council	ALTONA	401 Kororoit Creek RD	Current Industrial Site. Requires assessment and/or clean up	0090000009
Hobsons Bay City Council	ALTONA	401 Kororoit Creek RD	Current Industrial Site. Requires assessment and/or clean up	0090003368
Hobsons Bay City Council	ALTONA	541 Kororoit Creek RD	Current chemical storage facility. Requires assessment and/or clean up	0090000425
Hobsons Bay City Council	ALTONA	Elfield Meadows Estate Defined By Volume 10426	Waste Acid Sulfate Soils. Requires ongoing management	0090002765
Hobsons Bay City Council	ALTONA	Queen ST	Former Landfill. Requires ongoing management	0090003472
Hobsons Bay City Council	ALTONA MEADOWS	306 Queen ST	Current Service Station. Requires assessment and/or clean up	0090002186
Hobsons Bay City Council	ALTONA NORTH	Kyle RD	Former Landfill. Requires ongoing management	0090003527
Hobsons Bay City Council	BROOKLYN	Hardie RD	Former Landfill. Requires ongoing management	0090003487
Hobsons Bay City Council	NEWPORT	411 DOUGLAS PDE	Current Industrial Site. Requires assessment and/or clean up	0090002086
Hobsons Bay City Council	NEWPORT	Burleigh ST	Current petroleum storage site. Requires assessment and/or clean up	0090001325
Hobsons Bay City Council	NEWPORT	Underground Section Of Petroleum Pipelines That Run Under Champion Rd	Current Industrial Site. Requires assessment and/or clean up	0090001459
Hobsons Bay City Council	SOUTH KINGSVILLE	22 New ST	Former Landfill. Requires assessment and/or clean up	0090001727
Hobsons Bay City Council	SOUTH KINGSVILLE	38 Blackshaws RD	Former Industrial Site. Requires ongoing management	0090002381
Hobsons Bay City Council	SPOTSWOOD	144 HALL ST	Current Industrial Site. Requires assessment and/or clean up	0090003301
Hobsons Bay City Council	SPOTSWOOD	18 Drake ST	Current petroleum storage site. Requires assessment and/or clean up	0090001709
Hobsons Bay City Council	SPOTSWOOD	42 Simcock AV	Former Industrial Site. Requires assessment and/or clean up	0090002179
Hobsons Bay City Council	SPOTSWOOD	512 Melbourne RD	Railway yard. Requires assessment and/or clean up	0090000799
Hobsons Bay City Council	WILLIAMSTOWN	12 Seaview PDE	Current Industrial Site. Requires ongoing management	0090002444
Hume City Council	BULLA	315 Loemans RD	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090000177
Hume City Council	CAMPBELLFIELD	150 NORTHBOURNE RD	Illegal dumping. Requires assessment and/or clean up	0090004190
Hume City Council	CAMPBELLFIELD	1735 Sydney RD	Current Industrial Site. Requires assessment and/or clean up	0090002373
Hume City Council	CAMPBELLFIELD	26 GLENBARRY RD	Illegal dumping. Requires assessment and/or clean up	0090003380
Hume City Council	CAMPBELLFIELD	26 GLENBARRY RD	Illegal dumping. Requires assessment and/or clean up	0090003863
Hume City Council	CAMPBELLFIELD	2 8 REO CR	Former chemical storage facility. Requires assessment and/or clean up	0090004284
Hume City Council	CAMPBELLFIELD	5 REO CR	Current Industrial Site. Requires assessment and/or clean up	0090003276
Hume City Council	CAMPBELLFIELD	2 - 70 Bolinda RD	Current landfill. Requires ongoing management	0090004684
Hume City Council	CAMPBELLFIELD	Bolinda RD	Former Landfill. Requires ongoing management	0090003793
Hume City Council	CAMPBELLFIELD	Bolinda RD	Former Landfill. Requires ongoing management	0090003794
Hume City Council	CAMPBELLFIELD	Mahoneys RD	Former Landfill. Requires ongoing management	0090003496
Hume City Council	CRAIGIEBURN	54 RUSHWOOD DR	Illegal dumping. Requires assessment and/or clean up	0090003830
Hume City Council	CRAIGIEBURN	54 RUSHWOOD DR	Illegal dumping. Requires assessment and/or clean up	0090004296
Hume City Council	CRAIGIEBURN	Craigieburn RD	Former Landfill. Requires ongoing management	0090003107
Hume City Council	CRAIGIEBURN	Craigieburn RD	Former Landfill. Requires ongoing management	0090003475
Hume City Council	DIGGERS REST	50 EDWARDS RD	Illegal dumping. Requires assessment and/or clean up	0090004581
Hume City Council	DIGGERS REST	65 EDWARDS RD	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090003640
Hume City Council	DIGGERS REST	95 MCLEODS RD	Illegal dumping. Requires assessment and/or clean up	0090004298
Hume City Council	GREENVALE	100 OAKLANDS RD	Illegal dumping. Requires ongoing management	0090001856
Hume City Council	MELBOURNE AIRPORT	206 WESTERN AV	Former Landfill. Requires assessment and/or clean up	0090003661
Hume City Council	SOMERTON	Cliffords RD	Former Industrial Site. Requires assessment and/or clean up	0090002446
Hume City Council	Tullamarine	105 ANNANDALE RD	Illegal dumping. Requires assessment and/or clean up	0090004149
Hume City Council	TULLAMARINE	Western AV	Former Landfill. Requires ongoing management	0090003530

Hume City Council	WILDWOOD	520 WILDWOOD RD	Illegal dumping. Requires assessment and/or clean up	0090004601
Kingston City Council	CHELSEA	476 Nepean HWY	Former Service Station. Requires assessment and/or clean up	0090001389
Kingston City Council	CHELSEA	Scotch PDE	Former Landfill. Requires ongoing management	0090003613
Kingston City Council	CLAYTON SOUTH	654 Clayton RD	Current landfill. Requires ongoing management	0090000045
Kingston City Council	CLAYTON SOUTH	8 Elder ST	Former Landfill. Requires ongoing management	0090003610
Kingston City Council	CLAYTON SOUTH	Cnr Deals RD & Heatherton RD	Former Landfill. Requires ongoing management	0090003759
Kingston City Council	CLAYTON SOUTH	Cnr Deals RD & Heatherton RD	Former Landfill. Requires ongoing management	0090003780
Kingston City Council	CLAYTON SOUTH	Former Clayton Road Landfill Cnr. Clayton Road & Ryans Road	Former Landfill. Requires ongoing management	0090003966
Kingston City Council	CLAYTON SOUTH	Former Clayton Road Landfill Cnr. Clayton Road & Ryans Road	Former Landfill. Requires ongoing management	0090004353
Kingston City Council	CLAYTON SOUTH	Ryans RD	Former Landfill. Requires ongoing management	0090003607
Kingston City Council	CLAYTON SOUTH	RYANS RD	Former Landfill. Requires ongoing management	0090003604
Kingston City Council	DINGLEY VILLAGE	370 Old Dandenong RD	Former Landfill. Requires ongoing management	0090003831
Kingston City Council	DINGLEY VILLAGE	370 Old Dandenong RD	Former Landfill. Requires ongoing management	0090003832
Kingston City Council	MENTONE	17 BALCOMBE RD	Former Service Station. Requires assessment and/or clean up	0090004424
Kingston City Council	MOORABBIN	1 10 Ebdon ST	Former Industrial Site. Requires ongoing management	0090002273
Kingston City Council	MOORABBIN	SOUTH WEST CNR HEATHERTON SANDS & BUNNYS LANE	Former Landfill. Requires ongoing management	0090004461
Kingston City Council	MOORABBIN	SOUTH WEST CNR HEATHERTON SANDS & BUNNYS LANE	Former Landfill. Requires ongoing management	0090004462
Kingston City Council	MORDIALLOC	78 White ST	Former Industrial Site. Requires assessment and/or clean up	0090002256
Knox City Council	WANTIRNA	706 BORONIA RD	Illegal dumping. Requires assessment and/or clean up	0090000181
Knox City Council	WANTIRNA SOUTH	14 COPPELIA ST	Former Landfill. Requires ongoing management	0090003736
Knox City Council	WANTIRNA SOUTH	14 COPPELIA ST	Former Landfill. Requires ongoing management	0090003737
Knox City Council	WANTIRNA SOUTH	14 COPPELIA ST	Former Landfill. Requires ongoing management	0090004220
Knox City Council	WANTIRNA SOUTH	Cathies LANE	Former Landfill. Requires ongoing management	0090000475
Knox City Council	WANTIRNA SOUTH	Cathies LANE	Former Landfill. Requires ongoing management	0090003738
Latrobe City Council	MORWELL	PT CA 86B & CA 104A Parish of Maryvale	Former Landfill. Requires ongoing management	0090003787
Latrobe City Council	MORWELL	PT CA 86B & CA 104A Parish of Maryvale	Former Landfill. Requires ongoing management	0090003788
Latrobe City Council	NEWBOROUGH	Haunted Hills RD	Former Landfill. Requires ongoing management	0090003785
Latrobe City Council	NEWBOROUGH	Haunted Hills RD	Former Landfill. Requires ongoing management	0090003786
Latrobe City Council	TRARALGON	TRARALGON WEST RD	Former Landfill. Requires assessment and/or clean up	0090003964
Latrobe City Council	TRARALGON SOUTH	Loy Yang B3/4 Bench Bartons Lane	Ash pond with a Groundwater Attenuation Zone. Requires ongoing management	0090002894
Macedon Ranges Shire Council	BULLENGAROOK	Hobbs RD	Former Landfill. Requires ongoing management	0090003580
Macedon Ranges Shire Council	BULLENGAROOK	Hobbs RD	Former Landfill. Requires ongoing management	0090003581
Macedon Ranges Shire Council	BULLENGAROOK	Hobbs RD	Former Landfill. Requires ongoing management	0090003582
Macedon Ranges Shire Council	KYNETON	134 HIGH ST	Former Service Station. Requires assessment and/or clean up	0090004559
Macedon Ranges Shire Council	KYNETON	134 HIGH ST	Former Service Station. Requires assessment and/or clean up	0090004708
Macedon Ranges Shire Council	KYNETON	Redesdale RD	Former Landfill. Requires ongoing management	0090003555
Macedon Ranges Shire Council	KYNETON	Redesdale RD	Former Landfill. Requires ongoing management	0090003556
Macedon Ranges Shire Council	KYNETON	Redesdale RD	Former Landfill. Requires ongoing management	0090003557
Macedon Ranges Shire Council	KYNETON	Redesdale RD	Former Landfill. Requires ongoing management	0090004058
Macedon Ranges Shire Council	LANCEFIELD	Baynton (Lot 16 LP208950) RD	Former Landfill. Requires ongoing management	0090003751
Macedon Ranges Shire Council	ROMSEY	2 33 MAIN ST	Current Service Station. Requires assessment and/or clean up	0090004269
Macedon Ranges Shire Council	SPRINGFIELD	130 Toomeys LANE	Illegal dumping. Requires assessment and/or clean up	0090004043
Macedon Ranges Shire Council	SPRINGFIELD	130 Toomeys LANE	Illegal dumping. Requires assessment and/or clean up	0090004044
Macedon Ranges Shire Council	SPRINGFIELD	130 Toomeys LANE	Illegal dumping. Requires assessment and/or clean up	0090004114
Macedon Ranges Shire Council	WOODEND	130 High ST	Current Service Station. Requires assessment and/or clean up	0090004073
Mansfield Shire Council	MANSFIELD	Monkey Gully RD	Former Landfill. Requires ongoing management	0090003844
Mansfield Shire Council	MANSFIELD	Monkey Gully RD	Former Landfill. Requires ongoing management	0090003845
Maribyrnong City Council	BRAYBROOK	30 SOUTH RD	Former Industrial Site. Requires assessment and/or clean up	0090004372
Maribyrnong City Council	BROOKLYN	550 GEELONG RD	Former Industrial Site. Requires assessment and/or clean up	0090002056

Maribyrnong City Council	BROOKLYN	550 GEELONG RD	Illegal dumping. Requires assessment and/or clean up	0090004455
Maribyrnong City Council	FOOTSCRAY	Farnsworth AV	Former Landfill. Requires ongoing management	0090003484
Maribyrnong City Council	MAIDSTONE	9 WILLIAMSON RD	Former Industrial Site. Requires assessment and/or clean up	0090001771
Maribyrnong City Council	MAIDSTONE	9 WILLIAMSON RD	Former Industrial Site. Requires assessment and/or clean up	0090003767
Maribyrnong City Council	MAIDSTONE	9 WILLIAMSON RD	Former Industrial Site. Requires assessment and/or clean up	0090003768
Maribyrnong City Council	WEST FOOTSCRAY	1 Graingers RD	Current chemical storage facility. Requires assessment and/or clean up	0090000266
Maribyrnong City Council	WEST FOOTSCRAY	Somerville RD	Former Industrial Site. Requires assessment and/or clean up	0090002163
Maribyrnong City Council	Yarraville	281-295 Whitehall Street	Former Industrial Site. Requires assessment and/or clean up	0090001942
Maribyrnong City Council	Yarraville	281-295 Whitehall Street	Former Industrial Site. Requires ongoing management	0090001941
Maribyrnong City Council	YARRAVILLE	1 High ST	Former Industrial Site. Requires ongoing management	0090000134
Maribyrnong City Council	YARRAVILLE	2A FRANCIS ST	Current Industrial Site. Requires assessment and/or clean up	0090001122
Maribyrnong City Council	YARRAVILLE	Yarraville Terminal Francis ST	Current petroleum storage site. Requires assessment and/or clean up	0090000989
Maroondah City Council	CROYDON	171 Mt Dandenong RD	Former Service Station. Requires ongoing management	0090002862
Maroondah City Council	RINGWOOD	385 Canterbury RD	Current Service Station. Requires ongoing management	0090003514
Maroondah City Council	RINGWOOD EAST	18 Mount Dandenong RD	Current Service Station. Requires assessment and/or clean up	0090001804
Melbourne City Council	YARRAVILLE	295 WHITEHALL STREET	Former Industrial Site. Requires ongoing management	0090003351
Melton Shire Council	MELTON	Ferris RD	Former Landfill. Requires ongoing management	0090003481
Melton Shire Council	MELTON SOUTH	2 FERRIS RD	Former Landfill. Requires ongoing management	0090003479
Melton Shire Council	MELTON SOUTH	2 FERRIS RD	Former Landfill. Requires ongoing management	0090003480
Melton Shire Council	MOUNT COTTRELL	180 Faulkners RD	Solid inert waste has been dumped at the site. Requires assessment and/or clean up	0090000416
Melton Shire Council	PLUMPTON	1 Holden RD	Solid inert waste has been dumped at the site. Requires assessment and/or clean up	0090000159
Melton Shire Council	PLUMPTON	627 Plumpton RD	Solid inert waste has been dumped at the site. Requires assessment and/or clean up	0090000300
Melton Shire Council	PLUMPTON	627 PLUMPTON RD	Illegal dumping. Requires assessment and/or clean up	0090004146
Melton Shire Council	PLUMPTON	627 PLUMPTON RD	Solid inert waste has been dumped at the site. Requires assessment and/or clean up	0090003861
Melton Shire Council	PLUMPTON	627 PLUMPTON RD	Solid inert waste has been dumped at the site. Requires assessment and/or clean up	0090003893
Melton Shire Council	RAVENHALL	48A ORBIS DR	Illegal dumping. Requires assessment and/or clean up	0090003361
Mildura Rural City Council	KOORLONG	Twentieth ST	Former Landfill. Requires ongoing management	0090003585
Mildura Rural City Council	MILDURA	211 TENTH ST	Former petroleum storage site. Requires assessment and/or clean up	0090003682
Mildura Rural City Council	MILDURA	42 NINTH ST	Former petroleum storage site. Requires assessment and/or clean up	0090004105
Mildura Rural City Council	MILDURA	42 NINTH ST	Former petroleum storage site. Requires assessment and/or clean up	0090004154
Mildura Rural City Council	OUYEN	48 FARRELL ST	Former petroleum storage site. Requires assessment and/or clean up	0090004611
Mitchell Shire Council	BROADFORD	High ST	Former Landfill. Requires ongoing management	0090003542
Mitchell Shire Council	KILMORE	Walders RD	Former Landfill. Requires ongoing management	0090003834
Mitchell Shire Council	KILMORE	Walders RD	Former Landfill. Requires ongoing management	0090003835
Mitchell Shire Council	NORTHWOOD	1630 Northwood RD	Solid inert waste has been dumped at the site. Requires assessment and/or clean up	0090004152
Mitchell Shire Council	SEYMOUR	117 Wimple ST	Current Industrial Site. Requires assessment and/or clean up	0090001737
Mitchell Shire Council	SEYMOUR	HUME AND HOVELL ROAD	Former Landfill. Requires ongoing management	0090003836
Mitchell Shire Council	SEYMOUR	HUME AND HOVELL ROAD	Former Landfill. Requires ongoing management	0090003837
Moir Shire Council	BURRAMINE	171 THOMS RD	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090004594
Moir Shire Council	NUMURKAH	Parish Of Katunga C/a 14 Sect D Naring Rd	Former Landfill. Requires ongoing management	0090003545
Moir Shire Council	YARRAWONGA	81 Channel RD	Former Landfill. Requires ongoing management	0090003539
Monash City Council	CLAYTON	1555 Centre RD	Current Industrial Site. Requires ongoing management	0090004466
Monash City Council	GLEN WAVERLEY	310 SPRINGVALE RD	Current Industrial Site. Requires assessment and/or clean up	0090002027
Monash City Council	OAKLEIGH	1386 Dandenong RD	Current Service Station. Requires assessment and/or clean up	0090003887
Moonee Valley City Council	ASCOT VALE	556 MT ALEXANDER RD	Current Service Station. Requires assessment and/or clean up	0090004430
Moonee Valley City Council	MOONEE PONDS	783 Mt Alexander RD	Current Service Station. Requires assessment and/or clean up	0090000664
Moorabool Shire Council	BACCHUS MARSH	End of Halletts WAY	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090001880

Moorabool Shire Council	FISKVILLE	Geelong-Ballan RD	Current Industrial Site. Requires assessment and/or clean up	0090003174
Moorabool Shire Council	FISKVILLE	Geelong-Ballan RD	Current Industrial Site. Requires assessment and/or clean up	0090003319
Moorabool Shire Council	FISKVILLE	Geelong-Ballan RD	Current Industrial Site. Requires assessment and/or clean up	0090004570
Moorabool Shire Council	FISKVILLE	Geelong-Ballan RD	Current Industrial Site. Requires assessment and/or clean up	0090004571
Moorabool Shire Council	MADDINGLEY	Side Of Kerrs RD	Former Landfill. Requires ongoing management	0090003631
Moreland City Council	Brunswick	225 and 227-231 Barkly Street	Former Industrial Site. Requires ongoing management	0090004362
Moreland City Council	BRUNSWICK	225 and 227-231 Barkly Street	Former Industrial Site. Requires ongoing management	0090004520
Moreland City Council	COBURG NORTH	46 Newlands RD	Current petroleum storage site. Requires assessment and/or clean up	0090004468
Moreland City Council	COBURG NORTH	737 Sydney RD	Former Service Station. Requires assessment and/or clean up	0090001860
Moreland City Council	PASCOE VALE	512 PASCOE VALE RD	Current Service Station. Requires assessment and/or clean up	0090002542
Mornington Peninsula Shire Council	CRIB POINT	2 Lens ST	Former Landfill. Requires ongoing management	0090003619
Mornington Peninsula Shire Council	CRIB POINT	The Esplanade	Former Industrial Site. Requires ongoing management	0090002897
Mornington Peninsula Shire Council	MOUNT ELIZA	250 Moorooduc HWY	Former Landfill. Requires ongoing management	0090000477
Mornington Peninsula Shire Council	MOUNT ELIZA	250 Moorooduc HWY	Former Landfill. Requires ongoing management	0090003744
Mornington Peninsula Shire Council	ROSEBUD WEST	119 Truemens RD	Former Landfill. Requires ongoing management	0090003616
Mornington Peninsula Shire Council	RYE	Point Nepean RD	Current Service Station. Requires ongoing management	0090000658
Mornington Peninsula Shire Council	SOMERVILLE	182 Eramosa RD	Illegal dumping. Requires assessment and/or clean up	0090000097
Mount Alexander Shire Council	Castlemaine	74 Tomkies Road Lane	Contaminated soil is retained and managed onsite. Requires ongoing management	0090004156
Mount Alexander Shire Council	CASTLEMAINE	7 LANGSLOW ST	Current Industrial Site. Requires assessment and/or clean up	0090004706
Mount Alexander Shire Council	WALMER	20 CENTRE RD	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090004101
Moyne Shire Council	ALLANSFORD	5331 Great Ocean RD	Current Industrial Site. Requires ongoing management	0090004322
Moyne Shire Council	PORT FAIRY	Allotment 36a (pt) Parish Of Koroit Township Of Port Fairy -	Former Landfill. Requires assessment and/or clean up	0090003337
Moyne Shire Council	PORT FAIRY	Badhams LANE	Former Landfill. Requires ongoing management	0090003625
Moyne Shire Council	PORT FAIRY	Portion 10(pt) Parish Of Koroit Property Number 506450	Former Landfill. Requires assessment and/or clean up	0090003335
Nillumbik Shire Council	DIAMOND CREEK	50 Fraser ST	Historical deposit of mine tailings. Requires assessment and/or clean up	0090002671
Nillumbik Shire Council	ELTHAM	197 Sherbourne RD	Former petroleum storage site. Requires assessment and/or clean up	0090004460
Nillumbik Shire Council	KANGAROO GROUND	105 GRAHAM RD	Former Landfill. Requires ongoing management	0090003503
Nillumbik Shire Council	KANGAROO GROUND	105 GRAHAM RD	Former Landfill. Requires ongoing management	0090003504
Nillumbik Shire Council	KANGAROO GROUND	105 GRAHAM RD	Former Landfill. Requires ongoing management	0090003505
Nillumbik Shire Council	PANTON HILL	165 MOTSCHALL RD	Current Industrial Site. Requires ongoing management	0090002787
Nillumbik Shire Council	PANTON HILL	165 MOTSCHALL RD	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090002083
Nillumbik Shire Council	YARRAMBAT	Yan Yean RD	Former Landfill. Requires ongoing management	0090003407
Nillumbik Shire Council	YARRAMBAT	Yan Yean RD	Former Landfill. Requires ongoing management	0090003408
Northern Grampians Shire Council	Stawell	Tailings Storage Facility No.2 ,CA1 Sec5 CA4 Sec5, CA5 Sec5, CA6 Sec5, CA18V Sec2	Historical deposit of mine tailings. Requires assessment and/or clean up	0090004168
Northern Grampians Shire Council	STAWELL	25 Horsham RD	Former Industrial Site. Requires ongoing management	0090002140
Port Phillip City Council	ELWOOD	54A MARINE PDE	Current Service Station. Requires assessment and/or clean up	0090000663
Port Phillip City Council	PORT MELBOURNE	337 WILLIAMSTOWN RD	Current Service Station. Requires assessment and/or clean up	0090004525
Port Phillip City Council	PORT MELBOURNE	337 WILLIAMSTOWN RD	Current Service Station. Requires assessment and/or clean up	0090004644
South Gippsland Shire Council	FOSTER	4090 SOUTH GIPPSLAND HWY	Former Landfill. Requires ongoing management	0090003533
South Gippsland Shire Council	FOSTER	4090 SOUTH GIPPSLAND HWY	Former Landfill. Requires ongoing management	0090003745
South Gippsland Shire Council	FOSTER	4090 SOUTH GIPPSLAND HWY	Former Landfill. Requires ongoing management	0090003746
South Gippsland Shire Council	FOSTER	4090 SOUTH GIPPSLAND HWY	Former Landfill. Requires ongoing management	0090003747
South Gippsland Shire Council	LEONGATHA SOUTH	630 ROUGHEADS RD	Former Landfill. Requires ongoing management	0090003789
South Gippsland Shire Council	LEONGATHA SOUTH	630 ROUGHEADS RD	Former Landfill. Requires ongoing management	0090003790

Stonnington City Council	PRAHRAN	549 High ST	Current Service Station. Requires assessment and/or clean up	0090000662
Strathbogie Shire Council	VIOLET TOWN	190 Modiamids RD	Former Landfill. Requires ongoing management	0090003846
Strathbogie Shire Council	VIOLET TOWN	190 Modiamids RD	Former Landfill. Requires ongoing management	0090003847
Surf Coast Shire Council	MORIAC	700 HENDY MAIN RD	Illegal dumping. Requires assessment and/or clean up	0090004437
Surf Coast Shire Council	MOUNT MORIAC	450 Hendy Main RD	Former Industrial Site. Requires assessment and/or clean up	0090003712
Surf Coast Shire Council	WINCHELSEA	114 Trebeck CT	Illegal dumping. Requires assessment and/or clean up	0090001935
Swan Hill Rural City Council	ROBINVALE	CA2022\PP2269 and 2C\PP2269 HAPPY VALLEY TRACK	Illegal dumping. Requires assessment and/or clean up	0090003340
Swan Hill Rural City Council	Swan Hill	3 Hastings Street	Current petroleum storage site. Requires assessment and/or clean up	0090003573
Swan Hill Rural City Council	SWAN HILL	5 HASTINGS ST	Former petroleum storage site. Requires ongoing management	0090003817
Swan Hill Rural City Council	TOL TOL	3216 Murray Valley HWY	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090000256
Towong Shire Council	BETHANGA	4 MARTIN ST	Former Landfill. Requires ongoing management	0090003554
Warrnambool City Council	ALLANSFORD	137 Ziegler PDE	Contaminated soil is retained and managed onsite. Requires assessment and/or clean up	0090000492
Warrnambool City Council	WARRNAMBOOL	Braithwaite ST	Former Landfill. Requires ongoing management	0090003637
Wellington Shire Council	LONGFORD	746 LONGFORD-LOCH SPORT RD	Former Landfill. Requires ongoing management	0090003791
Wellington Shire Council	LONGFORD	746 LONGFORD-LOCH SPORT RD	Former Landfill. Requires ongoing management	0090003792
Wellington Shire Council	MAFFRA	57 Johnson ST	Current Industrial Site. Requires assessment and/or clean up	0090001587
Wellington Shire Council	MAFFRA	57 Johnson ST	Current Industrial Site. Requires assessment and/or clean up	0090004663
Wellington Shire Council	YARRAM	Off Yarram-Traralgon RD	Former Landfill. Requires ongoing management	0090003055
Whitehorse City Council	BLACKBURN	21 Blackburn RD	Current Service Station. Requires ongoing management	0090002839
Whitehorse City Council	BLACKBURN	21 Blackburn RD	Current Service Station. Requires ongoing management	0090003034
Whitehorse City Council	BLACKBURN	24 Blackburn RD	Former Service Station. Requires assessment and/or clean up	0090003153
Whitehorse City Council	BLACKBURN	2 CENTRAL RD	Former Service Station. Requires assessment and/or clean up	0090002076
Whitehorse City Council	BOX HILL	14 Federation ST	Former Landfill. Requires ongoing management	0090003499
Whittlesea City Council	EPPING	215 COOPER ST	Current landfill. Requires ongoing management	0090003348
Whittlesea City Council	EPPING	490 COOPER ST	Former Landfill. Requires ongoing management	0090003502
Whittlesea City Council	EPPING	500 Cooper ST	Former Landfill. Requires ongoing management	0090003490
Whittlesea City Council	THOMASTOWN	240 HIGH ST	Former Service Station. Requires assessment and/or clean up	0090004077
Whittlesea City Council	THOMASTOWN	342 Settlement RD	Former Service Station. Requires assessment and/or clean up	0090001959
Whittlesea City Council	THOMASTOWN	51 High ST	Current Industrial Site. Requires assessment and/or clean up	0090004421
Wodonga Rural City Council	BARANDUDA	219 & Part Of 221 Whytes Rd	Current Industrial Site. Requires ongoing management	0090003307
Wodonga Rural City Council	WODONGA	3437 Beechworth-Wodonga RD	Former Landfill. Requires ongoing management	0090003548
Wyndham City Council	Laverton North	19 Little Boundary RD	Current Industrial Site. Requires assessment and/or clean up	0090000003
Wyndham City Council	LAVERTON NORTH	142 FITZGERALD RD	Current chemical storage facility. Requires assessment and/or clean up	0090004097
Wyndham City Council	LAVERTON NORTH	3 PROGRESS CT	Illegal dumping. Requires assessment and/or clean up	0090004467
Wyndham City Council	LAVERTON NORTH	41 LEAKES RD	Former Industrial Site. Requires assessment and/or clean up	0090000864
Wyndham City Council	LAVERTON NORTH	41 LEAKES RD	Former Industrial Site. Requires ongoing management	0090003389
Wyndham City Council	LITTLE RIVER	490 EDGARS RD	Illegal dumping. Requires assessment and/or clean up	0090004276
Wyndham City Council	LITTLE RIVER	490 EDGARS RD	Illegal dumping. Requires assessment and/or clean up	0090004277
Wyndham City Council	TRUGANINA	99 Palmers RD	Solid inert waste has been dumped at the site. Requires ongoing management	0090002914
Wyndham City Council	Wyndham Vale	Volume 5098 Folio 515 Crown Allotments D and E Section 28	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090004352
Yarra City Council	FITZROY NORTH	433 SMITH ST	Former Industrial Site. Requires ongoing management	0090004363
Yarra City Council	RICHMOND	3-21a Kent St 1/4-14/4 Little Buckingham St	Former Industrial Site. Requires ongoing management	0090001920
Yarra Ranges Shire Council	BELGRAVE	2 Monbulk RD	Current petroleum storage site. Requires assessment and/or clean up	0090004469
Yarra Ranges Shire Council	COLDSTREAM	Ingram RD	Former Landfill. Requires ongoing management	0090003838
Yarra Ranges Shire Council	COLDSTREAM	Ingram RD	Former Landfill. Requires ongoing management	0090003839

Yarra Ranges Shire Council	GRUYERE	108 Killara RD	Industrial waste has been dumped at the site. Requires assessment and/or clean up	0090001184
Yarra Ranges Shire Council	HEALESVILLE	571 Mt Riddel RD	Former Landfill. Requires ongoing management	0090003840
Yarra Ranges Shire Council	HEALESVILLE	Mt Riddel RD	Former Landfill. Requires ongoing management	0090003841
Yarra Ranges Shire Council	KILSYTH	1 76 Fussell RD	Former Industrial Site. Requires assessment and/or clean up	0090000004
Yarra Ranges Shire Council	KILSYTH	1 76 Fussell RD	Former Industrial Site. Requires assessment and/or clean up	0090000006
Yarra Ranges Shire Council	KILSYTH	2 76 Fussell RD	Former Industrial Site. Requires assessment and/or clean up	0090000005
Yarra Ranges Shire Council	KILSYTH	2 76 Fussell RD	Former Industrial Site. Requires assessment and/or clean up	0090000007
Yarriambiack Shire Council	AUBREY	5683 Aubrey Road Lot 3 TP 419055	Illegal dumping. Requires assessment and/or clean up	0090004452

11 April 2014

TO: Kris Knight
Tonkin & Taylor Pty Ltd

Ph: 8796 7900

M: 0426 955 747

SEARCH FOR CATHODIC PROTECTION SYSTEMS

With reference to your email of 14/04/2014, a search of the CP database has failed to identify any cathodic protection systems at the following location:

- **365 Prices Highway, Officer**

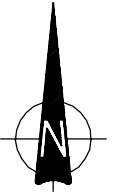
Yours sincerely

A handwritten signature in black ink, appearing to read "Glenn Carrig".

Glenn Carrig

MANAGER ELECTROLYSIS MITIGATION

Appendix B: Aerial Photographs



Historic aerial sourced from D.E.P.I. archive.

SCALE 1:2000
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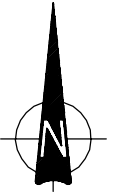
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Environmental and Engineering Consultants
Kings Technology Park, Ground Floor, 95 Coventry St
Southbank, Victoria, 3006 Ph: (03) 9863 8686
www.tonkintaylor.com.au

DRAWN	LJD	Apr. 14
DRAFTING	CHECKED	
APPROVED		
CADFILE :	\\4259-AERIAL.dwg	
SCALES (AT A3 SIZE)	1:2000 (APPROX.)	
PROJECT No.	3748.005	

KEYMORE PTY LTD c/- SMEC URBAN PTY LTD
TIMBERTOP ESTATE WETLANDS
365 PRINCES HWY, OFFICER, VIC
Historic Aerial Photo - 1956

FIG. No. Figure 1

REV. 0



Historic aerial sourced from D.E.P.I. archive.

SCALE 1:2000
0 20 40 60 80 100 (m)

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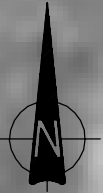
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DRAFTING	CHECKED	
APPROVED		
CADFILE :	\\4259-AERIAL.dwg	
SCALES (AT A3 SIZE)	1:2000 (APPROX.)	
PROJECT No.	3748.005	

KEYMORE PTY LTD c/- SMEC URBAN PTY LTD
TIMBERTOP ESTATE WETLANDS
365 PRINCES HWY, OFFICER, VIC
Historic Aerial Photo - 1963

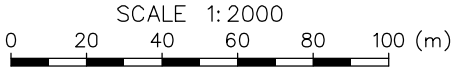
FIG. No. Figure 2

REV. 0

P:\4259\WorkingMaterial\CAD\4259-AERIAL.dwg, F03, 29/04/2014 11:55:16 a.m., .ljd



Historic aerial sourced from D.E.P.I. archive.



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CADFILE :	\\4259-AERIAL.dwg	
SCALES (AT A3 SIZE)	1:2000 (APPROX.)	
PROJECT No.	3748.005	

KEYMORE PTY LTD c/- SMEC URBAN PTY LTD		
TIMBERTOP ESTATE WETLANDS		
365 PRINCES HWY, OFFICER, VIC		
Historic Aerial Photo - 1973		
FIG. No.	Figure 3	REV. 0



Historic aerial sourced from D.E.P.I. archive.

SCALE 1:2000
0 20 40 60 80 100 (m)

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CADFILE :	\\4259-AERIAL.dwg	
SCALES (AT A3 SIZE)	1:2000 (APPROX.)	
PROJECT No.	3748.005	

KEYMORE PTY LTD c/- SMEC URBAN PTY LTD		
TIMBERTOP ESTATE WETLANDS		
365 PRINCES HWY, OFFICER, VIC		
Historic Aerial Photo - 1983		
FIG. No.	Figure 4	REV. 0



Historic aerial sourced from D.E.P.I. archive.

SCALE 1:2000
0 20 40 60 80 100 (m)

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APPROVED		
CADFILE :	\\4259-AERIAL.dwg	
SCALES (AT A3 SIZE)	1:2000 (APPROX.)	
PROJECT No.	3748.005	

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TIMBERTOP ESTATE WETLANDS
365 PRINCES HWY, OFFICER, VIC
Historic Aerial Photo - 1991

FIG. No. Figure 5

REV. 0

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SCALE 1: 1000
0 10 20 30 40 50 (m)

Aerials sourced from Google Earth data (Images Copyright: 2014).

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CADFILE :	\\4259-AERIAL.dwg	
SCALES (AT A3 SIZE)	AS SHOWN	
PROJECT No.	3748.005	

KEYMORE PTY LTD c/- SMEC URBAN PTY LTD
TIMBERTOP ESTATE WETLANDS
365 PRINCES HWY, OFFICER, VIC
Historic Aerial Photo - 2002

FIG. No. Figure 6

REV. 0

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SCALE 1: 1000
0 10 20 30 40 50 (m)

Aerials sourced from Google Earth data (Images Copyright: 2014).

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APPROVED		
CADFILE :	\\4259-AERIAL.dwg	
SCALES (AT A3 SIZE)	AS SHOWN	
PROJECT No.	3748.005	

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TIMBERTOP ESTATE WETLANDS
365 PRINCES HWY, OFFICER, VIC
Historic Aerial Photo - 2009

FIG. No. Figure 7

REV. 0

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SCALE 1: 1000
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Aerials sourced from NearMaps data (Images Copyright: 2014).

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DRAWN	LJD	Apr. 14
DRAFTING CHECKED		
APPROVED		
CADFILE :	\\4259-AERIAL.dwg	
SCALES (AT A3 SIZE)	AS SHOWN	
PROJECT No.	3748.005	

KEYMORE PTY LTD c/- SMEC URBAN PTY LTD
TIMBERTOP ESTATE WETLANDS
365 PRINCES HWY, OFFICER, VIC
Site Layout Aerial - 2014

FIG. No. Figure 7

REV. 0

Appendix C: Historical Certificates of Title

VOLUME 06085 FOLIO 898

Security no : 124050197456C
Produced 22/04/2014 08:59 am

LAND DESCRIPTION

Lot 1 on Title Plan 680282C.

PARENT TITLES :

Volume 01508 Folio 490 Volume 04132 Folio 251

Created by instrument 1625092 03/12/1936

REGISTERED PROPRIETOR

Estate Fee Simple

Sole Proprietor

OFFICER PROPERTIES PTY LTD of LEVEL 27 150 LONSDALE STREET MELBOURNE VIC
3000

AF676100J 25/02/2008

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AJ827861J 31/07/2012

WESTPAC BANKING CORPORATION

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP680282C FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 365 PRINCES HIGHWAY OFFICER VIC 3809

DOCUMENT END

Imaged Document Cover Sheet

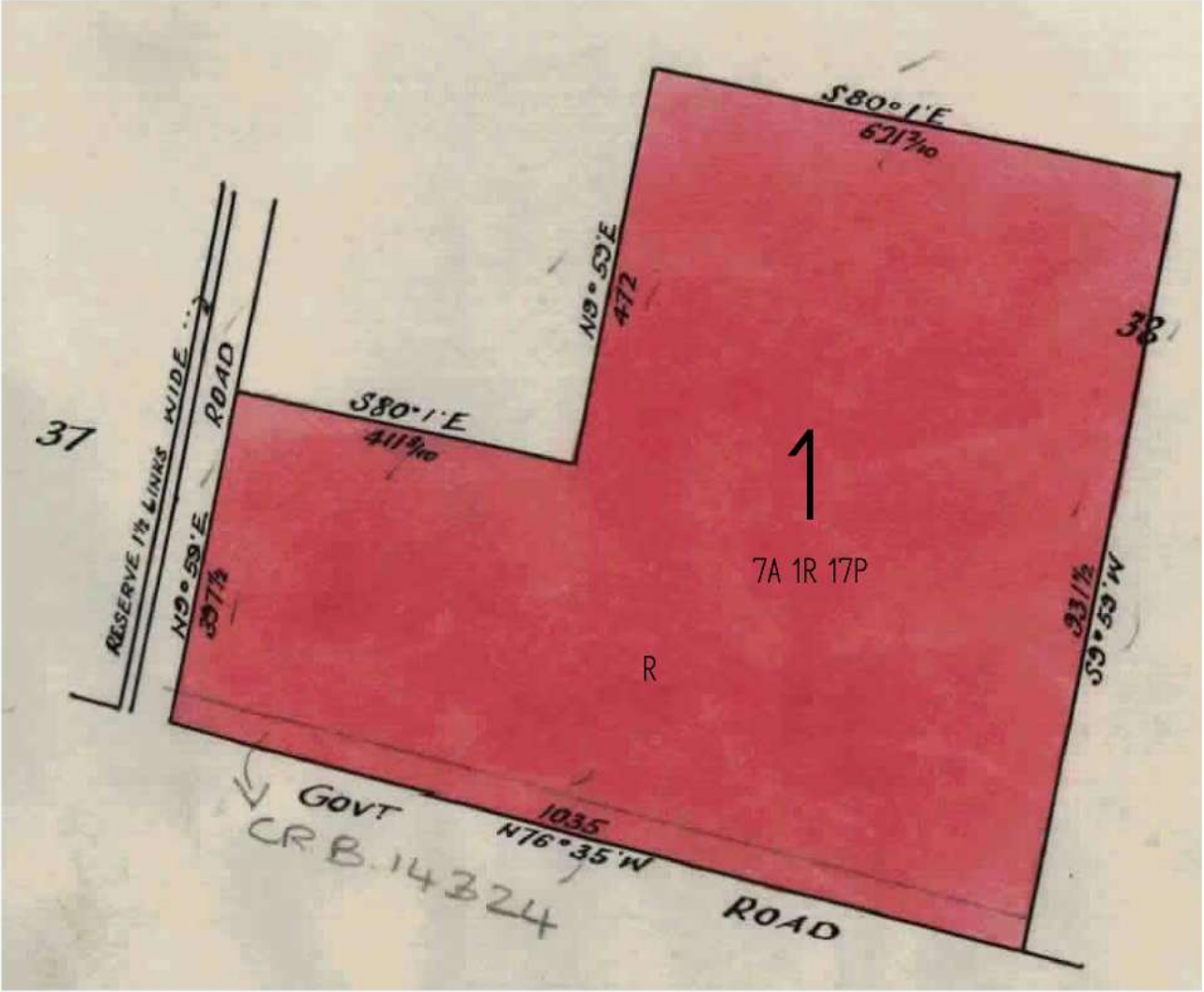
The document following this cover sheet is an imaged document supplied by LANDATA®, Land Victoria.

Document Type	plan
Document Identification	TP680282C
Number of Pages (excluding this cover sheet)	1
Document Assembled	22/04/2014 09:02

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The document is invalid if this cover sheet is removed or altered.

	TITLE PLAN	EDITION 1	TP 680282C			
Location of Land Parish: PAKENHAM Township: Section: Crown Allotment: 38 (PT) Crown Portion: Last Plan Reference: Derived From: VOL 6085 FOL 898 Depth Limitation: NIL		Notations ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN				
Description of Land / Easement Information <i>All that piece of Land, delineated and coloured</i> red on the map in the margin containing Seven acres One rood and Seventeen perches - or thereabouts being part of Crown Allotment Thirty-eight Parish of Pakenham County of Mornington - Together with a right of carriage way over the roads shewn on Plan - of Subdivision No.433 lodged in the Office of Titles - - - - -			THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT COMPILED: 08/11/2000 VERIFIED: BH COLOUR CODE R = RED			
						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">TABLE OF PARCEL IDENTIFIERS</td> </tr> <tr> <td style="font-size: small;">WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962</td> </tr> <tr> <td style="font-size: small;">PARCEL 1 = CA 38 (PT)</td> </tr> </table>				TABLE OF PARCEL IDENTIFIERS	WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962	PARCEL 1 = CA 38 (PT)
TABLE OF PARCEL IDENTIFIERS						
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962						
PARCEL 1 = CA 38 (PT)						
LENGTHS ARE IN LINKS		Metres = 0.3048 x Feet Metres = 0.201168 x Links	Sheet 1 of 1 sheets			

Imaged Document Cover Sheet

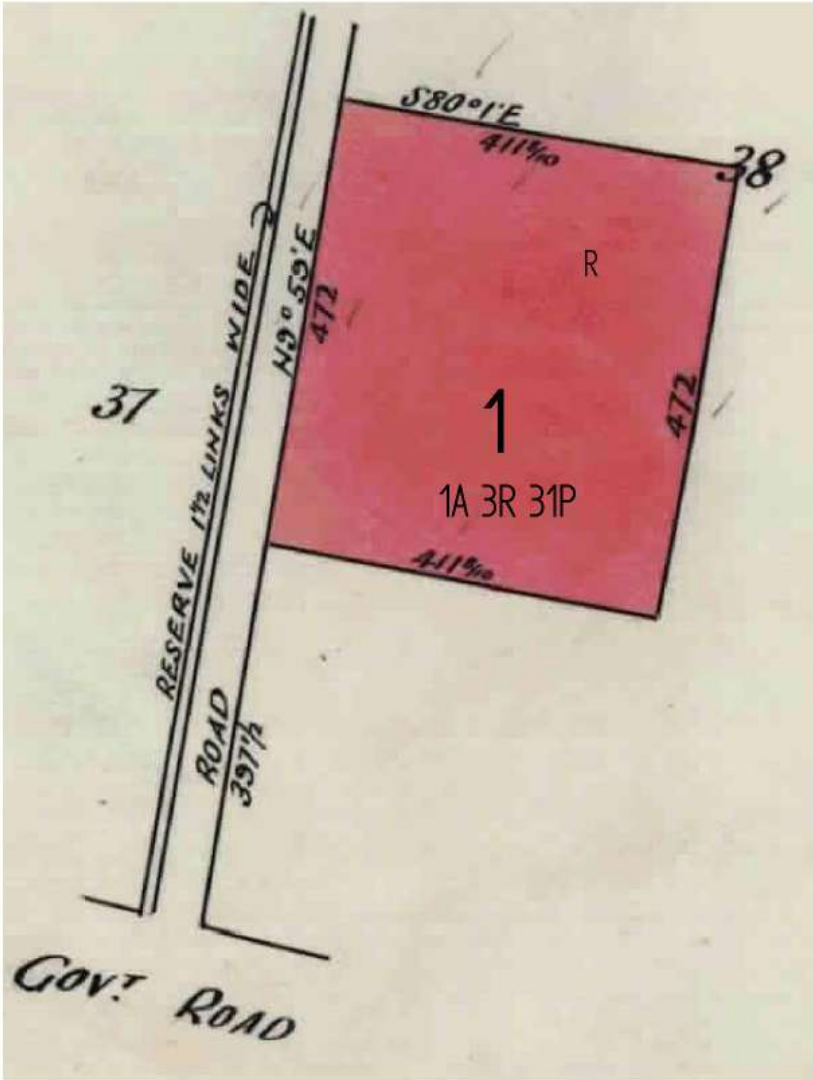
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Document Type	plan
Document Identification	TP419047A
Number of Pages (excluding this cover sheet)	1
Document Assembled	22/04/2014 11:54

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The document is invalid if this cover sheet is removed or altered.

TITLE PLAN		EDITION 1	TP 419047A						
Location of Land Parish: PAKENHAM Township: Section: Crown Allotment: 38 (PT) Crown Portion: Last Plan Reference: Derived From: VOL 6085 FOL 899 Depth Limitation: NIL		Notations ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN							
Description of Land / Easement Information All that piece of Land, delineated and coloured red on the map in the margin containing One acre Three roods and Thirty-one perches or thereabouts being part of Crown Allotment Thirty-eight Parish of Pakenham County of Mornington - Together with a right of carriage way over the roads shewn on Plan-- of Subdivision No.433 lodged in the Office of Titles - - - - -		THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT COMPILED: 28/04/2000 VERIFIED: P.C. COLOUR CODE R = RED							
									
<table><tr><th colspan="2">TABLE OF PARCEL IDENTIFIERS</th></tr><tr><td colspan="2">WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962</td></tr><tr><td colspan="2">PARCEL 1 = CA 38 (PT)</td></tr></table>				TABLE OF PARCEL IDENTIFIERS		WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962		PARCEL 1 = CA 38 (PT)	
TABLE OF PARCEL IDENTIFIERS									
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962									
PARCEL 1 = CA 38 (PT)									
LENGTHS ARE IN LINKS		Metres = 0.3048 x Feet Metres = 0.201168 x Links	Sheet 1 of 1 sheets						

VOLUME 06085 FOLIO 899

Security no : 124050202807K
Produced 22/04/2014 11:52 am

LAND DESCRIPTION

Lot 1 on Title Plan 419047A.
PARENT TITLE Volume 01508 Folio 490
Created by instrument 1633055 03/12/1936

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
OFFICER PROPERTIES PTY LTD of LEVEL 27 150 LONSDALE STREET MELBOURNE VIC
3000
AF676100J 25/02/2008

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AJ827861J 31/07/2012
WESTPAC BANKING CORPORATION

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP419047A FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 365 PRINCES HIGHWAY OFFICER VIC 3809

DOCUMENT END

HISTORICAL SEARCH STATEMENT

Land Victoria

Page 1 of 5

Produced 22/04/2014 09:01 AM

Volume 06085 Folio 898

Folio Creation: Created as paper folio continued as computer folio

Parent titles :

Volume 01508 Folio 490

Volume 04132 Folio 251

THE IMAGE OF THE FOLIO CEASED TO BE THE DIAGRAM LOCATION ON 12/09/2002 05:01 AM

RECORD OF ALTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged	Dealing Type and Details
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RECORD OF VOTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged
------------------------------	---------------------------	---------	--------

23/11/2004	23/11/2004	AD258621D	Y
------------	------------	-----------	---

CAVEAT

CAVEAT AD258621D 23/11/2004

Caveator

PORTBURY DEVELOPMENT CO PTY LTD

Capacity PURCHASER/FEE SIMPLE

Lodged by

O'DONOHUE N & CO

Notices to

NICHOLAS O'DONOHUE & CO of FLOOR 1 180 QUEEN STREET MELBOURNE VIC 3000

30/03/2005	30/03/2005	AD523831Q	Y
------------	------------	-----------	---

TRANSFER OF LAND BY ENDORSEMENT

FROM:

JAMES HICKS PROPRIETARY LIMITED

TO:

PORTBURY DEVELOPMENT CO PTY LTD

RESULTING PROPRIETORSHIP:

Estate Fee Simple

Sole Proprietor

PORTBURY DEVELOPMENT CO PTY LTD of 443 ARMY ROAD PAKENHAM UPPER

VIC 3180

AD523831Q 30/03/2005

AND LAPSING OF CAVEAT AD258621D

30/03/2005	30/03/2005	AD523832N	Y
------------	------------	-----------	---

MORTGAGE OF LAND

MORTGAGE AD523832N 30/03/2005

NATIONAL AUSTRALIA BANK LIMITED

25/02/2008	27/02/2008	AF676099P	Y
------------	------------	-----------	---

DISCHARGE OF MORTGAGE

MORTGAGE(S) REMOVED

AD523832N

25/02/2008	27/02/2008	AF676100J	Y
------------	------------	-----------	---

HISTORICAL SEARCH STATEMENT

Land Victoria

Page 2 of 5

TRANSFER OF LAND BY ENDORSEMENT

FROM:

PORTBURY DEVELOPMENT CO PTY LTD

TO:

OFFICER PROPERTIES PTY LTD

RESULTING PROPRIETORSHIP:

Estate Fee Simple

Sole Proprietor

OFFICER PROPERTIES PTY LTD of LEVEL 27 150 LONSDALE STREET

MELBOURNE VIC 3000

AF676100J 25/02/2008

25/02/2008	27/02/2008	AF676101G	Y
------------	------------	-----------	---

MORTGAGE OF LAND

MORTGAGE AF676101G 25/02/2008

COMMONWEALTH BANK OF AUSTRALIA

18/10/2011	18/10/2011	AJ262584F	Y
------------	------------	-----------	---

DISCHARGE OF MORTGAGE

AFFECTED ENCUMBRANCE(S) AND REMOVED MORTGAGE(S)

MORTGAGE AF676101G

31/07/2012	31/07/2012	AJ827861J	Y
------------	------------	-----------	---

MORTGAGE OF LAND

MORTGAGE AJ827861J 31/07/2012

WESTPAC BANKING CORPORATION

STATEMENT END

VOTS Snapshot

Volume 06085 Folio 898
 124012422760D
 Produced 23/11/2004 10:58 am

LAND DESCRIPTION

Lot 1 on Title Plan 680282C (formerly known as part of Crown Allotment 38 Parish of Pakenham).

PARENT TITLES :

Volume 01508 Folio 490 Volume 04132 Folio 251

Created by instrument 1625092 03/12/1936

REGISTERED PROPRIETOR

Estate Fee Simple

Sole Proprietor

JAMES HICKS PROPRIETARY LIMITED of PRINCES HIGHWAY OFFICER

D214258 14/10/1968

ENCUMBRANCES, CAVEATS AND NOTICES

HISTORICAL SEARCH STATEMENT

Land Victoria

Page 3 of 5

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP680282C FOR FURTHER DETAILS AND BOUNDARIES

Paper Title Images

6085/898 - Version 1, Date 20/07/1999



Entered in the Register Book

Vol. 6085 Fol. 1216898

VICTORIA.

Certificate of Title,

UNDER THE "TRANSFER OF LAND ACT 1928."

st. 207

James Hicks of Officer Brick and Tile Manufacturer is - - - - -
 now the proprietor of an Estate in Fee-simple, subject to the Encumbrances
 notified hereunder in All that piece of Land, delineated and coloured
 red on the map in the margin containing Seven acres One rood and Seventeen perches -
 or thereabouts being part of Crown Allotment Thirty-eight Parish of Pakenham County
 of Mornington - Together with a right of carriage way over the roads shewn on Plan -
 of Subdivision No.433 lodged in the Office of Titles - - - - -

ORIGINAL CERTIFICATE.
 Not to be dealt with outside the Titles Office.

Dated the Third
 thousand nine hundred and thirty-six.

day of December One

 Assistant Registrar of Titles.
 ENCUMBRANCES REFERRED TO.



1508 - 490
 4132 - 251

The Measurements are in links



T06085-898-1-6

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FULLY CONVERTED TITLE

Vol. 1508 Fol. 301490
4132 826251

Transfer. 1625092

Application.

Red Ink No. 3541234

JAMES HICKS died on 11th May 1965 Probate of his Will has been granted to MABEL EMILY JANE HICKS Widow and JAMES ALBERT JOHN HICKS Pottery Manufacturer both of Princes Highway Officer and MARGARET ELIZABETH FRANKCOMBE of May Road Officer Married Woman
DATED 19th October 1966
No. C618864



MARGARET ELIZABETH FRANKCOMBE of May Road Officer Married Woman and JAMES ALBERT JOHN HICKS of Princes Highway Officer Pottery Manufacturer are now proprietors as TENANTS IN COMMON IN EQUAL SHARES
Registered 9th January 1968
No. C979074



JAMES HICKS PROPRIETARY LIMITED of Princes Highway Officer is now the proprietor
Registered 14th October 1968
No. D214258



MORTGAGE TO

Registered

NO. 58

DISCHARGED
- 5 AUG 1991



F452838

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Land Victoria

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Produced 22/04/2014 11:53 AM

Volume 06085 Folio 899

Folio Creation: Created as paper folio continued as computer folio

Parent title Volume 01508 Folio 490

THE IMAGE OF THE FOLIO CEASED TO BE THE DIAGRAM LOCATION ON 07/09/2002 05:01 AM

RECORD OF ALTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged	Dealing Type and Details
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RECORD OF VOTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged
23/11/2004	23/11/2004	AD258621D	Y

CAVEAT

CAVEAT AD258621D 23/11/2004
Caveator
PORTBURY DEVELOPMENT CO PTY LTD
Capacity PURCHASER/FEE SIMPLE
Lodged by
O'DONOHUE N & CO
Notices to
NICHOLAS O'DONOHUE & CO of FLOOR 1 180 QUEEN STREET MELBOURNE VIC 3000

30/03/2005	30/03/2005	AD523831Q	Y
------------	------------	-----------	---

TRANSFER OF LAND BY ENDORSEMENT

FROM:
JAMES HICKS PROPRIETARY LIMITED
TO:
PORTBURY DEVELOPMENT CO PTY LTD

RESULTING PROPRIETORSHIP:

Estate Fee Simple
Sole Proprietor
PORTBURY DEVELOPMENT CO PTY LTD of 443 ARMY ROAD PAKENHAM UPPER
VIC 3180
AD523831Q 30/03/2005
AND LAPSING OF CAVEAT AD258621D

30/03/2005	30/03/2005	AD523832N	Y
------------	------------	-----------	---

MORTGAGE OF LAND

MORTGAGE AD523832N 30/03/2005
NATIONAL AUSTRALIA BANK LIMITED

25/02/2008	27/02/2008	AF676099P	Y
------------	------------	-----------	---

DISCHARGE OF MORTGAGE

MORTGAGE(S) REMOVED
AD523832N

25/02/2008	27/02/2008	AF676100J	Y
------------	------------	-----------	---

TRANSFER OF LAND BY ENDORSEMENT

HISTORICAL SEARCH STATEMENT

Land Victoria

Page 2 of 5

FROM:
PORTBURY DEVELOPMENT CO PTY LTD
TO:
OFFICER PROPERTIES PTY LTD

RESULTING PROPRIETORSHIP:
Estate Fee Simple
Sole Proprietor
OFFICER PROPERTIES PTY LTD of LEVEL 27 150 LONSDALE STREET
MELBOURNE VIC 3000
AF676100J 25/02/2008

25/02/2008	27/02/2008	AF676101G	Y
------------	------------	-----------	---

MORTGAGE OF LAND
MORTGAGE AF676101G 25/02/2008
COMMONWEALTH BANK OF AUSTRALIA

18/10/2011	18/10/2011	AJ262584F	Y
------------	------------	-----------	---

DISCHARGE OF MORTGAGE
AFFECTED ENCUMBRANCE(S) AND REMOVED MORTGAGE(S)
MORTGAGE AF676101G

31/07/2012	31/07/2012	AJ827861J	Y
------------	------------	-----------	---

MORTGAGE OF LAND
MORTGAGE AJ827861J 31/07/2012
WESTPAC BANKING CORPORATION

STATEMENT END

VOTS Snapshot

Volume 06085 Folio 899
124012422761B
Produced 23/11/2004 10:58 am

LAND DESCRIPTION

Lot 1 on Title Plan 419047A (formerly known as part of Crown Allotment 38 Parish of Pakenham).
PARENT TITLE Volume 01508 Folio 490
Created by instrument 1633055 03/12/1936

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
JAMES HICKS PROPRIETARY LIMITED of OFFICER
C800143 09/06/1967

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section

HISTORICAL SEARCH STATEMENT

Land Victoria

Page 3 of 5

24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP419047A FOR FURTHER DETAILS AND BOUNDARIES

Paper Title Images

6085/899 - Version 1, Date 20/07/1999



Entered in the Register Book

Vol. 6085 Fol. 1216899

VICTORIA.

Certificate of Title,

UNDER THE "TRANSFER OF LAND ACT 1928."

Elizabeth Hicks Spinster and Agnes Ormond Widow both of Officer are now joint proprietors

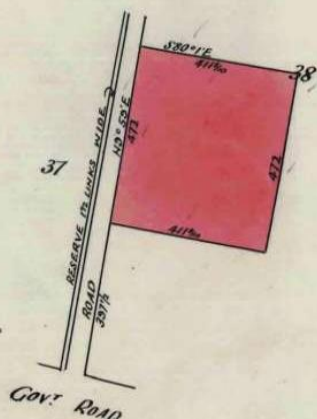
~~now the proprietors~~ of an Estate in Fee-simple, subject to the Encumbrances notified hereunder in All that piece of Land, delineated and coloured

red on the map in the margin containing One acre Three roods and Thirty-one perches or thereabouts being part of Crown Allotment Thirty-eight Parish of Pakenham County of Mornington - Together with a right of carriage way over the roads shewn on Plan-- of Subdivision No.433 lodged in the Office of Titles - - - - -

ORIGINAL CERTIFICATE.
Not to be dealt with outside the Titles Office.

Dated the Third day of December One thousand nine hundred and thirty-six.

day of December One
J. M. Lewis
Assistant Registrar of Titles.
ENCUMBRANCES REFERRED TO.



1508-490



T06085-899-1-2

The Measurements are in links

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FULLY CONVERTED TITLE

Vol. 1508 Fol. 3014-90

Transfer. 1633055

Application.

No. A770470

AGNES ORMOND the survivor of the proprietors named herein is now registered as sole proprietor of the land now comprised herein

DATED

6th July 1959



80 AGNES ORMOND died on 4th May 1960

Probate of her Will has been granted to RAYMOND CLARENCE HICKS of Officer Pottery Foreman

DATED 17th March 1961

No. B173993



RAYMOND CLARENCE HICKS of Officer Pottery Foreman is now the proprietor by

Transfer B173994

Registered 17th March 1961



JAMES HICKS PROPRIETARY LIMITED of Officer is now the proprietor

Registered 9th June 1967

No. C800143



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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 06085 FOLIO 898

Security no : 124048582198R

Produced 12/12/2013 10:11 am

LAND DESCRIPTION

Lot 1 on Title Plan 680282C.

PARENT TITLES :

Volume 01508 Folio 490 Volume 04132 Folio 251

Created by instrument 1625092 03/12/1936

REGISTERED PROPRIETOR

Estate Fee Simple

Sole Proprietor

OFFICER PROPERTIES PTY LTD of LEVEL 27 150 LONSDALE STREET MELBOURNE VIC
3000

AF676100J 25/02/2008

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AJ827861J 31/07/2012

WESTPAC BANKING CORPORATION

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section
24 Subdivision Act 1988 and any other encumbrances shown or entered on the
plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP680282C FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 365 PRINCES HIGHWAY OFFICER VIC 3809

DOCUMENT END

Delivered from the LANDATA® System by GLOBALX INFORMATION PTY LTD

TITLE PLAN		EDITION 1	TP 680282C						
Location of Land Parish: PAKENHAM Township: Section: Crown Allotment: 38 (PT) Crown Portion: Last Plan Reference: Derived From: VOL 6085 FOL 898 Depth Limitation: NIL		Notations ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN							
Description of Land / Easement Information <i>All that piece of Land delineated and coloured</i> red on the map in the margin containing Seven acres One rood and Seventeen perches - or thereabouts being part of Crown Allotment Thirty-eight Parish of Pakenham County of Mornington - Together with a right of carriage way over the roads shown on Plan - of Subdivision No.433 lodged in the Office of Titles - - - - -		THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT COMPILED: 08/11/2000 VERIFIED: BH COLOUR CODE R = RED							
<table border="1"> <tr> <th colspan="2">TABLE OF PARCEL IDENTIFIERS</th> </tr> <tr> <td colspan="2">WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962</td> </tr> <tr> <td colspan="2">PARCEL 1 = CA 38 (PT)</td> </tr> </table>				TABLE OF PARCEL IDENTIFIERS		WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962		PARCEL 1 = CA 38 (PT)	
TABLE OF PARCEL IDENTIFIERS									
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962									
PARCEL 1 = CA 38 (PT)									
LENGTHS ARE IN LINKS Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets							

Appendix D: Test Pit and Well Installation Logs



TONKIN & TAYLOR LTD

WELL CONSTRUCTION LOG

BOREHOLE No: MW1

Instrument:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands		LOCATION: 365 Princess Highway, Officer		JOB No: 4259					
CO-ORDINATES		DRILL TYPE: Geoprobe		HOLE STARTED: 3/3/12					
R.L. m		DRILL METHOD: Solid Auger		HOLE FINISHED: 3/3/12					
DATUM		COLLAR RL:		LOGGED BY: KRK CHECKED: TOM					
INTERPRETIVE GEOLOGICAL LOG				USCS DESCRIPTION					
OBSERVATION and INTERPRETATION	CASING	WELL GRAPHIC LOG	WELL CONSTRUCTION	SAMPLES	WATER LEVEL	R.L. (m)	DEPTH (m)	GRAPHIC LOG	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour. ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.
	Grout								TOPSOIL
	Bentonite						1		Silty CLAY: Pale brown with mottled orange and red, dry, medium-high plasticity, stiff-very stiff with trace very fine sand Grades to orange with mottled brown and red, stiff, moist
	Sand						2		
							3		Grades to yellow with mottled grey, high plasticity Grades to grey with founded fine-medium gravel at interface
	Screen						4		
							5		Grades to grey with mottled orange and red Grades to red mottled orange, trace fine-medium gravel
							6		MW1 terminated @ 5.8mbgl
							7		
							8		
							9		
							10		



TONKIN & TAYLOR LTD

WELL CONSTRUCTION LOG

BOREHOLE No: MW2

Instrument:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands		LOCATION: 365 Princess Highway, Officer		JOB No: 4259					
CO-ORDINATES		DRILL TYPE: Geoprobe		HOLE STARTED: 3/3/12					
R.L. m		DRILL METHOD: Solid Auger		HOLE FINISHED: 3/3/12					
DATUM		COLLAR RL:		LOGGED BY: KRK CHECKED: TOM					
INTERPRETIVE GEOLOGICAL LOG				USCS DESCRIPTION					
OBSERVATION and INTERPRETATION	CASING	WELL GRAPHIC LOG	WELL CONSTRUCTION	SAMPLES	WATER LEVEL	R.L. (m)	DEPTH (m)	GRAPHIC LOG	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour. ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.
									TOPSOIL
									Silty CLAY: Greyish brown with mottled white, dry, low-medium plasticity, firm with trace sand
									Silty CLAY: Orangey brown, dry-moist, medium-high plasticity, stiff with trace very fine sand
							1		
							2		
									Mottled grey
							3		
									Trace coarse sand and fine gravel
									Grades to grey
							4		
									Grades to red with mottled grey
							5		
									MW2 terminated @ 5.0mbgl
							6		
							7		
							8		
							9		
							10		

[illegible]



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP01

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands				LOCATION: 365 Princess Highway, Officer				JOB No: 4259											
CO-ORDINATES:				EXPOSURE TYPE: Test Pit				EXCAV. STARTED: 24/2/14											
EQUIPMENT: Excavator				EXCAV FINISHED: 24/2/14															
R.L. m				OPERATOR: LANTRAK				LOGGED BY: PDB											
DATUM				DIMENSIONS: 0.5m x 1.0m				CHECKED BY: TOM											
EXCAVATION				ENGINEERING DESCRIPTION				FIELD TESTING				LABORATORY TESTS							
METHOD	1	2	3	PENETRATION	SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
								0.5				Silty CLAY: Brown black, dry, soft, low plasticity					TP01-0.1		
												Brown with mottled orange					TP01-0.5		
								1.0				TP01 terminated @ 1.0mbgl							
								1.5											
								2.0											



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP02

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands				LOCATION: 365 Princess Highway, Officer				JOB No: 4259											
CO-ORDINATES:				EXPOSURE TYPE: Test Pit				EXCAV. STARTED: 24/2/14											
R.L. m				EQUIPMENT: Backhoe				EXCAV FINISHED: 24/2/14											
DATUM				OPERATOR: LANTRAK				LOGGED BY: PDB											
				DIMENSIONS: 0.5m x 1.0m				CHECKED BY: TOM											
EXCAVATION				ENGINEERING DESCRIPTION				FIELD TESTING				LABORATORY TESTS							
METHOD	1	2	3	PENETRATION	SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
								0.5				Silty CLAY: Grey, dry, soft, low plasticity.					TP02-0.1		0
												Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP02-0.5		0
							1.0					TP02 terminated @ 1.0mbgl							
							1.5												
							2.0												



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP03

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands LOCATION: 365 Princess Highway, Officer JOB No: 4259

CO-ORDINATES:	EXPOSURE TYPE: Test Pit	EXCAV. STARTED: 24/2/14
R.L. m	EQUIPMENT: Backhoe	EXCAV FINISHED: 24/2/14
DATUM	OPERATOR: LANTRAK	LOGGED BY: PDB
	DIMENSIONS: 0.5m x 1.0m	CHECKED BY: TOM

EXCAVATION							ENGINEERING DESCRIPTION					FIELD TESTING		LABORATORY TESTS								
METHOD	PENETRATION			SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)				
	1	2	3																			
							0.5															
							1.0															
							1.5															
							2.0															

T+T DATATEMPLATE.GDT.pdb



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EXCAVATION LOG

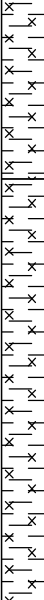
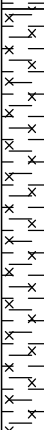
EXCAVATION No: TP04

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands LOCATION: 365 Princess Highway, Officer JOB No: 4259

CO-ORDINATES:	EXPOSURE TYPE: Test Pit	EXCAV. STARTED: 24/2/14
R.L. m	EQUIPMENT: Backhoe	EXCAV FINISHED: 24/2/14
DATUM	OPERATOR: LANTRAK	LOGGED BY: PDB
	DIMENSIONS: 0.5m x 1.0m	CHECKED BY: TOM

EXCAVATION							ENGINEERING DESCRIPTION					FIELD TESTING		LABORATORY TESTS				
METHOD	PENETRATION			SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
	1	2	3								Silty CLAY: Grey, dry, soft, low plasticity					TP04-0.1		
						0.5					Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP04-0.5		
						1.0					TP04 terminated @ 1.0mbgl							
							1.5											
							2.0											

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TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP05

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259																			
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 24/2/14																			
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 24/2/14																			
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB																			
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM																			
EXCAVATION										ENGINEERING DESCRIPTION										FIELD TESTING										LABORATORY TESTS									
METHOD 1 PENETRATION 2 SUPPORT 3 WATER R.L. (m) DEPTH (m) GEOLOGICAL UNIT GRAPHIC LOG CLASSIFICATION SYMBOL										SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS MOISTURE CONDITIONS / WEATHERING STRENGTH/DENSITY CLASSIFICATION										FIELD RECORDS/ COMMENTS CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)										SAMPLES, TESTS MC (%) PID (ppm)									
0.5										Silty CLAY: Grey, dry, soft, low plasticity Silty CLAY: Grey with brown mottling, dry, soft, low plasticity																				TP05-0.1 TP05-0.5									
1.0 1.5 2.0										TP05 terminated @ 1.0mbgl																													



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP06
Location:
SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands				LOCATION: 365 Princess Highway, Officer				JOB No: 4259											
CO-ORDINATES:				EXPOSURE TYPE: Test Pit				EXCAV. STARTED: 24/2/14											
R.L. m				EQUIPMENT: Backhoe				EXCAV FINISHED: 24/2/14											
DATUM				OPERATOR: LANTRAK				LOGGED BY: PDB											
				DIMENSIONS: 0.5m x 1.0m				CHECKED BY: TOM											
EXCAVATION				ENGINEERING DESCRIPTION				FIELD TESTING				LABORATORY TESTS							
METHOD	1	2	3	PENETRATION	SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
								0.5				Silty CLAY: Grey, dry, soft, low plasticity					TP06-0.1		
												Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP06-0.5		
							1.0					TP06 terminated @ 1.0mbgl							
							1.5												
							2.0												

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TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP07

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259																			
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 24/2/14																			
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 24/2/14																			
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB																			
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM																			
EXCAVATION										ENGINEERING DESCRIPTION										FIELD TESTING										LABORATORY TESTS									
METHOD 1 PENETRATION 2 3 SUPPORT WATER R.L. (m) DEPTH (m) GEOLOGICAL UNIT GRAPHIC LOG CLASSIFICATION SYMBOL										SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS MOISTURE CONDITIONS / WEATHERING STRENGTH/DENSITY CLASSIFICATION										FIELD RECORDS/ COMMENTS CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)										SAMPLES, TESTS MC (%) PID (ppm)									
0.5										Silty CLAY: Grey, dry, soft, low plasticity with some burnt bricks, demolition rubble Silty CLAY: Grey with brown mottling, dry, soft, low plasticity																				TP07-0.1 TP07-0.5									
1.0 1.5 2.0										TP07 terminated @ 1.0mbgl																													

T+T DATATEMPLATE.GDT.pdb



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP08
Location:
SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands				LOCATION: 365 Princess Highway, Officer				JOB No: 4259											
CO-ORDINATES:				EXPOSURE TYPE: Test Pit				EXCAV. STARTED: 24/2/14											
R.L. m				EQUIPMENT: Backhoe				EXCAV FINISHED: 24/2/14											
DATUM				OPERATOR: LANTRAK				LOGGED BY: PDB											
				DIMENSIONS: 0.5m x 1.0m				CHECKED BY: TOM											
EXCAVATION				ENGINEERING DESCRIPTION				FIELD TESTING				LABORATORY TESTS							
METHOD	1	2	3	PENETRATION	SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
								0.5				Silty CLAY: Grey, dry, soft, low plasticity			Broken and burnt bricks burnt kiln rubble on top of the soil		TP08-0.1		
												Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP08-0.5		
							1.0					TP08 terminated @ 1.0mbgl							
							1.5												
							2.0												



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP09

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands				LOCATION: 365 Princess Highway, Officer				JOB No: 4259											
CO-ORDINATES:				EXPOSURE TYPE: Test Pit				EXCAV. STARTED: 24/2/14											
R.L. m				EQUIPMENT: Backhoe				EXCAV FINISHED: 24/2/14											
DATUM				OPERATOR: LANTRAK				LOGGED BY: PDB											
				DIMENSIONS: 0.5m x 1.0m				CHECKED BY: TOM											
EXCAVATION				ENGINEERING DESCRIPTION				FIELD TESTING				LABORATORY TESTS							
METHOD	1	2	3	PENETRATION	SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
								0.5				Silty CLAY: Grey, dry, soft, low plasticity					TP09-0.1		
												Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP09-0.5		
							1.0					TP09 terminated @ 1.0mbgl							
							1.5												
							2.0												

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TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP10
Location:
SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259									
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 24/2/14									
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 24/2/14									
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB									
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM									
EXCAVATION					ENGINEERING DESCRIPTION										FIELD TESTING					LABORATORY TESTS									
METHOD	PENETRATION			SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)											
	1	2	3								Silty CLAY: Grey, dry, soft, low plasticity					TP10-0.1													
						0.5					Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP10-0.5													
						1.0					TP10 terminated @ 1.0mbgl																		
						1.5																							
						2.0																							



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EXCAVATION LOG

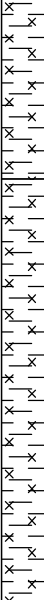
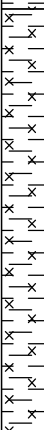
EXCAVATION No: TP11

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands LOCATION: 365 Princess Highway, Officer JOB No: 4259

CO-ORDINATES:	EXPOSURE TYPE: Test Pit	EXCAV. STARTED: 24/2/14
R.L. m	EQUIPMENT: Backhoe	EXCAV FINISHED: 24/2/14
DATUM	OPERATOR: LANTRAK	LOGGED BY: PDB
	DIMENSIONS: 0.5m x 1.0m	CHECKED BY: TOM

EXCAVATION							ENGINEERING DESCRIPTION					FIELD TESTING		LABORATORY TESTS				
METHOD	PENETRATION			SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
	1	2	3								Silty CLAY: Grey, dry, soft, low plasticity					TP11-0.1		
						0.5					Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP11-0.5		
						1.0					TP11 terminated @ 1.0mbgl							
						1.5												
						2.0												

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TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP12

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259																			
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 24/2/14																			
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 24/2/14																			
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB																			
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM																			
EXCAVATION										ENGINEERING DESCRIPTION										FIELD TESTING										LABORATORY TESTS									
METHOD 1 PENETRATION 2 SUPPORT 3 WATER R.L. (m) DEPTH (m) GEOLOGICAL UNIT GRAPHIC LOG CLASSIFICATION SYMBOL										SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS MOISTURE CONDITIONS / WEATHERING STRENGTH/DENSITY CLASSIFICATION										FIELD RECORDS/ COMMENTS CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)										SAMPLES, TESTS MC (%) PID (ppm)									
0.5										Silty CLAY: Grey, dry, soft, low plasticity Silty CLAY: Grey with brown mottling, dry, soft, low plasticity																				TP12-0.1 QC1 QC1A TP12-0.5									
1.0 1.5 2.0										TP12 terminated @ 1.0mbgl																													

T+T DATATEMPLATE.GDT.pdb



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP13

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259																			
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 24/2/14																			
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 24/2/14																			
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB																			
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM																			
EXCAVATION										ENGINEERING DESCRIPTION										FIELD TESTING										LABORATORY TESTS									
METHOD 1 PENETRATION 2 SUPPORT 3 WATER R.L. (m) DEPTH (m) GEOLOGICAL UNIT GRAPHIC LOG CLASSIFICATION SYMBOL										SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS MOISTURE CONDITIONS / WEATHERING STRENGTH/DENSITY CLASSIFICATION										FIELD RECORDS/ COMMENTS CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)										SAMPLES, TESTS MC (%) PID (ppm)									
0.5										Silty CLAY: Grey, dry, soft, low plasticity Silty CLAY: Grey with brown mottling, dry, soft, low plasticity																				TP13-0.1 TP13-0.5									
1.0 1.5 2.0										TP13 terminated @ 1.0mbgl																													



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP14
Location:
SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259									
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 24/2/14									
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 24/2/14									
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB									
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM									
EXCAVATION					ENGINEERING DESCRIPTION										FIELD TESTING					LABORATORY TESTS									
METHOD	PENETRATION			SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)											
	1	2	3								Silty CLAY: Grey, dry, soft, low plasticity					TP14-0.1													
						0.5					Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP14-0.5													
						1.0					TP14 terminated @ 1.0mbgl																		
						1.5																							
						2.0																							

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TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP15

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259																			
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 24/2/14																			
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 24/2/14																			
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB																			
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM																			
EXCAVATION										ENGINEERING DESCRIPTION										FIELD TESTING										LABORATORY TESTS									
METHOD 1 PENETRATION 2 SUPPORT 3 WATER R.L. (m) DEPTH (m) GEOLOGICAL UNIT GRAPHIC LOG CLASSIFICATION SYMBOL										SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS MOISTURE CONDITIONS / WEATHERING STRENGTH/DENSITY CLASSIFICATION										FIELD RECORDS/ COMMENTS CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)										SAMPLES, TESTS MC (%) PID (ppm)									
0.5										Silty CLAY: Grey, dry, soft, low plasticity Silty CLAY: Grey, dry, soft, low plasticity																				TP15-0.1 TP15-0.5									
1.0 1.5 2.0										TP15 terminated @ 1.0mbgl																													

T+T DATATEMPLATE.GDT.pdb



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP16
Location:
SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands				LOCATION: 365 Princess Highway, Officer				JOB No: 4259											
CO-ORDINATES:				EXPOSURE TYPE: Test Pit				EXCAV. STARTED: 24/2/14											
R.L. m				EQUIPMENT: Backhoe				EXCAV FINISHED: 24/2/14											
DATUM				OPERATOR: LANTRAK				LOGGED BY: PDB											
				DIMENSIONS: 0.5m x 1.0m				CHECKED BY: TOM											
EXCAVATION				ENGINEERING DESCRIPTION				FIELD TESTING				LABORATORY TESTS							
METHOD	1	2	3	PENETRATION	SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
								0.5				Sandy silty CLAY: Black, dry, soft, low plasticity with fine to medium sand					TP16-0.1		
												Silty CLAY: Grey with mottled brown, dry, soft, low plasticity					TP0.16-0.5		
								1.0				TP16 terminated @ 1.0mbgl							
								1.5											
								2.0											

T-T- DATATEMPLATE.GDT.pdb



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP17

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259																			
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 24/2/14																			
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 24/2/14																			
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB																			
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM																			
EXCAVATION										ENGINEERING DESCRIPTION										FIELD TESTING										LABORATORY TESTS									
METHOD 1 PENETRATION 2 SUPPORT 3 WATER R.L. (m) DEPTH (m) GEOLOGICAL UNIT GRAPHIC LOG CLASSIFICATION SYMBOL										SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS MOISTURE CONDITIONS / WEATHERING STRENGTH/DENSITY CLASSIFICATION										FIELD RECORDS/ COMMENTS CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)										SAMPLES, TESTS MC (%) PID (ppm)									
0.5										Silty CLAY: Grey, dry, soft, low plasticity Silty CLAY: Grey with brown mottling, dry, soft, low plasticity																				TP17-0.1 TP17-0.5									
1.0 1.5 2.0										TP17 terminated @ 1.0mbgl																													

T+T DATATEMPLATE.GDT.pdb



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP18

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259									
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 25/2/14									
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 25/2/14									
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB									
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM									
EXCAVATION					ENGINEERING DESCRIPTION										FIELD TESTING					LABORATORY TESTS									
METHOD	PENETRATION			SUPPORT	WATER	R.L. (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)											
	1	2	3								Silty CLAY: Grey, dry, soft, low plasticity					TP18-0.1													
						0.5					Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP18-0.5													
						1.0					TP18 terminated @ 1.0mbgl																		
						1.5																							
						2.0																							



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP19
Location:
SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands LOCATION: 365 Princess Highway, Officer JOB No: 4259

CO-ORDINATES: EXPOSURE TYPE: Test Pit EXCAV. STARTED: 25/2/14
EQUIPMENT: Backhoe EXCAV FINISHED: 25/2/14
R.L. m OPERATOR: LANTRAK LOGGED BY: PDB
DATUM DIMENSIONS: 0.5m x 1.0m CHECKED BY: TOM

EXCAVATION							ENGINEERING DESCRIPTION					FIELD TESTING		LABORATORY TESTS				
METHOD	PENETRATION			SUPPORT	WATER	RL (m)	DEPTH (m)	GEOLOGICAL UNIT	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITIONS / WEATHERING	STRENGTH/DENSITY CLASSIFICATION	FIELD RECORDS/ COMMENTS	CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)	SAMPLES, TESTS	MC (%)	PID (ppm)
	1	2	3								Silty CLAY: Grey, dry, soft, low plasticity			Broken asphalt pieces through the top layer of soil.		TP19-0.1		
							0.5				Silty CLAY: Grey with brown mottling, dry, soft, low plasticity					TP19-0.5		
							1.0				TP19 terminated @ 1.0mbgl							
							1.5											
							2.0											

T+T DATATEMPLATE.GDT.pdb



TONKIN & TAYLOR LTD

EXCAVATION LOG

EXCAVATION No: TP20

Location:

SHEET 1 OF 1

PROJECT: Timbertop Estate Wetlands										LOCATION: 365 Princess Highway, Officer										JOB No: 4259																			
CO-ORDINATES:										EXPOSURE TYPE: Test Pit										EXCAV. STARTED: 25/2/14																			
R.L. m										EQUIPMENT: Backhoe										EXCAV FINISHED: 25/2/14																			
DATUM										OPERATOR: LANTRAK										LOGGED BY: PDB																			
										DIMENSIONS: 0.5m x 1.0m										CHECKED BY: TOM																			
EXCAVATION										ENGINEERING DESCRIPTION										FIELD TESTING										LABORATORY TESTS									
METHOD 1 PENETRATION 2 SUPPORT 3 WATER R.L. (m) DEPTH (m) GEOLOGICAL UNIT GRAPHIC LOG CLASSIFICATION SYMBOL										SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS MOISTURE CONDITIONS / WEATHERING STRENGTH/DENSITY CLASSIFICATION										FIELD RECORDS/ COMMENTS CONTAMINATION INDICATORS (ODOURS, STAINING, IMPORTED FILL, ASH, SEPARATE PHASE LIQUIDS)										SAMPLES, TESTS MC (%) PID (ppm)									
0.5										Silty CLAY: Grey, dry, soft, low plasticity Silty CLAY: Grey with brown mottling, dry, soft, low plasticity																				TP20-0.1 TP20-0.5									
1.0 1.5 2.0										TP20 terminated @ 1.0mbgl																													

Appendix E: Site Photographs

<i>Photograph 1</i> <i>10/04/2014</i> <i>Former kiln and pottery factory. Shot taken facing south east.</i>	
<i>Photograph 2</i> <i>10/04/2014</i> <i>Concrete hardstand located to the north of the kiln on the east side of entrance road.</i>	
<i>Photograph 3</i> <i>10/04/2014</i> <i>Excavation located in the northern portion of the site. Formally part of quarry (now dam) in the south east corner of the site. Stockpiled soils visible on western side of excavation.</i>	

Photograph 4

10/04/2014

Example of soil stockpiles identified at several location across site.



Photograph 5

10/04/2014

North eastern room of pottery factory, concrete flooring.



Photograph 6

10/04/2014

Exposed incineration pit on east side of excavation.



Photograph 7

10/04/2014

Fragments of possible ACM and ceramic and brickwork identified within material comprising incineration pit soils.



Photograph 8

10/04/2014

Storage of ceramic products along northern wall of pottery factory. Shot taken facing Princes Highway.



Photograph 9

10/04/2014

Testpit TP07 location with building debris (i.e. brickwork etc.) visible in centre left of shot.



Photograph 10

10/04/2014

Two of the mulch stockpiles identified at the site. Shot showing eastern site boundary in background.



Photograph 11

10/04/2014

Stockpile of building material (i.e. corrugated iron sheeting and steel framework) from former shed located to the east of the dam. Soil stockpile of unknown origin in right of shot.



**Appendix F: NATA Endorsed Laboratory Certificates and
Chain of Custody Information**

Certificate of Analysis

Tonkin & Taylor P/L
Ground Floor, 95 Coventry St
Southbank
VIC 3006



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: Thomas Madill

Report 414969-S
Client Reference OFFICER 4239
Received Date Apr 10, 2014

Client Sample ID			TP01_0.1	TP02_0.1	TP03_0.1	TP04_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M14-Ap09822	M14-Ap09823	M14-Ap09824	M14-Ap09825
Date Sampled			Apr 10, 2014	Apr 10, 2014	Apr 10, 2014	Apr 10, 2014
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Dibutylchloroendate (surr.)	1	%	85	113	91	91
Tetrachloro-m-xylene (surr.)	1	%	89	109	95	89
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	0.5	< 0.4	0.5
Chromium	5	mg/kg	18	26	24	25
Copper	5	mg/kg	< 5	< 5	< 5	26
Lead	5	mg/kg	19	29	14	15
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	10	mg/kg	< 10	< 10	< 10	< 10
Nickel	5	mg/kg	< 5	< 5	< 5	43
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	5	mg/kg	< 5	< 5	< 5	< 5
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	< 5	< 5	< 5	21

Client Sample ID			TP01_0.1	TP02_0.1	TP03_0.1	TP04_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M14-Ap09822	M14-Ap09823	M14-Ap09824	M14-Ap09825
Date Sampled			Apr 10, 2014	Apr 10, 2014	Apr 10, 2014	Apr 10, 2014
Test/Reference	LOR	Unit				
% Moisture	0.1	%	14	19	16	15

Client Sample ID			TP05_0.1	TP06_0.1	TP07_0.1	TP08_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M14-Ap09826	M14-Ap09827	M14-Ap09828	M14-Ap09829
Date Sampled			Apr 10, 2014	Apr 10, 2014	Apr 10, 2014	Apr 10, 2014
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Dibutylchloredate (surr.)	1	%	139	79	147	107
Tetrachloro-m-xylene (surr.)	1	%	131	80	131	114
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	0.5	0.8	< 0.4	0.7
Chromium	5	mg/kg	28	66	22	36
Copper	5	mg/kg	< 5	5.6	< 5	< 5
Lead	5	mg/kg	30	11	14	39
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	10	mg/kg	< 10	< 10	< 10	< 10
Nickel	5	mg/kg	< 5	12	< 5	< 5
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	5	mg/kg	< 5	< 5	< 5	< 5
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	44	7.1	18	< 5
% Moisture	0.1	%	13	28	16	8.7

Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP09_0.1 Soil M14-Ap09830 Apr 10, 2014	TP10_0.1 Soil M14-Ap09831 Apr 10, 2014	TP11_0.1 Soil M14-Ap09832 Apr 10, 2014	TP12_0.1 Soil M14-Ap09833 Apr 10, 2014
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Dibutylchloroendate (surr.)	1	%	67	58	72	50
Tetrachloro-m-xylene (surr.)	1	%	84	59	80	60
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	1.2	< 0.4
Chromium	5	mg/kg	21	28	19	16
Copper	5	mg/kg	< 5	6.8	14	< 5
Lead	5	mg/kg	12	15	34	20
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	10	mg/kg	< 10	< 10	< 10	< 10
Nickel	5	mg/kg	< 5	6.5	6.0	< 5
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	5	mg/kg	< 5	< 5	< 5	< 5
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	15	13	590	9.5
% Moisture	0.1	%	12	13	13	18

Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP13_0.1 Soil M14-Ap09834 Apr 10, 2014	TP14_0.1 Soil M14-Ap09835 Apr 10, 2014	TP15_0.1 Soil M14-Ap09836 Apr 10, 2014	TP16_0.1 Soil M14-Ap09837 Apr 10, 2014
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Dibutylchloroendate (surr.)	1	%	77	64	95	97
Tetrachloro-m-xylene (surr.)	1	%	92	77	94	97
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	0.7	0.4	< 0.4	< 0.4
Chromium	5	mg/kg	13	34	16	17
Copper	5	mg/kg	< 5	< 5	< 5	< 5
Lead	5	mg/kg	15	20	7.4	19
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	10	mg/kg	< 10	< 10	< 10	< 10
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	5	mg/kg	< 5	< 5	< 5	< 5
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	160	< 5	7.6	16
% Moisture	0.1	%	14	9.9	14	23

Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP17_0.1 Soil M14-Ap09838 Apr 10, 2014	TP18_0.1 Soil M14-Ap09839 Apr 10, 2014	TP19_0.1 Soil M14-Ap09840 Apr 10, 2014	TP20_0.1 Soil M14-Ap09841 Apr 10, 2014
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Dibutylchloroendate (surr.)	1	%	85	52	76	62
Tetrachloro-m-xylene (surr.)	1	%	108	61	81	61
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.1	< 2	34
Cadmium	0.4	mg/kg	0.7	< 0.4	< 0.4	1.1
Chromium	5	mg/kg	19	15	20	21
Copper	5	mg/kg	15	< 5	18	24
Lead	5	mg/kg	44	14	11	23
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	10	mg/kg	< 10	< 10	< 10	< 10
Nickel	5	mg/kg	10	< 5	42	28
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	5	mg/kg	< 5	< 5	< 5	< 5
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	390	14	370	46
% Moisture	0.1	%	24	14	15	21

Client Sample ID			QC1
Sample Matrix			Soil
Eurofins mgt Sample No.			M14-Ap09842
Date Sampled			Apr 10, 2014
Test/Reference	LOR	Unit	
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-BHC	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-BHC	0.05	mg/kg	< 0.05
d-BHC	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-BHC (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	1	mg/kg	< 1
Dibutylchloroendate (surr.)	1	%	141
Tetrachloro-m-xylene (surr.)	1	%	141
Heavy Metals			
Arsenic	2	mg/kg	< 2
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	14
Copper	5	mg/kg	< 5
Lead	5	mg/kg	19
Mercury	0.1	mg/kg	< 0.1
Molybdenum	10	mg/kg	< 10
Nickel	5	mg/kg	< 5
Selenium	2	mg/kg	< 2
Silver	5	mg/kg	< 5
Tin	10	mg/kg	< 10
Zinc	5	mg/kg	9.7
% Moisture	0.1	%	20

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Organochlorine Pesticides	Melbourne	Apr 11, 2014	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
IWRG 621 Metals : Metals M12	Melbourne	Apr 11, 2014	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			
% Moisture	Melbourne	Apr 11, 2014	14 Day
- Method: Method 102 - ANZECC - % Moisture			

Company Name: Tonkin & Taylor P/L
Address: Ground Floor, 95 Coventry St
Southbank
VIC 3006
Client Job No.: OFFICER 4239

Order No.:
Report #: 414969
Phone: 03 9863 8686
Fax: 03 9863 8685

Received: Apr 10, 2014 1:25 PM
Due: Apr 17, 2014
Priority: 5 Day
Contact Name: Thomas Madill

Eurofins | mgt Client Manager: Mary Makarios

Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
TP01_0.1	Apr 10, 2014		Soil	M14-Ap09822	X			X	X	
TP02_0.1	Apr 10, 2014		Soil	M14-Ap09823	X			X	X	
TP03_0.1	Apr 10, 2014		Soil	M14-Ap09824	X			X	X	
TP04_0.1	Apr 10, 2014		Soil	M14-Ap09825	X			X	X	
TP05_0.1	Apr 10, 2014		Soil	M14-Ap09826	X			X	X	
TP06_0.1	Apr 10, 2014		Soil	M14-Ap09827	X			X	X	
TP07_0.1	Apr 10, 2014		Soil	M14-Ap09828	X			X	X	
TP08_0.1	Apr 10, 2014		Soil	M14-Ap09829	X			X	X	
TP09_0.1	Apr 10, 2014		Soil	M14-Ap09830	X			X	X	
TP10_0.1	Apr 10, 2014		Soil	M14-Ap09831	X			X	X	

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Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
TP11_0.1	Apr 10, 2014		Soil	M14-Ap09832	X			X	X	
TP12_0.1	Apr 10, 2014		Soil	M14-Ap09833	X			X	X	
TP13_0.1	Apr 10, 2014		Soil	M14-Ap09834	X			X	X	
TP14_0.1	Apr 10, 2014		Soil	M14-Ap09835	X			X	X	
TP15_0.1	Apr 10, 2014		Soil	M14-Ap09836	X			X	X	
TP16_0.1	Apr 10, 2014		Soil	M14-Ap09837	X			X	X	
TP17_0.1	Apr 10, 2014		Soil	M14-Ap09838	X			X	X	
TP18_0.1	Apr 10, 2014		Soil	M14-Ap09839	X			X	X	
TP19_0.1	Apr 10, 2014		Soil	M14-Ap09840	X			X	X	
TP20_0.1	Apr 10, 2014		Soil	M14-Ap09841	X			X	X	
QC1	Apr 10, 2014		Soil	M14-Ap09842	X			X	X	

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Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
QC2	Apr 10, 2014		Water	M14-Ap09843				X		X
TP01_0.5	Apr 10, 2014		Soil	M14-Ap09844		X				
TP02_0.5	Apr 10, 2014		Soil	M14-Ap09845		X				
TP03_0.5	Apr 10, 2014		Soil	M14-Ap09846		X				
TP04_0.5	Apr 10, 2014		Soil	M14-Ap09847		X				
TP05_0.5	Apr 10, 2014		Soil	M14-Ap09848		X				
TP06_0.5	Apr 10, 2014		Soil	M14-Ap09849		X				
TP07_0.5	Apr 10, 2014		Soil	M14-Ap09850		X				
TP08_0.5	Apr 10, 2014		Soil	M14-Ap09851		X				
TP09_0.5	Apr 10, 2014		Soil	M14-Ap09852		X				
TP10_0.5	Apr 10, 2014		Soil	M14-Ap09853		X				

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Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
TP11_0.5	Apr 10, 2014		Soil	M14-Ap09854		X				
TP12_0.5	Apr 10, 2014		Soil	M14-Ap09855		X				
TP13_0.5	Apr 10, 2014		Soil	M14-Ap09856		X				
TP14_0.5	Apr 10, 2014		Soil	M14-Ap09857		X				
TP15_0.5	Apr 10, 2014		Soil	M14-Ap09858		X				
TP17_0.5	Apr 10, 2014		Soil	M14-Ap09859		X				
TP16_0.5	Apr 10, 2014		Soil	M14-Ap09860		X				
TP18_0.5	Apr 10, 2014		Soil	M14-Ap09861		X				
TP19_0.5	Apr 10, 2014		Soil	M14-Ap09862		X				
TP20_0.5	Apr 10, 2014		Soil	M14-Ap09863		X				
TP20_1.0	Apr 10, 2014		Soil	M14-Ap09864		X				

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Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
QC1A	Apr 10, 2014		Soil	M14-Ap09865		X	X			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. 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 Sample Receipt Acknowledgment.

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.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
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
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

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%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. 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.
2. 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.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. 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.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's 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							
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-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
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-BHC (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	< 1			1	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	
Molybdenum	mg/kg	< 10			10	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 5			5	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4,4'-DDD	%	107			70-130	Pass	
4,4'-DDE	%	113			70-130	Pass	
4,4'-DDT	%	81			70-130	Pass	
a-BHC	%	119			70-130	Pass	
Aldrin	%	113			70-130	Pass	
b-BHC	%	84			70-130	Pass	
d-BHC	%	102			70-130	Pass	
Dieldrin	%	101			70-130	Pass	
Endosulfan I	%	106			70-130	Pass	
Endosulfan II	%	108			70-130	Pass	
Endosulfan sulphate	%	114			70-130	Pass	
Endrin	%	91			70-130	Pass	
Endrin aldehyde	%	112			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone			%	110			70-130	Pass	
g-BHC (Lindane)			%	114			70-130	Pass	
Heptachlor			%	84			70-130	Pass	
Heptachlor epoxide			%	101			70-130	Pass	
Hexachlorobenzene			%	101			70-130	Pass	
Methoxychlor			%	76			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	109			80-120	Pass	
Cadmium			%	108			80-120	Pass	
Chromium			%	118			80-120	Pass	
Copper			%	120			80-120	Pass	
Lead			%	116			80-120	Pass	
Mercury			%	100			75-125	Pass	
Molybdenum			%	115			80-120	Pass	
Nickel			%	114			80-120	Pass	
Selenium			%	111			80-120	Pass	
Silver			%	110			80-120	Pass	
Tin			%	108			80-120	Pass	
Zinc			%	117			80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M14-Ap09822	CP	%	99			70-130	Pass	
4.4'-DDE	M14-Ap09822	CP	%	104			70-130	Pass	
4.4'-DDT	M14-Ap09822	CP	%	82			70-130	Pass	
a-BHC	M14-Ap09822	CP	%	106			70-130	Pass	
Aldrin	M14-Ap09822	CP	%	105			70-130	Pass	
b-BHC	M14-Ap09822	CP	%	127			70-130	Pass	
d-BHC	M14-Ap09822	CP	%	118			70-130	Pass	
Dieldrin	M14-Ap09822	CP	%	94			70-130	Pass	
Endosulfan I	M14-Ap09822	CP	%	98			70-130	Pass	
Endosulfan II	M14-Ap09822	CP	%	95			70-130	Pass	
Endosulfan sulphate	M14-Ap09822	CP	%	96			70-130	Pass	
Endrin	M14-Ap09822	CP	%	78			70-130	Pass	
Endrin aldehyde	M14-Ap09822	CP	%	100			70-130	Pass	
Endrin ketone	M14-Ap09822	CP	%	91			70-130	Pass	
g-BHC (Lindane)	M14-Ap09822	CP	%	102			70-130	Pass	
Heptachlor	M14-Ap09822	CP	%	76			70-130	Pass	
Heptachlor epoxide	M14-Ap09822	CP	%	93			70-130	Pass	
Hexachlorobenzene	M14-Ap09822	CP	%	92			70-130	Pass	
Methoxychlor	M14-Ap09822	CP	%	80			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M14-Ap09822	CP	%	78			75-125	Pass	
Cadmium	M14-Ap09822	CP	%	97			75-125	Pass	
Chromium	M14-Ap09822	CP	%	96			75-125	Pass	
Copper	M14-Ap09822	CP	%	106			75-125	Pass	
Lead	M14-Ap09822	CP	%	84			75-125	Pass	
Mercury	M14-Ap09822	CP	%	86			70-130	Pass	
Molybdenum	M14-Ap09822	CP	%	90			75-125	Pass	
Nickel	M14-Ap09822	CP	%	101			75-125	Pass	
Selenium	M14-Ap09822	CP	%	77			75-125	Pass	
Silver	M14-Ap09822	CP	%	96			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Tin	M14-Ap09822	CP	%	92			75-125	Pass	
Zinc	M14-Ap09822	CP	%	96			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M14-Ap09832	CP	%	109			70-130	Pass	
4.4'-DDE	M14-Ap09832	CP	%	84			70-130	Pass	
4.4'-DDT	M14-Ap09832	CP	%	75			70-130	Pass	
a-BHC	M14-Ap09832	CP	%	110			70-130	Pass	
Aldrin	M14-Ap09832	CP	%	74			70-130	Pass	
b-BHC	M14-Ap09832	CP	%	119			70-130	Pass	
d-BHC	M14-Ap09832	CP	%	91			70-130	Pass	
Dieldrin	M14-Ap09832	CP	%	86			70-130	Pass	
Endosulfan I	M14-Ap09832	CP	%	83			70-130	Pass	
Endosulfan II	M14-Ap09832	CP	%	95			70-130	Pass	
Endosulfan sulphate	M14-Ap09832	CP	%	84			70-130	Pass	
Endrin	M14-Ap09832	CP	%	98			70-130	Pass	
Endrin aldehyde	M14-Ap09832	CP	%	81			70-130	Pass	
Endrin ketone	M14-Ap09832	CP	%	76			70-130	Pass	
g-BHC (Lindane)	M14-Ap09832	CP	%	108			70-130	Pass	
Heptachlor	M14-Ap09832	CP	%	81			70-130	Pass	
Heptachlor epoxide	M14-Ap09832	CP	%	71			70-130	Pass	
Hexachlorobenzene	M14-Ap09832	CP	%	77			70-130	Pass	
Methoxychlor	M14-Ap09832	CP	%	90			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M14-Ap09832	CP	%	91			75-125	Pass	
Cadmium	M14-Ap09832	CP	%	101			75-125	Pass	
Chromium	M14-Ap09832	CP	%	111			75-125	Pass	
Copper	M14-Ap09832	CP	%	110			75-125	Pass	
Lead	M14-Ap09832	CP	%	110			75-125	Pass	
Molybdenum	M14-Ap09832	CP	%	97			75-125	Pass	
Nickel	M14-Ap09832	CP	%	107			75-125	Pass	
Selenium	M14-Ap09832	CP	%	97			75-125	Pass	
Silver	M14-Ap09832	CP	%	100			75-125	Pass	
Tin	M14-Ap09832	CP	%	93			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M14-Ap09842	CP	%	130			70-130	Pass	
4.4'-DDE	M14-Ap09842	CP	%	106			70-130	Pass	
4.4'-DDT	M14-Ap09842	CP	%	84			70-130	Pass	
a-BHC	M14-Ap09842	CP	%	85			70-130	Pass	
Aldrin	M14-Ap09842	CP	%	94			70-130	Pass	
b-BHC	M14-Ap09842	CP	%	126			70-130	Pass	
d-BHC	M14-Ap09842	CP	%	110			70-130	Pass	
Dieldrin	M14-Ap09842	CP	%	101			70-130	Pass	
Endosulfan I	M14-Ap09842	CP	%	103			70-130	Pass	
Endosulfan II	M14-Ap09842	CP	%	101			70-130	Pass	
Endosulfan sulphate	M14-Ap09842	CP	%	97			70-130	Pass	
Endrin	M14-Ap09842	CP	%	97			70-130	Pass	
Endrin aldehyde	M14-Ap09842	CP	%	93			70-130	Pass	
Endrin ketone	M14-Ap09842	CP	%	105			70-130	Pass	
g-BHC (Lindane)	M14-Ap09842	CP	%	87			70-130	Pass	
Heptachlor	M14-Ap09842	CP	%	98			70-130	Pass	
Heptachlor epoxide	M14-Ap09842	CP	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene	M14-Ap09842	CP	%	101			70-130	Pass	
Methoxychlor	M14-Ap09842	CP	%	94			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M14-Ap09842	CP	%	90			75-125	Pass	
Cadmium	M14-Ap09842	CP	%	102			75-125	Pass	
Chromium	M14-Ap09842	CP	%	106			75-125	Pass	
Copper	M14-Ap09842	CP	%	115			75-125	Pass	
Lead	M14-Ap09842	CP	%	97			75-125	Pass	
Mercury	M14-Ap09842	CP	%	85			70-130	Pass	
Molybdenum	M14-Ap09842	CP	%	103			75-125	Pass	
Nickel	M14-Ap09842	CP	%	102			75-125	Pass	
Selenium	M14-Ap09842	CP	%	91			75-125	Pass	
Silver	M14-Ap09842	CP	%	103			75-125	Pass	
Tin	M14-Ap09842	CP	%	92			75-125	Pass	
Zinc	M14-Ap09842	CP	%	98			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M14-Ap09822	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4,4'-DDD	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M14-Ap09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M14-Ap09822	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M14-Ap09822	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M14-Ap09822	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M14-Ap09822	CP	mg/kg	18	18	5.0	30%	Pass	
Copper	M14-Ap09822	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	M14-Ap09822	CP	mg/kg	19	12	45	30%	Fail	Q15
Mercury	M14-Ap09822	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M14-Ap09822	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Nickel	M14-Ap09822	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Selenium	M14-Ap09822	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M14-Ap09822	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Tin	M14-Ap09822	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M14-Ap09822	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	M14-Ap09832	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M14-Ap09832	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	M14-Ap09832	CP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M14-Ap09832	CP	mg/kg	< 2	< 2	<1	30%	Pass
Cadmium	M14-Ap09832	CP	mg/kg	1.2	1.2	<1	30%	Pass
Chromium	M14-Ap09832	CP	mg/kg	19	16	16	30%	Pass
Copper	M14-Ap09832	CP	mg/kg	14	10	30	30%	Pass
Lead	M14-Ap09832	CP	mg/kg	34	37	10	30%	Pass
Molybdenum	M14-Ap09832	CP	mg/kg	< 10	< 10	<1	30%	Pass
Nickel	M14-Ap09832	CP	mg/kg	6.0	5.2	14	30%	Pass
Selenium	M14-Ap09832	CP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	M14-Ap09832	CP	mg/kg	< 5	< 5	<1	30%	Pass
Tin	M14-Ap09832	CP	mg/kg	< 10	< 10	<1	30%	Pass
Zinc	M14-Ap09832	CP	mg/kg	590	560	5.0	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	M14-Ap09842	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Hexachlorobenzene	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M14-Ap09842	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	M14-Ap09842	CP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M14-Ap09842	CP	mg/kg	< 2	< 2	<1	30%	Pass
Cadmium	M14-Ap09842	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M14-Ap09842	CP	mg/kg	14	12	19	30%	Pass
Copper	M14-Ap09842	CP	mg/kg	< 5	< 5	<1	30%	Pass
Lead	M14-Ap09842	CP	mg/kg	19	13	35	30%	Fail
Mercury	M14-Ap09842	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Molybdenum	M14-Ap09842	CP	mg/kg	< 10	< 10	<1	30%	Pass
Nickel	M14-Ap09842	CP	mg/kg	< 5	< 5	<1	30%	Pass
Selenium	M14-Ap09842	CP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	M14-Ap09842	CP	mg/kg	< 5	< 5	<1	30%	Pass
Tin	M14-Ap09842	CP	mg/kg	< 10	< 10	<1	30%	Pass
Zinc	M14-Ap09842	CP	mg/kg	9.7	9.6	1.0	30%	Pass

Q15

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	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
Q15	The RPD reported passes Eurofins mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Mary Makarios	Client Services
Emily Rosenberg	Senior Analyst-Metal (VIC)
Stacey Jenkins	Senior Analyst-Organic (VIC)



Glenn Jackson

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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Certificate of Analysis

Tonkin & Taylor P/L
Ground Floor, 95 Coventry St
Southbank
VIC 3006



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: Thomas Madill

Report 414969-W
Client Reference OFFICER 4239
Received Date Apr 10, 2014

Client Sample ID			QC2
Sample Matrix			Water
Eurofins mgt Sample No.			M14-Ap09843
Date Sampled			Apr 10, 2014
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Chlordanes - Total	0.001	mg/L	< 0.001
4,4'-DDD	0.0001	mg/L	< 0.0001
4,4'-DDE	0.0001	mg/L	< 0.0001
4,4'-DDT	0.0001	mg/L	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001
Endrin	0.0001	mg/L	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001
Toxaphene	0.01	mg/L	< 0.01
Dibutylchloredate (surr.)	1	%	77
Tetrachloro-m-xylene (surr.)	1	%	129
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Molybdenum (filtered)	0.005	mg/L	< 0.005
Nickel (filtered)	0.001	mg/L	< 0.001
Selenium (filtered)	0.001	mg/L	< 0.001
Silver (filtered)	0.005	mg/L	< 0.005
Tin (filtered)	0.005	mg/L	< 0.005
Zinc (filtered)	0.001	mg/L	< 0.001

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Organochlorine Pesticides	Melbourne	Apr 14, 2014	7 Day
- Method: USEPA 8081 Organochlorine Pesticides			
IWRG 621 Metals : Metals M12 filtered	Melbourne	Apr 11, 2014	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			

Company Name: Tonkin & Taylor P/L
Address: Ground Floor, 95 Coventry St
Southbank
VIC 3006
Client Job No.: OFFICER 4239

Order No.:
Report #: 414969
Phone: 03 9863 8686
Fax: 03 9863 8685

Received: Apr 10, 2014 1:25 PM
Due: Apr 17, 2014
Priority: 5 Day
Contact Name: Thomas Madill

Eurofins | mgt Client Manager: Mary Makarios

Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
TP01_0.1	Apr 10, 2014		Soil	M14-Ap09822	X			X	X	
TP02_0.1	Apr 10, 2014		Soil	M14-Ap09823	X			X	X	
TP03_0.1	Apr 10, 2014		Soil	M14-Ap09824	X			X	X	
TP04_0.1	Apr 10, 2014		Soil	M14-Ap09825	X			X	X	
TP05_0.1	Apr 10, 2014		Soil	M14-Ap09826	X			X	X	
TP06_0.1	Apr 10, 2014		Soil	M14-Ap09827	X			X	X	
TP07_0.1	Apr 10, 2014		Soil	M14-Ap09828	X			X	X	
TP08_0.1	Apr 10, 2014		Soil	M14-Ap09829	X			X	X	
TP09_0.1	Apr 10, 2014		Soil	M14-Ap09830	X			X	X	
TP10_0.1	Apr 10, 2014		Soil	M14-Ap09831	X			X	X	

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Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
TP11_0.1	Apr 10, 2014		Soil	M14-Ap09832	X			X	X	
TP12_0.1	Apr 10, 2014		Soil	M14-Ap09833	X			X	X	
TP13_0.1	Apr 10, 2014		Soil	M14-Ap09834	X			X	X	
TP14_0.1	Apr 10, 2014		Soil	M14-Ap09835	X			X	X	
TP15_0.1	Apr 10, 2014		Soil	M14-Ap09836	X			X	X	
TP16_0.1	Apr 10, 2014		Soil	M14-Ap09837	X			X	X	
TP17_0.1	Apr 10, 2014		Soil	M14-Ap09838	X			X	X	
TP18_0.1	Apr 10, 2014		Soil	M14-Ap09839	X			X	X	
TP19_0.1	Apr 10, 2014		Soil	M14-Ap09840	X			X	X	
TP20_0.1	Apr 10, 2014		Soil	M14-Ap09841	X			X	X	
QC1	Apr 10, 2014		Soil	M14-Ap09842	X			X	X	

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Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
QC2	Apr 10, 2014		Water	M14-Ap09843				X		X
TP01_0.5	Apr 10, 2014		Soil	M14-Ap09844		X				
TP02_0.5	Apr 10, 2014		Soil	M14-Ap09845		X				
TP03_0.5	Apr 10, 2014		Soil	M14-Ap09846		X				
TP04_0.5	Apr 10, 2014		Soil	M14-Ap09847		X				
TP05_0.5	Apr 10, 2014		Soil	M14-Ap09848		X				
TP06_0.5	Apr 10, 2014		Soil	M14-Ap09849		X				
TP07_0.5	Apr 10, 2014		Soil	M14-Ap09850		X				
TP08_0.5	Apr 10, 2014		Soil	M14-Ap09851		X				
TP09_0.5	Apr 10, 2014		Soil	M14-Ap09852		X				
TP10_0.5	Apr 10, 2014		Soil	M14-Ap09853		X				

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Southbank
VIC 3006
Client Job No.: OFFICER 4239

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Received: Apr 10, 2014 1:25 PM
Due: Apr 17, 2014
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Contact Name: Thomas Madill

Eurofins | mgt Client Manager: Mary Makarios

Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
TP11_0.5	Apr 10, 2014		Soil	M14-Ap09854		X				
TP12_0.5	Apr 10, 2014		Soil	M14-Ap09855		X				
TP13_0.5	Apr 10, 2014		Soil	M14-Ap09856		X				
TP14_0.5	Apr 10, 2014		Soil	M14-Ap09857		X				
TP15_0.5	Apr 10, 2014		Soil	M14-Ap09858		X				
TP17_0.5	Apr 10, 2014		Soil	M14-Ap09859		X				
TP16_0.5	Apr 10, 2014		Soil	M14-Ap09860		X				
TP18_0.5	Apr 10, 2014		Soil	M14-Ap09861		X				
TP19_0.5	Apr 10, 2014		Soil	M14-Ap09862		X				
TP20_0.5	Apr 10, 2014		Soil	M14-Ap09863		X				
TP20_1.0	Apr 10, 2014		Soil	M14-Ap09864		X				

Company Name: Tonkin & Taylor P/L
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Southbank
VIC 3006
Client Job No.: OFFICER 4239

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Received: Apr 10, 2014 1:25 PM
Due: Apr 17, 2014
Priority: 5 Day
Contact Name: Thomas Madill

Eurofins | mgt Client Manager: Mary Makarios

Sample Detail					% Moisture	HOLD	Reverse HOLD Charge	Organochlorine Pesticides	IWRG 621 Metals : Metals M12	IWRG 621 Metals : Metals M12 filtered
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
QC1A	Apr 10, 2014		Soil	M14-Ap09865		X	X			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. 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 Sample Receipt Acknowledgment.

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.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
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
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

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%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. 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.
2. 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.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. 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.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's 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							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4,4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4,4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4,4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Molybdenum (filtered)	mg/L	< 0.005			0.005	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Selenium (filtered)	mg/L	< 0.001			0.001	Pass	
Silver (filtered)	mg/L	< 0.005			0.005	Pass	
Tin (filtered)	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4,4'-DDD	%	85			70-130	Pass	
4,4'-DDE	%	91			70-130	Pass	
4,4'-DDT	%	124			70-130	Pass	
a-BHC	%	93			70-130	Pass	
Aldrin	%	78			70-130	Pass	
b-BHC	%	114			70-130	Pass	
d-BHC	%	108			70-130	Pass	
Dieldrin	%	93			70-130	Pass	
Endosulfan I	%	89			70-130	Pass	
Endosulfan II	%	91			70-130	Pass	
Endosulfan sulphate	%	103			70-130	Pass	
Endrin	%	100			70-130	Pass	
Endrin aldehyde	%	84			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone			%	92			70-130	Pass	
g-BHC (Lindane)			%	95			70-130	Pass	
Heptachlor			%	100			70-130	Pass	
Heptachlor epoxide			%	93			70-130	Pass	
Hexachlorobenzene			%	89			70-130	Pass	
Methoxychlor			%	127			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic (filtered)			%	94			80-120	Pass	
Cadmium (filtered)			%	96			80-120	Pass	
Chromium (filtered)			%	88			80-120	Pass	
Copper (filtered)			%	86			80-120	Pass	
Lead (filtered)			%	93			80-120	Pass	
Molybdenum (filtered)			%	88			80-120	Pass	
Nickel (filtered)			%	98			80-120	Pass	
Selenium (filtered)			%	93			80-120	Pass	
Silver (filtered)			%	85			80-120	Pass	
Tin (filtered)			%	95			80-120	Pass	
Zinc (filtered)			%	97			80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M14-Ap07669	NCP	%	97			70-130	Pass	
4.4'-DDE	M14-Ap07669	NCP	%	108			70-130	Pass	
4.4'-DDT	M14-Ap06972	NCP	%	83			70-130	Pass	
a-BHC	M14-Ap07669	NCP	%	104			70-130	Pass	
Aldrin	M14-Ap07669	NCP	%	103			70-130	Pass	
b-BHC	M14-Ap07669	NCP	%	107			70-130	Pass	
d-BHC	M14-Ap07669	NCP	%	120			70-130	Pass	
Dieldrin	M14-Ap07669	NCP	%	104			70-130	Pass	
Endosulfan I	M14-Ap07669	NCP	%	106			70-130	Pass	
Endosulfan II	M14-Ap07669	NCP	%	120			70-130	Pass	
Endosulfan sulphate	M14-Ap07669	NCP	%	124			70-130	Pass	
Endrin	M14-Ap07669	NCP	%	98			70-130	Pass	
Endrin aldehyde	M14-Ap07669	NCP	%	83			70-130	Pass	
Endrin ketone	M14-Ap07669	NCP	%	119			70-130	Pass	
g-BHC (Lindane)	M14-Ap07669	NCP	%	106			70-130	Pass	
Heptachlor	M14-Ap07669	NCP	%	86			70-130	Pass	
Heptachlor epoxide	M14-Ap07669	NCP	%	106			70-130	Pass	
Hexachlorobenzene	M14-Ap07669	NCP	%	105			70-130	Pass	
Methoxychlor	M14-Ap07669	NCP	%	103			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M14-Ap10381	NCP	%	89			70-130	Pass	
Cadmium (filtered)	M14-Ap10381	NCP	%	89			70-130	Pass	
Chromium (filtered)	M14-Ap10381	NCP	%	80			70-130	Pass	
Copper (filtered)	M14-Ap10381	NCP	%	82			70-130	Pass	
Lead (filtered)	M14-Ap10381	NCP	%	88			70-130	Pass	
Molybdenum (filtered)	M14-Ap10381	NCP	%	81			75-125	Pass	
Nickel (filtered)	M14-Ap10381	NCP	%	92			70-130	Pass	
Selenium (filtered)	M14-Ap10381	NCP	%	89			70-130	Pass	
Silver (filtered)	M14-Ap10381	NCP	%	76			75-125	Pass	
Tin (filtered)	M14-Ap10381	NCP	%	93			75-125	Pass	
Zinc (filtered)	M14-Ap10381	NCP	%	94			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M14-Ap09843	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4,4'-DDD	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4,4'-DDE	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4,4'-DDT	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
a-BHC	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Aldrin	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
b-BHC	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
d-BHC	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Dieldrin	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan I	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan II	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan sulphate	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin aldehyde	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin ketone	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
g-BHC (Lindane)	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor epoxide	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Hexachlorobenzene	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Methoxychlor	M14-Ap09843	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Toxaphene	M14-Ap09843	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M14-Ap10381	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M14-Ap10381	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M14-Ap10381	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M14-Ap10381	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M14-Ap10381	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Molybdenum (filtered)	M14-Ap10381	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nickel (filtered)	M14-Ap10381	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Selenium (filtered)	M14-Ap10381	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Silver (filtered)	M14-Ap10381	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Tin (filtered)	M14-Ap10381	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Zinc (filtered)	M14-Ap10381	NCP	mg/L	0.0023	< 0.005	1.4	30%	Pass	

Comments

Sample Integrity

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

Authorised By

Mary Makarios	Client Services
Emily Rosenberg	Senior Analyst-Metal (VIC)
Stacey Jenkins	Senior Analyst-Organic (VIC)



Glenn Jackson

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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Tonkin & Taylor

32 Fiveways Boulevard, Keysborough, Victoria 3173

Ph: 61-3-8796 7900 Fax: 61-3-8796 7944

Level 4, 111 Coventry Street, Southbank, Victoria 3006

Ph: 61-3-9863 8686 Fax: 61-3-9863 8685

Chain of Custody (COC)

Sheet

1 of 3

Serial No. 1887

Laboratory: EUROFIN MGT		Address: DARLEIGH		Analysis Required:													
Project Name: OFFICER		Project Manager: TOM MADILL															
Samplers Name: PO BAPAT		Job Number: 4239															
Comment/Instructions:																	
Container Type & Preservation Codes: I-Ice, P-Plastic, G-Glass, V-Vial, N-Nitric Acid Preserved, C-Hydrochloric Acid Preserved, S-Sulphuric Acid Preserved																	
Sample ID	Sample Date	Time	Sample Matrix (e.g soil, water etc)	Container/Preservative Type (e.g. glass, vial etc)	Notes												
TP01-0.1	10/4/14		SOIL	1G	✓												
-0.5					✓												
TP02-0.1					✓												
-0.5					✓												
TP03-0.1					✓												
-0.5					✓												
TP04-0.1					✓												
-0.5					✓												
TP05-0.1					✓												
-0.5					✓												
TP06-0.1					✓												
-0.5					✓												
TP07-0.1					✓												
-0.5					✓												
TP08-0.1					✓												
-0.5					✓												
TP09-0.1					✓												
TP09-0.5					✓												
TP10-0.1					✓												
Results Requested Within:		24hrs	48hrs	5 days	Total:												
Relinquished By: PO BAPAT		Received By: Catherine		Relinquished By:				Received By:									
Signature: [Signature]	Date: 10/4/14	Signature: [Signature]	Date: 10/4	Signature:	Date:	Signature:	Date:	Signature:	Date:	Signature:	Date:	Signature:	Date:				
Company: T&T	Time: 1400	Company: EF/mgt	Time: 1.30PM	Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:				



Ph: 61-3-9863 8686 Fax: 61-3-9863 8685

Serial No. **1888**

Laboratory: EUROFIN MGT		Address: DAKLEIGH		Analysis Required:												
Project Name: OFFICER		Project Manager: TOM MADILL														
Samplers Name: PO BARAT		Job Number: 4239														
Comment/Instructions:																
Container Type & Preservation Codes: I-Ice, P-Plastic, G-Glass, V-Vial, N-Nitric Acid Preserved, C-Hydrochloric Acid Preserved, S-Sulphuric Acid Preserved																
Sample ID	Sample Date	Time	Sample Matrix (e.g soil, water etc)	Container/Preservative Type (e.g. glass, vial etc)	Notes											
TP10-0.5	10/4/14		SOIL	IG												
TP11-0.1																
TP12-0.1																
TP13-0.1																
TP13-0.5																
TP14-0.1																
TP15-0.1																
TP16-0.1																
TP17-0.1																
TP18-0.1																
TP19-0.1																
Results Requested Within: 24hrs 48hrs 5 days																
Relinquished By: PO BARAT					Received By:											
Signature:					Signature:											
Date:					Date:											
Company:					Company:											
Time:					Time:											



32 Fiveways Boulevard, Keysborough, Victoria 3173

Ph: 61-3-8796 7900 Fax: 61-3-8796 7944

Level 4, 111 Coventry Street, Southbank, Victoria 3006

Ph: 61-3-9863 8686 Fax: 61-3-9863 8685

Chain of Custody (COC)

Sheet 3 of 3

Serial No. 1889

Laboratory: <u>EUROFIN MGT</u>		Address: <u>DAKLEIGH</u>		Analysis Required:																								
Project Name: <u>OFFICER</u>		Project Manager: <u>TOM MADILL</u>																										
Samplers Name: <u>PO SAPAT</u>		Job Number: <u>4239</u>																										
Comment/Instructions:																												
Container Type & Preservation Codes: I-Ice, P-Plastic, G-Glass, V-Vial, N-Nitric Acid Preserved, C-Hydrochloric Acid Preserved, S-Sulphuric Acid Preserved																												
Sample ID	Sample Date	Time	Sample Matrix (e.g soil, water etc)													Container/Preservative Type (e.g. glass, vial etc)	Notes											
<u>TP20-01</u> <u>-05</u>	<u>10/4/17</u>		<u>SOIL</u>													<u>IG</u>												
<u>QC1</u>																												
<u>QC2</u>			<u>WATER</u>	<u>IG, IP</u>																								
EXTRA SAMPLES																												
<u>TP20-1.0</u>																												
<u>QC1A</u>																												
Results Requested Within: 24hrs 48hrs <u>5 days</u>				Total:																								
Relinquished By: <u>PO SAPAT</u>		Received By:		Relinquished By:				Received By:																				
Signature:		Date:		Signature:		Date:		Signature:		Date:		Signature:		Date:														
Company:		Time:		Company:		Time:		Company:		Time:		Company:		Time:														

Certificate of Analysis

Tonkin & Taylor P/L
Ground Floor, 95 Coventry St
Southbank
VIC 3006



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: **Priyadarshan Bapat**

Report **415879-S**
Client Reference OFFICER 4239
Received Date Apr 22, 2014

Client Sample ID			TP11-0.1	TP20-0.1
Sample Matrix			Soil	Soil
Eurofins mgt Sample No.			M14-Ap17529	M14-Ap17530
Date Sampled			Apr 10, 2014	Apr 10, 2014
Test/Reference	LOR	Unit		
Atrazine	0.2	mg/kg	< 0.2	< 0.2
Bifenthrin*	2	mg/kg	< 2	< 2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2
Chromium (hexavalent)	1	mg/kg	< 1	< 1
Cyanide (free)	5	mg/kg	< 5	< 5
pH (1:5 Aqueous extract)	0.1	units	6.2	7.1
% Moisture	0.1	%	17	18
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (lower bound)*	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound)*	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound)*	0.5	mg/kg	1.2	1.2
2-Fluorobiphenyl (surr.)	1	%	87	104
p-Terphenyl-d14 (surr.)	1	%	85	97
Polychlorinated Biphenyls				
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1

Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP11-0.1 Soil M14-Ap17529 Apr 10, 2014	TP20-0.1 Soil M14-Ap17530 Apr 10, 2014
Polychlorinated Biphenyls				
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1
Total PCB	0.1	mg/kg	< 0.1	< 0.1
Dibutylchloredate (surr.)	1	%	136	120
Tetrachloro-m-xylene (surr.)	1	%	135	145
NEPM 2013 Acid Herbicides				
Picloram	0.01	mg/kg	< 0.01	< 0.01
2,4-D	0.5	mg/kg	< 0.5	< 0.5
2,4,5-T	0.5	mg/kg	< 0.5	< 0.5
MCPA	0.5	mg/kg	< 0.5	< 0.5
MCPB	0.5	mg/kg	< 0.5	< 0.5
Mecoprop	0.5	mg/kg	< 0.5	< 0.5
Warfarin (surr.)	1	%	94	93
NEPM 2013 Organochlorine Pesticides				
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Mirex	0.01	mg/kg	< 0.01	< 0.01
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1
Dibutylchloredate (surr.)	1	%	136	120
Tetrachloro-m-xylene (surr.)	1	%	135	145
NEPM 2013 Phenols				
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4
Pentachlorophenol	1.0	mg/kg	< 1	< 1
Phenol	0.5	mg/kg	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	97	118
Ion Exchange Properties				
Cation Exchange Capacity	0.05	meq/100g	28	22
Heavy Metals				
Arsenic	2	mg/kg	< 2	34
Beryllium	2	mg/kg	< 2	< 2
Boron	10	mg/kg	< 10	< 10
Cadmium	0.4	mg/kg	1.3	1.3
Cobalt	5	mg/kg	< 5	7.9
Copper	5	mg/kg	14	24
Lead	5	mg/kg	30	20
Manganese	5	mg/kg	100	120
Mercury	0.1	mg/kg	< 0.1	< 0.1

Client Sample ID			TP11-0.1	TP20-0.1
Sample Matrix			Soil	Soil
Eurofins mgt Sample No.			M14-Ap17529	M14-Ap17530
Date Sampled			Apr 10, 2014	Apr 10, 2014
Test/Reference	LOR	Unit		
Heavy Metals				
Nickel	5	mg/kg	5.8	27
Selenium	2	mg/kg	< 2	< 2
Zinc	5	mg/kg	590	36

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding Methyl Mercury/PBDE			
Atrazine - Method: LM-LTM-ORG-2900	Melbourne	Apr 23, 2014	14 Day
Bifenthrin* - Method: MGT Method 120 - Pyrethroids by HPLC	Melbourne	Apr 23, 2014	14 Day
Chlorpyrifos - Method: USEPA 8141A Organophosphorus Pesticides	Melbourne	Apr 23, 2014	14 Day
Chromium (hexavalent) - Method: APHA 3500-Cr Hexavalent Chromium- (Extraction:- USEPA3060)	Melbourne	Apr 23, 2014	28 Day
Polycyclic Aromatic Hydrocarbons - Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons	Melbourne	Apr 23, 2014	14 Day
Polychlorinated Biphenyls - Method: USEPA 8082 Polychlorinated Biphenyls	Melbourne	Apr 23, 2014	28 Day
NEPM 2013 Acid Herbicides - Method: MGT 530	Melbourne	Apr 23, 2014	14 Day
NEPM 2013 Organochlorine Pesticides - Method: USEPA 8081 Organochlorine Pesticides	Melbourne	Apr 23, 2014	14 Day
NEPM 2013 Phenols - Method: USEPA 8270 Phenols	Melbourne	Apr 23, 2014	14 Day
NEPM 2013 Metals : Metals M12 - Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury	Melbourne	Apr 23, 2014	28 Day
pH (1:5 Aqueous extract) - Method: LM-LTM-INO-4000	Melbourne	Apr 23, 2014	7 Day
% Moisture - Method: Method 102 - ANZECC - % Moisture	Melbourne	Apr 23, 2014	14 Day
Ion Exchange Properties	Melbourne	Apr 23, 2014	

Company Name: Tonkin & Taylor P/L
Address: Ground Floor, 95 Coventry St
Southbank
VIC 3006
Client Job No.: OFFICER 4239

Order No.:
Report #: 415879
Phone: 03 9863 8686
Fax: 03 9863 8685

Received: Apr 22, 2014 1:26 PM
Due: Apr 30, 2014
Priority: 5 Day
Contact Name: Priyadarshan Bapat

Eurofins | mgt Client Manager: Mary Makarios

Sample Detail					% Moisture	Cation Exchange Capacity	pH (1:5 Aqueous extract)	NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
TP11-0.1	Apr 10, 2014		Soil	M14-Ap17529	X	X	X	X
TP20-0.1	Apr 10, 2014		Soil	M14-Ap17530	X	X	X	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. 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 Sample Receipt Acknowledgment.

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.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
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
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

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%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. 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.
2. 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.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. 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.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's 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							
Atrazine	mg/kg	< 0.2			0.2	Pass	
Bifenthrin*	mg/kg	< 2			2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chromium (hexavalent)	mg/kg	< 1			1	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							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB	mg/kg	< 0.1			0.1	Pass	
Method Blank							
NEPM 2013 Acid Herbicides							
Picloram	mg/kg	< 0.01			0.01	Pass	
2,4-D	mg/kg	< 0.5			0.5	Pass	
2,4,5-T	mg/kg	< 0.5			0.5	Pass	
MCPA	mg/kg	< 0.5			0.5	Pass	
MCPB	mg/kg	< 0.5			0.5	Pass	
Mecoprop	mg/kg	< 0.5			0.5	Pass	
Method Blank							
NEPM 2013 Organochlorine Pesticides							
Endosulfan sulphate	mg/kg	< 0.05			0.05	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	
Aldrin	mg/kg	< 0.05			0.05	Pass	
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	mg/kg	< 0.05			0.05	Pass	
Heptachlor	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	< 1			1	Pass	
Method Blank							
NEPM 2013 Phenols							
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
Pentachlorophenol	mg/kg	< 1			1.0	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Ion Exchange Properties							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	87			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	91			70-130	Pass	
Benz(a)anthracene	%	90			70-130	Pass	
Benzo(a)pyrene	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g,h,i)perylene	%	92			70-130	Pass	
Benzo(k)fluoranthene	%	83			70-130	Pass	
Chrysene	%	83			70-130	Pass	
Dibenz(a,h)anthracene	%	103			70-130	Pass	
Fluoranthene	%	85			70-130	Pass	
Fluorene	%	91			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	102			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	90			70-130	Pass	
Pyrene	%	84			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	122			70-130	Pass	
LCS - % Recovery							
NEPM 2013 Acid Herbicides							
Picloram	%	80			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2,4-D			%	93			70-130	Pass	
2,4,5-T			%	91			70-130	Pass	
MCPA			%	93			70-130	Pass	
MCPB			%	83			70-130	Pass	
Mecoprop			%	95			70-130	Pass	
LCS - % Recovery									
NEPM 2013 Organochlorine Pesticides									
Endosulfan sulphate			%	108			70-130	Pass	
4,4'-DDD			%	128			70-130	Pass	
4,4'-DDE			%	116			70-130	Pass	
4,4'-DDT			%	83			70-130	Pass	
Aldrin			%	110			70-130	Pass	
Dieldrin			%	112			70-130	Pass	
Endosulfan I			%	103			70-130	Pass	
Endosulfan II			%	103			70-130	Pass	
Endrin			%	106			70-130	Pass	
Heptachlor			%	102			70-130	Pass	
Hexachlorobenzene			%	100			70-130	Pass	
Methoxychlor			%	84			70-130	Pass	
LCS - % Recovery									
NEPM 2013 Phenols									
2-Methylphenol (o-Cresol)			%	83			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)			%	79			30-130	Pass	
Pentachlorophenol			%	43			30-130	Pass	
Phenol			%	85			30-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	103			80-120	Pass	
Beryllium			%	109			80-120	Pass	
Boron			%	107			80-120	Pass	
Cadmium			%	112			80-120	Pass	
Cobalt			%	119			80-120	Pass	
Copper			%	116			80-120	Pass	
Lead			%	113			80-120	Pass	
Manganese			%	104			80-120	Pass	
Mercury			%	94			75-125	Pass	
Nickel			%	111			80-120	Pass	
Selenium			%	104			80-120	Pass	
Zinc			%	111			80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M14-Ap17478	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M14-Ap16778	NCP	%	92			70-130	Pass	
Acenaphthylene	M14-Ap16778	NCP	%	95			70-130	Pass	
Anthracene	M14-Ap16778	NCP	%	91			70-130	Pass	
Benz(a)anthracene	M14-Ap16778	NCP	%	93			70-130	Pass	
Benzo(a)pyrene	M14-Ap16778	NCP	%	100			70-130	Pass	
Benzo(b&j)fluoranthene	M14-Ap16778	NCP	%	97			70-130	Pass	
Benzo(g,h,i)perylene	M14-Ap16778	NCP	%	97			70-130	Pass	
Benzo(k)fluoranthene	M14-Ap16778	NCP	%	93			70-130	Pass	
Chrysene	M14-Ap16778	NCP	%	86			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenz(a,h)anthracene	M14-Ap16778	NCP	%	108			70-130	Pass	
Fluoranthene	M14-Ap16778	NCP	%	87			70-130	Pass	
Fluorene	M14-Ap16778	NCP	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M14-Ap16778	NCP	%	106			70-130	Pass	
Naphthalene	M14-Ap16778	NCP	%	90			70-130	Pass	
Phenanthrene	M14-Ap16778	NCP	%	93			70-130	Pass	
Pyrene	M14-Ap16778	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M14-Ap17026	NCP	%	119			70-130	Pass	
Spike - % Recovery									
NEPM 2013 Acid Herbicides				Result 1					
Picloram	M14-Ap15827	NCP	%	76			70-130	Pass	
2,4-D	M14-Ap15827	NCP	%	86			70-130	Pass	
MCPA	M14-Ap15827	NCP	%	86			70-130	Pass	
MCPB	M14-Ap15827	NCP	%	73			70-130	Pass	
Spike - % Recovery									
NEPM 2013 Organochlorine Pesticides				Result 1					
Endosulfan sulphate	M14-Ap17422	NCP	%	93			70-130	Pass	
4,4'-DDD	M14-Ap17422	NCP	%	119			70-130	Pass	
4,4'-DDE	M14-Ap17422	NCP	%	100			70-130	Pass	
4,4'-DDT	M14-Ap17422	NCP	%	95			70-130	Pass	
Aldrin	M14-Ap17422	NCP	%	94			70-130	Pass	
Dieldrin	M14-Ap17422	NCP	%	100			70-130	Pass	
Endosulfan I	M14-Ap17422	NCP	%	87			70-130	Pass	
Endosulfan II	M14-Ap17422	NCP	%	94			70-130	Pass	
Endrin	M14-Ap17422	NCP	%	103			70-130	Pass	
Heptachlor	M14-Ap17422	NCP	%	95			70-130	Pass	
Hexachlorobenzene	M14-Ap17422	NCP	%	89			70-130	Pass	
Methoxychlor	M14-Ap17422	NCP	%	98			70-130	Pass	
Spike - % Recovery									
NEPM 2013 Phenols				Result 1					
2-Methylphenol (o-Cresol)	M14-Ap16778	NCP	%	92			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M14-Ap16778	NCP	%	87			30-130	Pass	
Pentachlorophenol	M14-Ap16778	NCP	%	68			30-130	Pass	
Phenol	M14-Ap16778	NCP	%	95			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M14-Ap17746	NCP	%	83			75-125	Pass	
Beryllium	M14-Ap17746	NCP	%	80			75-125	Pass	
Boron	M14-Ap16641	NCP	%	78			75-125	Pass	
Cadmium	M14-Ap17746	NCP	%	91			75-125	Pass	
Cobalt	M14-Ap17746	NCP	%	79			75-125	Pass	
Copper	M14-Ap17706	NCP	%	104			75-125	Pass	
Lead	M14-Ap17706	NCP	%	75			75-125	Pass	
Manganese	M14-Ap16546	NCP	%	94			75-125	Pass	
Mercury	M14-Ap17746	NCP	%	93			70-130	Pass	
Nickel	M14-Ap17736	NCP	%	106			75-125	Pass	
Selenium	M14-Ap17746	NCP	%	86			75-125	Pass	
Zinc	M14-Ap17875	NCP	%	75			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Atrazine	M14-Ap17529	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bifenthrin*	M14-Ap16771	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Chlorpyrifos	M14-Ap17529	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chromium (hexavalent)	M14-Ap17117	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g,h,i)perylene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a,h)anthracene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
NEPM 2013 Acid Herbicides				Result 1	Result 2	RPD			
Picloram	M14-Ap15827	NCP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2,4-D	M14-Ap15827	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2,4,5-T	M14-Ap15827	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
MCPA	M14-Ap15827	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
MCPB	M14-Ap15827	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Mecoprop	M14-Ap15827	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
NEPM 2013 Organochlorine Pesticides				Result 1	Result 2	RPD			
Endosulfan sulphate	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDD	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Chlordanes - Total	M14-Ap17422	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Dieldrin	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate								
NEPM 2013 Organochlorine Pesticides				Result 1	Result 2	RPD		
Heptachlor	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M14-Ap17422	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	M14-Ap17422	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
NEPM 2013 Phenols				Result 1	Result 2	RPD		
2-Methylphenol (o-Cresol)	M14-Ap16778	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	M14-Ap16778	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Pentachlorophenol	M14-Ap16778	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Phenol	M14-Ap16778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M14-Ap17746	NCP	mg/kg	4.4	3.9	11	30%	Pass
Beryllium	M14-Ap17746	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Boron	M14-Ap16641	NCP	mg/kg	< 10	< 10	<1	30%	Pass
Cadmium	M14-Ap17746	NCP	mg/kg	0.70	0.70	4.0	30%	Pass
Cobalt	M14-Ap17746	NCP	mg/kg	9.1	7.7	16	30%	Pass
Copper	M14-Ap17706	NCP	mg/kg	15	14	10	30%	Pass
Lead	M14-Ap17746	NCP	mg/kg	210	170	25	30%	Pass
Manganese	M14-Ap18304	NCP	mg/kg	93	110	15	30%	Pass
Mercury	M14-Ap17746	NCP	mg/kg	0.30	0.30	16	30%	Pass
Nickel	M14-Ap17746	NCP	mg/kg	19	16	16	30%	Pass
Selenium	M14-Ap17746	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Zinc	M14-Ap15960	NCP	mg/kg	620	600	2.0	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	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
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

Authorised By

Mary Makarios	Client Services
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)
Stacey Jenkins	Senior Analyst-Organic (VIC)



Glenn Jackson

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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EnviroSampleVIC

From: Sarah Gould
Sent: Tuesday, 22 April 2014 1:27 PM
To: EnviroSampleVIC
Subject: FW: Eurofins | mgt Test Results - Report 414969 : Site OFFICER 4239

Follow Up Flag: Follow up
Flag Status: Completed

Sarah Gould
Phone : +61 3 8564 5053
Email : SarahGould@eurofins.com.au

Tony W.
22/4/14 1:26pm.
Report: 415879.


For details regarding Sample Receipt arrangements preceding Easter— [click here](#)

From: Priyadarshan PD Bapat [<mailto:PBapat@tonkintaylor.com.au>]
Sent: Tuesday, 22 April 2014 1:26 PM
To: Sarah Gould
Subject: RE: Eurofins | mgt Test Results - Report 414969 : Site OFFICER 4239

Sarah,

We require the NEPM 'R20' suite and pH and CEC for both samples. Please send us the SRN when it is processed. Also, please confirm that the invoice can be managed as I discussed in the email earlier.

Thanx....

Regards,

Priyadarshan (PD) Bapat

Environmental Engineer ME
DDI: +61 3 9863 8691 | Direct: +61 3 9863 8686 | Mob: +61 419 556 563
Email: pbapat@tonkintaylor.com.au | Website: www.tonkintaylor.com.au

Tonkin & Taylor Pty Ltd - Environmental & Engineering Consultants
Kings Technology Park, Ground Floor, 95 Coventry Street, Southbank 3006, Australia
PO Box 5305, South Melbourne, VIC 3205, Australia



From: Sarah Gould [<mailto:SarahGould@eurofins.com.au>]
Sent: Tuesday, 22 April 2014 12:48 p.m.
To: Priyadarshan PD Bapat
Subject: RE: Eurofins | mgt Test Results - Report 414969 : Site OFFICER 4239

Hi PD,

Can you please confirm which NEPM screen you require:

R9 NEPM HIL Screen: 1999 B(1)HIL Table 5A - SOIL - Superseded Suite by NEPM 2013 refer below
TRH/Phenols/PAH/OCF/PCB/Metals (As, Ba, Be, B, Cd, Co, Cr, Cu, Mn, Hg, Ni, Pb, V, Zn)/Cr3+/Cr6+/CN/CN Free/Total Sulphur/
Sulphate (1:5ratio)/Total Phosphorous

R19 NEPM Screen Table 1(A) HIL's for Soil Contaminants - Comprehensive Suite
PAHs(as BaP TEQ)/Total PAHs /Phenol/Pentachlorophenol/ 2-Methylphenol(o-cresol)/3&4-Methylphenol(m+p-cresol)/
OCF(DDT,DDE,DDD,Aldrin,Dieldrin, Chlordane,Endosulfan,Endrin,Heptachlor,HCB,Methoxychlor,Mirex,Toxaphene)/
Acid Herbicides(2,4,5-T,2,4-D,MCPA,MCPB, Mecoprop,Picloram)/Atrazine/Chlorpyrifos/Bifenthrin/PCBs/Metals (As, Be, B, Cd, Co, Cr,
Cu, Pb, Hg, Mn, Ni, Se, Zn)/Cr6+/Hg(Inorganic),Methyl Hg/CN Free/PBDE Flame Retardants(Br1-Br9)

R20 NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding Methyl Mercury/PBDE
PAHs(as BaP TEQ)/Total PAHs/Phenol/Pentachlorophenol/ 2-Methylphenol(o-cresol)/3&4-Methylphenol(m+p-cresol)/
OCF(DDT,DDE,DDD,Aldrin,Dieldrin, Chlordane,Endosulfan,Endrin,Heptachlor,HCB,Methoxychlor,Mirex,Toxaphene)/
Acid Herbicides(2,4,5-T,2,4-D,MCPA,MCPB, Mecoprop,Picloram)/Atrazine/Chlorpyrifos/Bifenthrin/PCBs/Metals (As, Be, B, Cd, Co, Cr,
Cu, Pb, Hg, Mn, Ni, Se, Zn)/Cr6+/CN Free

Thank you.

Regards,
Sarah

Sarah Gould
Phone : +61 3 8564 5053
Email : SarahGould@eurofins.com.au

For details regarding Sample Receipt arrangements preceding Easter— [click here](#)

-----Original Message-----

From: Priyadarshan PD Bapat [<mailto:PBapat@tonkintaylor.com.au>]

Sent: Thursday, 17 April 2014 2:07 PM

To: Sarah Gould

Subject: RE: Eurofins | mgt Test Results - Report 414969 : Site OFFICER 4239

Hi Sarah,

We would like add addition analysis for 2 samples TP11-0.1 and TP20-0.1. The analysis was supposed to be full NEPM screen, instead I mistook it for only OCP and Metals. So, for the analysis now, can we get NEPM minus (OCP and 12 Metals)?

I was wondering, if for the invoice, we get charged for 2xreporting cost, 19 samples for OCP and Metals and 2 samples for NEPM screen? I would appreciate if that can be done instead of an individual analysis charge.

Please contact me with the invoice enquiry.

Thanx....

Regards,

Priyadarshan (PD) Bapat

Environmental Engineer ME

DDI: +61 3 9863 8691 | Direct: +61 3 9863 8686 | Mob: + 61 419 556 563

Email: pbapat@tonkintaylor.com.au | Website: www.tonkintaylor.com.au

Tonkin & Taylor Pty Ltd - Environmental & Engineering Consultants Kings Technology Park, Ground Floor, 95
Coventry Street, Southbank 3006, Australia PO Box 5305, South Melbourne, VIC 3205, Australia

Certificate of Analysis

Tonkin & Taylor P/L
Ground Floor, 95 Coventry St
Southbank
VIC 3006



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: **Thomas Madill**

Report **415887-W**
Client Reference OFFICER 4259
Received Date Apr 22, 2014

Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled Test/Reference	LOR	Unit	MW3 Water M14-Ap17555 Apr 22, 2014	QC2 Water M14-Ap17556 Apr 22, 2014
Chloride	1	mg/L	900	< 1
pH	0.1	units	6.7	7.3
Sulphate (as S)	5	mg/L	55	< 5
Total Dissolved Solids	10	mg/L	1900	< 10

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Chloride	Melbourne	Apr 22, 2014	28 Day
- Method: MGT 1100A			
pH	Melbourne	Apr 23, 2014	0 Hours
- Method: APHA 4500 pH by Direct Measurement - ** Samples analysed outside holding time. Analysis should be performed in situ. Results for reference only.			
Sulphate (as S)	Melbourne	Apr 22, 2014	28 Day
- Method: In house MGT1110A (SO4 by Discrete Analyser)			
Total Dissolved Solids	Melbourne	Apr 22, 2014	7 Day
- Method: APHA 2540C Total Dissolved Solids			

Company Name: Tonkin & Taylor P/L
Address: Ground Floor, 95 Coventry St
Southbank
VIC 3006
Client Job No.: OFFICER 4259

Order No.:
Report #: 415887
Phone: 03 9863 8686
Fax: 03 9863 8685

Received: Apr 22, 2014 12:19 PM
Due: Apr 30, 2014
Priority: 5 Day
Contact Name: Thomas Madill

Eurofins | mgt Client Manager: Mary Makarios

Sample Detail					Chloride	pH	Sulphate (as S)	Total Dissolved Solids
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
MW3	Apr 22, 2014		Water	M14-Ap17555	X	X	X	X
QC2	Apr 22, 2014		Water	M14-Ap17556	X	X	X	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. 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 Sample Receipt Acknowledgment.

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.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
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
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

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%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. 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.
2. 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.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. 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.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's 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										
Chloride				mg/L	< 1			1	Pass	
Sulphate (as S)				mg/L	< 5			5	Pass	
Total Dissolved Solids				mg/L	< 10			10	Pass	
LCS - % Recovery										
Chloride				%	104			70-130	Pass	
Sulphate (as S)				%	112			70-130	Pass	
Test	Lab Sample ID	QA Source		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
					Result 1					
Chloride	M14-Ap16171	NCP		%	120			70-130	Pass	
Sulphate (as S)	M14-Ap15210	NCP		%	112			70-130	Pass	
Test	Lab Sample ID	QA Source		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate										
					Result 1	Result 2	RPD			
Chloride	M14-Ap16171	NCP		mg/L	3800	3900	<1	30%	Pass	
Sulphate (as S)	M14-Ap16171	NCP		mg/L	140	140	1.2	30%	Pass	
Total Dissolved Solids	M14-Ap16108	NCP		mg/L	4500	4800	5.0	30%	Pass	

Comments

Sample Integrity

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

Authorised By

Mary Makarios	Client Services
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson

Laboratory Manager

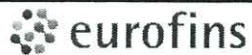
Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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mgt

☐ Sydney

Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400
Email: enviro.syd@mgtlabmark.com.au

☐ Brisbane

Unit 1-21 Smallwood Place, Murrarie
Phone: +617 3902 4600
Email: enviro.bris@mgtlabmark.com.au

☐ Melbourne

2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: enquiries.melb@mgtlabmark.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Page 1 of 1

Company Name: TONKIN & TAYLOR	Contact Name: PO BAPAR	Purchase Order:	COC Number:
Office Address: GR-FLOOR	Project Manager: TOM MADILL	PROJECT Number: 4259	Eurofins mgt quote ID:
95 COVENTRY ST	Email for results: TMADILL@TONKINTAYLOR.COM.AU	PROJECT Name: OFFICER	Data output format:
SOUTH MELBOURNE	Analytes		
Special Directions & Comments:	Some common holding times (with correct preservation). For further information contact the lab		

Special Directions & Comments :				pH, TDS, Sulphate Chloride																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Relinquished By: PO BAPAR	Laboratory Staff: Catherine EF/mgt	Turn around time: 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒ 10 DAY ☐ Other:	Method Of Shipment: ☐ Courier ☐ Hand Delivered ☐ Postal Courier Consignment # :	Temperature on arrival:
Date & Time: 22/4/14 12:22pm	Date & Time: 22/4 12:19 pm			Report number: 415887
Signature: [Signature]	Signature: [Signature]			

Appendix G: Bore Construction License

COPY OF RECORD IN THE VICTORIAN WATER REGISTER LICENCE TO CONSTRUCT WORKS

under Section 67 of the Water Act 1989

The information in this copy of record is as recorded at the time of printing. Current information should be obtained by a search of the register. The State of Victoria does not warrant the accuracy or completeness of this information and accepts no responsibility for any subsequent release, publication or reproduction of this information.

This licence does not remove the need to apply for any authorisation or permission necessary under any other Act of Parliament with respect to anything authorised by the works licence.

Water used under this licence is not fit for any use that may involve human consumption, directly or indirectly, without first being properly treated.

This licence is not to be interpreted as an endorsement of the design and/or construction of any works (including dams). The Authority does not accept any responsibility or liability for any suits or actions arising from injury, loss, damage or death to person or property which may arise from the maintenance, existence or use of the works.

Each person named as a licence holder is responsible for ensuring all the conditions of this licence are complied with.

This licence authorises its holders to construct the described works, subject to the conditions.

Licence Holder(s)

OFFICER PROPERTIES PTY LTD of LEVEL 27, 150 LONSDALE STREET MELBOURNE VIC
3000

Licence Contact Details

OFFICER PROPERTIES PTY LTD LEVEL 27, 150 LONSDALE STREET
MELBOURNE VIC 3000

Licence Details

Expiry date	03 Apr 2015
Status	Active
Authority	Southern Rural Water
Name of waterway or aquifer	UNC-Unincorporated
Water system	Unincorporated (GMU)

Summary of Licensed Works

The details in this section are a summary only. They are subject to the conditions specified in this licence.

<i>Works ID</i>	<i>Works type</i>	<i>Use of water</i>
WRK079333	Bore	Observation or investigation
WRK079334	Bore	Observation or investigation
WRK079335	Bore	Observation or investigation

Description of Licensed Works

WORKS ID WRK079333

Works type	Bore
Works subtype	Drilled bore
Maximum depth	25.000 metres

Extraction Details

Use of water	Observation or investigation
--------------	------------------------------

Works location

<i>Easting</i>	<i>Northing</i>	<i>Zone MGA</i>
Nil		

Land description

Volume 6085 Folio 898
Lot 1 of Plan TP680282C

Property address

365 PRINCES HIGHWAY, OFFICER, VIC 3809

Description of Licensed Works

WORKS ID WRK079334

Works type	Bore
Works subtype	Drilled bore
Maximum depth	25.000 metres

Extraction Details

Use of water	Observation or investigation
--------------	------------------------------

Works location

<i>Easting</i>	<i>Northing</i>	<i>Zone MGA</i>
Nil		

Land description

Volume 6085 Folio 898
Lot 1 of Plan TP680282C

Property address

365 PRINCES HIGHWAY, OFFICER, VIC 3809

Description of Licensed Works

WORKS ID WRK079335

Works type	Bore
Works subtype	Drilled bore
Maximum depth	25.000 metres

Extraction Details

Use of water

Observation or investigation

Works location*Easting**Northing**Zone MGA*

Nil

Land description

Volume 6085 Folio 898

Lot 1 of Plan TP680282C

Property address

365 PRINCES HIGHWAY, OFFICER, VIC 3809

Related Instruments**Related entitlements** Nil**Related water-use entities** Nil**Application History**

<i>Reference</i>	<i>Type</i>	<i>Status</i>	<i>Lodged date</i>	<i>Approved date</i>	<i>Recorded date</i>
WLI022858	Issue	Approved	03 Apr 2014	04 Apr 2014	

Conditions

Licence WLE059398 is subject to the following conditions:

Siting and construction

- 1 The bore must be constructed on the land described in the licence, at coordinates E: 359850.0, N: 578488.0, Zone: 55.
- 2 The bore(s) must be drilled at the location specified in the application approved by the Authority, but if after drilling a bore is considered unsatisfactory, a replacement bore may be drilled at an alternative site no greater than 20 metres from the authorised site and no closer to neighbouring bores or nearby waterways, or as authorised by the Authority before the commencement of drilling.

Preventing pollution

- 3 All earthworks must be carried out, and all drilling fluids and waters produced during construction and development must be disposed of, in ways that avoid contaminating native vegetation, waterways, aquifers, the riparian environment, the riverine environment or other people's property.
- 4 Construction must stop immediately if the Authority reasonably believes that fuel, lubricant, drilling fluid, soil or water produced during construction and development is at risk of being spilled into native vegetation, waterways, aquifers, the riparian environment, the riverine environment or other people's property.
- 5 The licence holder must construct and maintain bund walls, in accordance with the timeframe, specifications, guidelines or standards prescribed by the Authority, to prevent fuel, lubricant, drilling fluid, soil or water produced during construction and development from being spilled into native vegetation, waterways, aquifers, the riparian environment, the riverine environment or other people's property.

Construction standards

- 6 The bore(s) must be constructed, and where relevant decommissioned, in accordance with the Minimum Construction Requirements for Water Bores in Australia, Edition 3.

Drilling licence and supervision requirements

- 7 The bore(s) must be constructed by, or under the direct supervision of, a driller licensed under the Water Act 1989 and endorsed as a Class 1, 2, or 3 driller, with appropriate endorsements.
- 8 The licence holder must ensure that the licensed driller notifies the Authority's Drilling Inspector at least one day prior to work commencing on any grouting operations and must not proceed with the work unless authorised by the Drilling Inspector.

Bore completion report

- 9 The licence holder must ensure that the licensed driller sends a Bore Completion Report to the Authority within twenty-eight working days of the bore(s) being completed.
- 10 The works referred to in the licence must not be made operational until the Authority acknowledges receipt of an acceptable Bore Completion Report.
- 11 The works referred to in the licence must not be made operational until the licence holder sends a water sample to the laboratory nominated by the Authority.

Protecting water resources

- 12 No more than 3 bore(s) may be brought to final development under this licence.
- 13 At the completion of drilling, and before the drilling rig leaves the site, all but 3 bore(s) must be decommissioned so as to eliminate physical hazards, conserve aquifer yield, prevent groundwater contamination and prevent the intermingling of desirable and undesirable waters.

Protecting water quality

- 14 The bore(s) must be constructed so as to prevent aquifer contamination caused by vertical flow outside the casing.
- 15 If two or more aquifers are encountered, the bore(s) must be constructed to ensure that an

impervious seal is made and maintained between each aquifer to prevent aquifer connection through vertical flow outside the casing; under no circumstances are two or more aquifers to be screened within the one bore or in any other manner to allow connection between them.

- 16 Boreheads must be constructed, to ensure that no flood water, surface runoff or potential subsurface contaminated soakage can enter the bore or bore annulus.
- 17 Drilling must not exceed the maximum depth unless the Authority approves, in advance, drilling beyond this depth.

Protecting other water users

- 18 The diameter of the bore-casing must not exceed 50 millimetres.
- 19 The licence holder must, at the licence-holder's expense, if required by the Authority, conduct a pumping test and obtain a hydrogeological report, to the Authority's specification, on the potential for bore operation to interfere with any bore, aquifer, groundwater dependent ecosystem or waterway.

Fees and charges

- 20 The licence holder must, when requested by the Authority, pay all fees, costs and other charges under the Water Act 1989 in respect of this licence.

END OF COPY OF RECORD

Appendix H: 95%ave Upper Confidence Limit

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			30/04/2014 3:40:52 p.m.								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	Zn											
11												
12	General Statistics											
13	Total Number of Observations				20		Number of Distinct Observations				16	
14	Number of Detects				15		Number of Non-Detects				5	
15	Number of Distinct Detects				15		Number of Distinct Non-Detects				1	
16	Minimum Detect				7.1		Minimum Non-Detect				5	
17	Maximum Detect				590		Maximum Non-Detect				5	
18	Variance Detects				33752		Percent Non-Detects				25%	
19	Mean Detects				114.1		SD Detects				183.7	
20	Median Detects				18		CV Detects				1.61	
21	Skewness Detects				1.803		Kurtosis Detects				2.249	
22	Mean of Logged Detects				3.571		SD of Logged Detects				1.515	
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic				0.641		Shapiro Wilk GOF Test					
26	5% Shapiro Wilk Critical Value				0.881		Detected Data Not Normal at 5% Significance Level					
27	Lilliefors Test Statistic				0.382		Lilliefors GOF Test					
28	5% Lilliefors Critical Value				0.229		Detected Data Not Normal at 5% Significance Level					
29	Detected Data Not Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	Mean				86.81		Standard Error of Mean				37.22	
33	SD				160.8		95% KM (BCA) UCL				156.6	
34	95% KM (t) UCL				151.2		95% KM (Percentile Bootstrap) UCL				146	
35	95% KM (z) UCL				148		95% KM Bootstrap t UCL				193.7	
36	90% KM Chebyshev UCL				198.5		95% KM Chebyshev UCL				249	
37	97.5% KM Chebyshev UCL				319.2		99% KM Chebyshev UCL				457.1	
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic				1.57		Anderson-Darling GOF Test					
41	5% A-D Critical Value				0.79		Detected Data Not Gamma Distributed at 5% Significance Level					
42	K-S Test Statistic				0.287		Kolmogrov-Smirnoff GOF					
43	5% K-S Critical Value				0.233		Detected Data Not Gamma Distributed at 5% Significance Level					
44	Detected Data Not Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)				0.539		k star (bias corrected MLE)				0.475	
48	Theta hat (MLE)				211.8		Theta star (bias corrected MLE)				240	
49	nu hat (MLE)				16.16		nu star (bias corrected)				14.26	
50	MLE Mean (bias corrected)				114.1		MLE Sd (bias corrected)				165.5	
51												
52	Gamma Kaplan-Meier (KM) Statistics											
53	k hat (KM)				0.291		nu hat (KM)				11.66	
54	Approximate Chi Square Value (11.66, α)				5.002		Adjusted Chi Square Value (11.66, β)				4.661	
55	95% Gamma Approximate KM-UCL (use when $n \geq 50$)				202.3		95% Gamma Adjusted KM-UCL (use when $n < 50$)				217.1	
56												

	A	B	C	D	E	F	G	H	I	J	K	L
57	Gamma ROS Statistics using Imputed Non-Detects											
58	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
59	GROS may not be used when kstar of detected data is small such as < 0.1											
60	For such situations, GROS method tends to yield inflated values of UCLs and BTVs											
61	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
62	Minimum				0.01	Mean					85.56	
63	Maximum				590	Median					14.5	
64	SD				165.6	CV					1.936	
65	k hat (MLE)				0.244	k star (bias corrected MLE)					0.241	
66	Theta hat (MLE)				350.7	Theta star (bias corrected MLE)					355.4	
67	nu hat (MLE)				9.76	nu star (bias corrected)					9.629	
68	MLE Mean (bias corrected)				85.56	MLE Sd (bias corrected)					174.4	
69						Adjusted Level of Significance (β)					0.038	
70	Approximate Chi Square Value (9.63, α)				3.711	Adjusted Chi Square Value (9.63, β)					3.425	
71	95% Gamma Approximate UCL (use when n>=50)				222	95% Gamma Adjusted UCL (use when n<50)					240.5	
72												
73	Lognormal GOF Test on Detected Observations Only											
74	Shapiro Wilk Test Statistic				0.844	Shapiro Wilk GOF Test						
75	5% Shapiro Wilk Critical Value				0.881	Detected Data Not Lognormal at 5% Significance Level						
76	Lilliefors Test Statistic				0.236	Lilliefors GOF Test						
77	5% Lilliefors Critical Value				0.229	Detected Data Not Lognormal at 5% Significance Level						
78	Detected Data Not Lognormal at 5% Significance Level											
79												
80	Lognormal ROS Statistics Using Imputed Non-Detects											
81	Mean in Original Scale				85.87	Mean in Log Scale					2.677	
82	SD in Original Scale				165.5	SD in Log Scale					2.086	
83	95% t UCL (assumes normality of ROS data)				149.9	95% Percentile Bootstrap UCL					150	
84	95% BCA Bootstrap UCL				169	95% Bootstrap t UCL					200.5	
85	95% H-UCL (Log ROS)				1085							
86												
87	DL/2 Statistics											
88	DL/2 Normal					DL/2 Log-Transformed						
89	Mean in Original Scale				86.19	Mean in Log Scale					2.907	
90	SD in Original Scale				165.3	SD in Log Scale					1.756	
91	95% t UCL (Assumes normality)				150.1	95% H-Stat UCL					406.1	
92	DL/2 is not a recommended method, provided for comparisons and historical reasons											
93												
94	Nonparametric Distribution Free UCL Statistics											
95	Data do not follow a Discernible Distribution at 5% Significance Level											
96												
97	Suggested UCL to Use											
98	95% KM Chebyshev UCL				249							
99												
100	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
101	Recommendations are based upon data size, data distribution, and skewness.											
102	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
103	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											