Planning Proposal Report

Planning Proposal for rezoning to support a home improvement centre and bulky goods tenancy

Commercial Road, Rouse Hill

February 2011

urbis

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Executive Summary

This Planning Proposal has been prepared by Urbis on behalf of Hydrox Nominees Pty Ltd seeking an amendment to the provisions of the Baulkham Hills Local Environmental Plan 2005 to facilitate approval of a home improvement centre and ancillary bulky goods tenancy at the subject site known as Lots 1021 and 1022 in DP 1091484, Commercial Road, Rouse Hill (the site).

The 'Oxygen' concept is best described as a large format Home Improvement Centre which is to be rolled out by Hydrox Nominees across Australia. The typical layout will consist a total floor area of approximately 13,500sqm (General Sales, Trade Supplies, and Landscape Gardening Supplies), with associated car parking. The 'Oxygen' concept is to provide a home improvement centre within a clean and air-conditioned retail environment.

Oxygen is a joint venture between Woolworths Limited and Lowes Companies Incorporated. Woolworths are Australia's largest retailer and private sector employer, employing over 191,000 people. Lowes is the second largest home improvement retailer in the world and has over 1,700 stores across the USA, Canada and Mexico.

The Woolworths/Lowes vision is to enhance choice for Australian (retail and trade) consumers with increased competition in the destination home improvement sector, improved product range representing value and choice and a fresh new offer.

The Planning Proposal enables the site to be developed for a home improvement centre which will include a range of retail offerings such as timber, building materials, landscaping materials, plants, and ancillary home improvement products including white goods. The built form will comprise a single building with associated parking, loading areas and landscaping.

The ancillary tenancy will be utilised for the sale of bulky goods (a tenant is yet to be determined) and will consist of a single building independent of the Home Improvement Centre with associated parking, loading areas and landscaping. The bulky goods tenancy represents a layout, format and function which is responsive to market demands and will provide an appropriate retail offering in the context of the Rouse Hill commercial centre, however both tenancies will complement the retail offers within the existing and planning Rouse Hill Town Centre, allowing the Town Centre to accommodate complementary retailing uses which do not require large-format tenancy's.

The co-location of the bulky goods tenancy and the home improvement centre allows for a symbiotic relationship whereby the two uses leverage off the naturally compatible nature of the products they offer and is anticipated to generate 377 employment multipliers (including 186 direct jobs during construction).

This Planning Proposal is consistent with the aims and objectives of the *Metropolitan Plan for Sydney 2036* and the *draft North-West Subregional Strategy*. Further, the additional land uses sought under this Planning Proposal are proposed to be permissible under the un-exhibited draft Baulkham Hills Local Environmental Plan 2010, which seeks to rezone the site from its current Residential 2(c) – Tourist Village Zone to B5 Business Development. Accordingly, this proposal is consistent with the Baulkham Hills Council vision for the site and will enable the realisation of this vision to be brought forward.

Two meetings have been held with Council to discuss the Planning Proposal and subsequent development applications for the site. The key issues raised in these meetings have been addressed during the preparation of this Planning Proposal in the following ways:

- **Integration of adjoining lands** – Indicative schematics have been prepared for the eastern adjoining Residential 2(c) – Tourist Village Zone land which demonstrates the proposal will not impede the future development of this land.
- **Extension of Prestwick Avenue** – while the DCP seeks to introduce a new road network through the site, as the proposal seeks to rezone the land to accommodate a larger format development which will not further fragment the site, these additional roads are not required, and therefore have not been included in the indicative scheme for the site.

- **Landscaping** – the indicative schematic has been revised to provide perimeter landscaping, specifically focusing on the interface with the northern adjoining residential area.

This Planning Proposal has been prepared in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* and having regard to the NSW Department of Planning's *'A guide to preparing Planning Proposals'* and *'A guide to preparing local environmental plans'* and provides the following:

- Description of the subject site and context.
- Overview of the key elements of the Planning Proposal.
- Statement of the objectives and intended outcomes of the proposal.
- Explanation of the provisions of the proposal.
- Summary of the justification of the proposal.
- Description of the community consultation process expected to occur regarding the proposal.

1 Site and Location

1.1 Site Features and Details

The site is located at Commercial Road, Rouse Hill between Windsor Road and McCombe Avenue. The site is legally described as Lots 1021 and 1022 of DP1091484 and covers an area of 3.75ha. Commercial Road runs along the southern boundary of the site.

With the exception of two residential dwellings and associated buildings in the south west corner, the site consists of cleared land. A number of established trees are located around the existing buildings in the south west corner of the property as well as some scattered trees to the south west of the centre of the site.

The site is illustrated in **Figure 1** below.

Figure 1 – Site Aerial

1.2 Site Context

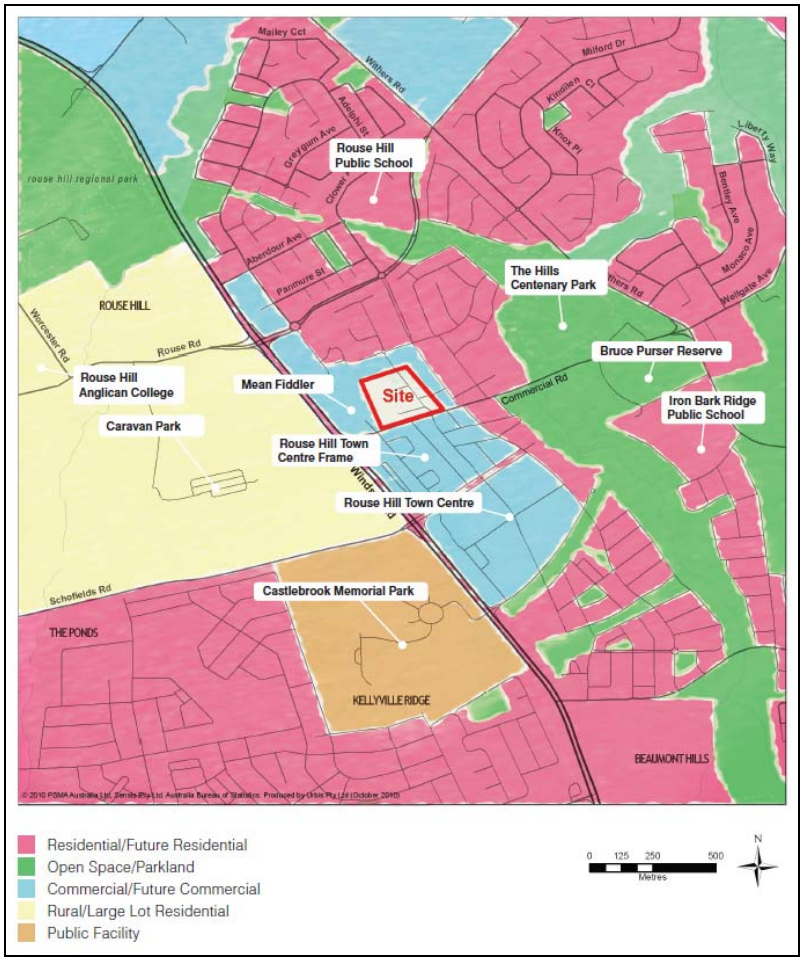
The site is located within the Baulkham Hills Shire local government area, approximately 35km north-west of the Sydney CBD and is well connected to a number of regional centres including Blacktown, Parramatta and Penrith via the regional road network. In addition, the site is serviced by the North West T-Way bus network which runs along Windsor Road to the west of the site and a new station is proposed at Rouse Hill as part of the North West Rail Link.

The site sits amongst a range of uses including the Rouse Hill Town Centre commercial centre. The site's main interfaces are described in **Table 1** below and the site's context is demonstrated in **Figure 2**.

Table 1 – Surrounding Land Uses

North	To the north of the site are single dwelling residential uses.
South	Land to the south, on the opposite side of Commercial Road, is land included as part of the Rouse Hill Regional Centre "frame area" which is primarily intended for a mix of land uses, including bulky goods, and a range of innovative commercial, retail and residential typologies. The Rouse Hill Town Centre proper sits beyond this.
East	The property adjoining the east of the site is cleared and undeveloped. Further east is characterised by single dwelling residential uses.
West	The Mean Fiddler tavern and entertainment complex is located to the west of the site, fronting onto Windsor Road.

Figure 2 – Site Context Map



1.3 Opportunities and Constraints

There are a number of development opportunities and constraints presented by the site. These have been identified and responded to in the proposed land use and indicative development design for the site.

The key opportunities for the site are identified as follows:

- The site is of a regular shape providing the optimum platform for large format development.
- The site is ideally placed adjoining the Rouse Hill Town Centre and supporting commercial uses.
- The site is a large land holding in single ownership, currently substantially vacant and does not contribute to the streetscape or activity of the area.
- The site is highly accessible to vehicles, with access via Windsor Road and Commercial Road.
- The site is not constrained by threatened fauna or flora species.
- The site is not subject to any significant contamination.
- The un-exhibited draft LEP proposes to rezone the site B5 Business Development which would support a home improvement centre and bulky goods tenancy.

The following constraints for the site are identified as follows:

- The site adjoins residential properties to the north which require appropriate acoustic buffering.
- The site currently accepts stormwater runoff from the adjoining Mean Fiddler tavern and entertainment complex.
- The current zoning does not support the proposed land use for a home improvement centre or bulky goods tenancy.

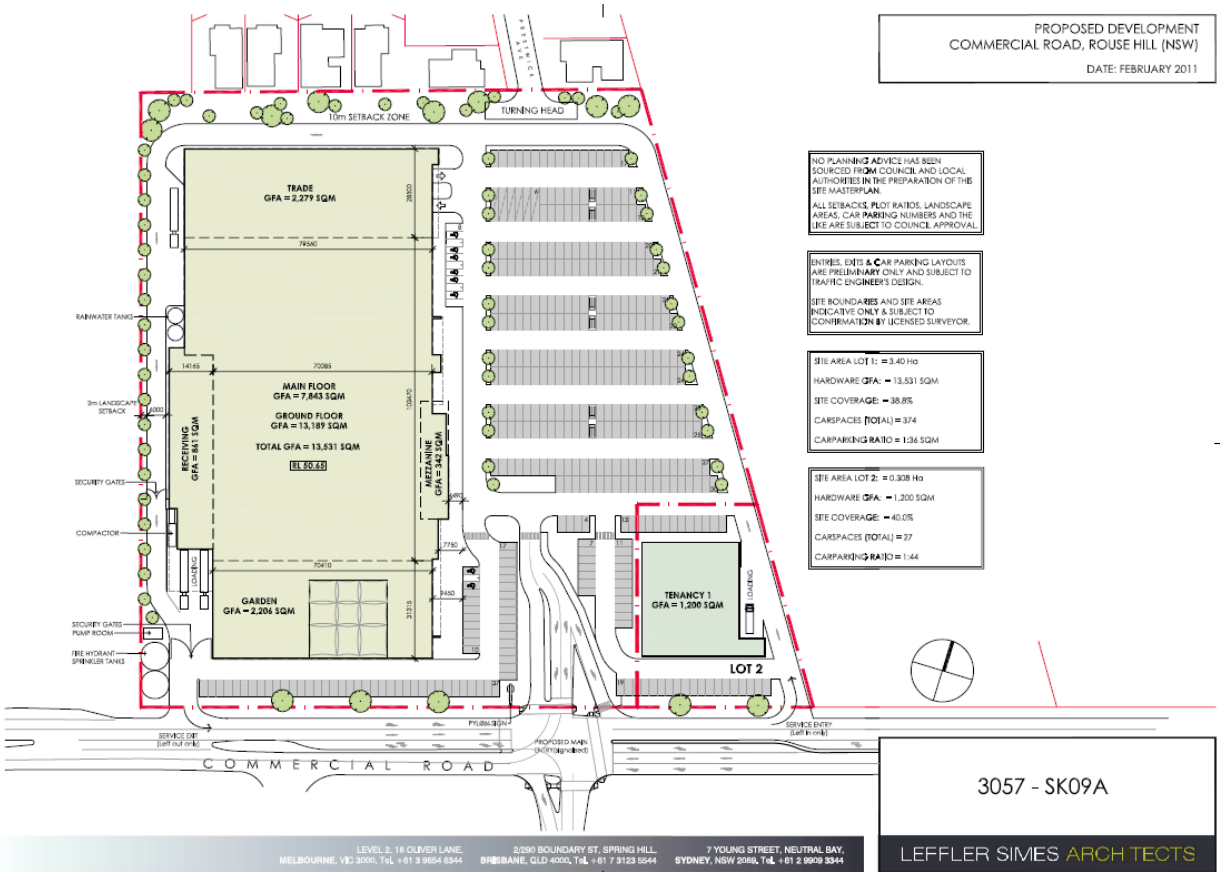
2 Project Overview

2.1 Description of the Proposal

This Planning Proposal is to amend the Baulkham Hills Local Environmental Plan 2005 (BHLEP) to allow for home improvement centre and ancillary bulky goods tenancy to be developed on the site. The Planning Proposal will support the subsequent lodgement of a development application for the home improvement centre and ancillary bulky goods development. The home improvement centre will comprise of approximately 13,000sqm which will include a main floor area for a range of home improvement products, a nursery for landscape and garden products, a trade area for drive-thru sales of all goods, and associated parking. The bulky goods tenancy will comprise approximately 1,200sqm with a tenant yet to be determined.

An indicative site plan of for the home improvement centre and bulky goods tenancy is illustrated in **Figure 3** below.

Figure 3 – Indicative Site Plan



2.2 Home Improvement Centre

2.2.1 Overview

The indicative scheme for the home improvement centre divides the building into three separate components:

- Main floor area of approximately 7,812sqm for a range of products including hardware, timber and building materials, décor and home decoration, and kitchen / bathroom fittings.
- Nursery area of approximately 2,206sqm for a range of landscaping and gardening products including plants, pots, landscape trimming, and gardening equipment.
- Trade sales area of approximately 2,279sqm for trade sales which will include a drive-in loading area for all stock for sale in other areas of the building.
- 861sqm 'back-of-house' area along the northern elevation of the general sales area for loading goods and materials.
- Mezzanine area of 342sqm for office space, staff lunchroom, amenities, and generally administrative operations.

The home improvement centre will include a range of ancillary services and infrastructure for the proposed use, including:

- 374 space car park within the eastern portion of the site, including eight accessible parking spaces.
- Landscaping along the Commercial Road frontage, along the northern boundary and within landscape beds in carpark.
- Servicing area along the western boundary, including two at-grade loading docks and the waste management area with compactor.
- Separate customer and servicing entries to the site:
  - A signalised intersection will be established to facilitate customer access in all directions.
  - Left in and left out service access from Commercial Road with service vehicles moving through the site in an anti-clockwise direction.

2.2.2 Building Details

The home improvement centre will comprise a single building divided into three key operational areas:

- General sales area which will comprise the central portion of the building envelope, offering a range of home improvement goods, including:
  - Hardware (tools, plumbing, electrical etc)
  - Timber and Building (building materials, doors, joinery etc)
  - Décor / home decoration (paint, flooring etc)
  - Kitchen and bathroom fittings
- Nursery area which will comprise the western portion of the building envelope, offering a range of gardening products including:
  - Plants
  - Landscaping products
  - Garden tools

- Outdoor living

  Part of nursery area will have a shade cloth on a fixed steel post grid to provide natural sunlight and ventilation to garden area within the development.

- Trade sales area which will occupy the northern portion of the building envelope and will accommodate a drive-in loading system, where products from both the general sales and nursery area will be available.

Details of the built form will be provided with future development applications for the site. However the building design will be articulated along the southern façade, with each operational areas having their own entry directly from the customer car park and being distinctly legible from the exterior of the building. Internal access between operation areas will be available at several points within the building.

The building includes operational facilities such as:

- Back-of-house area for receiving and dispatching goods, directly adjacent to the two at-grade loading docks.
- Mezzanine area above the main entry to accommodate a range of administrative services including, offices, staff amenities (toilets and change rooms), and a staff dining room.

The building will be constructed from a variety of materials including concrete panels, glazing, alucabond panels and coloured panels.

2.3 Bulky Goods Tenancy

2.3.1 Overview

The bulky goods tenancy building will be approximately 1,200sqm in size, and will be supported by a range of ancillary services and infrastructure for the proposed use, including:

- A total of 27 car parking spaces along the southern portion of the allotment.
- Servicing area along the eastern boundary, including an at-grade loading dock which will also accommodate trucks servicing the bulky goods tenancy.
- Landscaping along the northern boundary, and within landscape beds in the carpark area.

2.3.2 Building Details

The bulky goods tenancy will comprise a single building entry directly off the car park. The building will be constructed from a variety of materials including concrete panels, glazing, alucabond panels and coloured panels.

2.4 Access and Parking Details

Parking will be provided within an at-grade car park, accommodating a total of 402 spaces, including 8 accessible spaces. The parking rate proposed exceeds Council's requirement of 1 space per 40sqm.

Primary customer access to the site is proposed via a signalised intersection on Commercial Road which will facilitate left, right and straight movements.

An internal road for service vehicles supporting the development will provide both ingress and egress from Commercial Road. The service road will run along the perimeter of the site, with service vehicles circulating through the site in an anti-clockwise direction. Service entry from Commercial Road is designated to be left in only, and the egress will be from the south-western corner of the site with a left out only.

Further details relating to access and parking are including in the Traffic Report at **Appendix B**.

2.5 Civil and Stormwater Management

Appropriate stormwater management will be designed in accordance with a number of principles. Roofwater reuse tanks will be connected to the home improvement centre building to harvest roofwater runoff which will be reused onsite.

Based on advice from the Hills Shire Council stormwater quality management will be undertaken, however future Development Applications will not include On-site Stormwater Detention.

It is understood that an existing easement is in place which allows the adjoining Mean Fiddler site to discharge both pipe and surface flow to the subject site and that this drainage will need to be accommodated as part of the proposal. Accordingly, this has been considered as part of the preliminary stormwater and drainage design.

2.6 Landscaping Concept

A landscape design will be prepared having regard to the following key principles:

- Visual and acoustic interface with the residential areas to the north.
- Aesthetic presentation of the site to public roads and spaces.
- Use of local species which are drought tolerant and low maintenance.
- Consistency with the relevant sections of the Baulkham Hills DCP.

3 Key Planning Considerations

Based on the two pre-lodgements meetings held with Baulkham Hills Shire Council in July and December 2010, the following key planning issues have been addressed in the preparation of this Planning Proposal, and will be considered in the design development of any subsequent development application of the site.

3.1 Uncertified draft LEP

Baulkham Hills have prepared a draft LEP 2010 in accordance with the State Government's Standard Instrument (Local Environmental Plans) Order 2006. The draft LEP is still waiting for certification from the State government to be formally placed on public exhibition. However a copy of it is currently available on the Baulkham Hills Shire Council website.

The draft LEP indicates the subject site to be rezoned to B5 Enterprise Corridor, which includes the land uses which are proposed to be included in the site specific clause for the site to support a home improvement centre and ancillary bulky goods tenancy. This indicates that Baulkham Hills Shire Council support the future development of the site in accordance with the proposed Planning Proposal.

3.2 Extension of Prestwick Avenue

The proposal seeks for the permissible land uses for the site to be expanded to permit larger format developments. Future development of the site in accordance with the proposed additional land uses will result in the site remaining as a large allotment. Therefore an internal road system is not required to service future development of the site as it will not be further fragmented.

Council's request for a turning circle for service vehicles to be accommodated on the site at the end of Prestwick Avenue has been accommodated into the Planning Proposal indicative schematic. The proposed turning head will be fenced to prevent pedestrian linkage between the site and Prestwick Avenue to minimise the risk of pedestrians including children from entering Prestwick Street from the site.

3.3 Integration of adjoining lands

The proposal will not adversely impact on the future development of the eastern adjacent land proposed to be zoned B5 Business Development under the draft LEP 2010. An indicative schematic has been prepared and is attached in **Appendix D** which illustrate that the dimensions of the remaining B5 Business Development zone can accommodate developments permissible under its future proposed zoning.

3.4 Traffic

A traffic report has been prepared addressing the following key issues raised during consultation with Council:

- A single access point from Commercial Road has been incorporated into the design which will accommodate left, right and straight movements for customer vehicle movements.
- A separate service vehicle entry and exit will be provided, with the entry adjacent to the eastern boundary and the exit adjacent to the western boundary. Service vehicles will have left-turn in, left-turn out movements, and circulate through the site in an anti-clockwise direction.
- The customer access intersection has been designed as a signalised intersection, and this has been negotiated and agreed to by the RTA.

3.5 Landscaping

The indicative schematic provides perimeter landscaping, including a significant landscape setback along the north which will soften the visual and acoustic impact of the future development of the site on the adjacent residential area. The northern landscape setback will include a range of visual and acoustic elements to appropriately treat this interface, including dense vegetation, mounding and an acoustic wall.

4 Part 1 – Objectives or Intended Outcomes

4.1 Objectives

This Planning Proposal has been prepared on behalf of Hydrox Nominees Pty Ltd seeking an amendment to the provisions of the Baulkham Hills Local Environmental Plan 2005 to facilitate approval of a home improvement centre and ancillary bulky goods tenancy on the site.

The key objective of this Planning Proposal is:

> To obtain the necessary rezoning of the subject property to facilitate its development for a home improvement centre and ancillary bulky goods tenancy including retailing of home improvement products, landscape and garden supplies, bulky goods and trade sales, with a total floor area of approximately 15,000sqm.

4.2 Intended Outcomes

The intended outcome of this Planning Proposal is to amend the Baulkham Hills LEP 2005 to permit additional land uses on the subject site known as Lots 1021 and 1022 in DP 1091484.

A conceptual design for the future development of the site for a home improvement centre and ancillary bulky goods tenancy as been prepared and accompanies this Planning Proposal. However the scheme will be refined as part of the future Development Application process once the Planning Proposal has moved through the 'Gateway'.

The key aspects of the conceptual scheme include:

- Main floor area for a range of products including hardware, timber and building materials, décor and home decoration, and kitchen / bathroom fittings.
- Nursery area for a range of landscaping and gardening products.
- Trade sales area for trade sales which will include a drive-in loading area for all stock.
- 'Back-of-house' area, mezzanine office space including, staff lunchroom and amenities.
- At grade customer car park.
- Service area with at-grade loading docks and waste management area.
- Separate customer and servicing entries to the site including a signalised intersection from Commercial Road for customer access in all directions, and a left-in, left-out access for service vehicles.

These key aspects of the conceptual design scheme will be incorporated into the future design development as part of the Development Assessment process.

5 Part 2 – Explanation of Provisions

The objective of this Planning Proposal can be achieved through the inclusion of the following amendment to the Baulkham Hills Local Environmental Plan 2005:

- To amend Schedule 6 'Additional Development on Certain Land' of the Baulkham Hills LEP 2005 to include an 'enabling clause' permitting all additional land uses associated with the development of a home improvement centre and a bulky goods tenancy, specifically including *'bulky goods premises'* and *'landscape supply establishment'* and *'office warehouse'*.
- This will be enabled by Clause 56 'Additional development allowed on certain land', contained within the Baulkham Hills LEP 2005, which reads:

  Clause 56 Additional development allowed on certain land

  (1) Nothing in this plan prevents a person, with development consent, from carrying out development on land referred to in Column 1 of Schedule 6 if the development is specified in Column 2 of that Schedule in relation to that land, subject to such conditions (if any) as are so specified in Column 3 of that Schedule in relation to that land.

  (2) Subclause (1) does not affect the application, to or in respect of development to which that subclause applies, of such of the provisions of this plan as are not inconsistent with that subclause or with a consent granted in respect of the development.

The proposal seeks to amend Schedule 6 to include:

Schedule 6 Additional Development on Certain Land (Clause 56)

Column 1	***Column 2***	***Column 3***
Lots 1021 and 1022 in DP 1091484 Commercial Road, Rouse Hill	*Development for the purpose of a home improvement centre and bulky goods retailer including permitting bulky goods premises, and landscape supply establishment and ancillary office, display, staff amenities, storage and parking.*	

This amendment will support the development of the subject site for a home improvement centre and a bulky goods development which is generally consistent with the indicative scheme achieves the key objective and intent of this Planning Proposal.

6 Part 3 – Justification

6.1 Overview

6.2 Section A – Need for the Planning Proposal

A1. Is the Planning Proposal a result of any strategic study or report?

This Planning Proposal is not the result of any strategic study or report.

However, it is noted that Baulkham Hills Council has drafted a new principal Local Environmental Plan in accordance with the State Government's Standard Instrument (Local Environmental Plans) Order 2006. The draft Hills Shire Local Environmental Plan 2010 (the draft LEP) has not yet been formally exhibited however is available on the Council website.

Under the draft LEP, the site is proposed to be zoned B5 Business Development which will permit all land uses other than those expressly prohibited. Based on the expressly prohibited land uses, a home improvement centre and bulky goods tenancy would be permissible within the B5 zone with development consent. It is assumed that in the preparation of the draft LEP a number of environmental studies were undertaken by Council to inform any proposed land rezoning however these documents are not publically available.

A2. Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

It is considered that the Planning Proposal is the best means of achieving the objectives stipulated in Part 1.

Due to the property currently being zoned Residential 2(c) – tourist Village Zone, *'bulky goods premises'*, *'landscape supply establishments'* and *'office warehouse'* are not permissible on the site. Therefore to expand the land uses permissible under the current zoning of the site, consistent with the surrounding commercial land uses of the Rouse Hill Town Centre and the Mean Fiddler with a land uses which is both consistent with these land uses and compatible with the adjoining residential land uses to the north and east.

The expansion of the permissible land uses on the site will support a home improvement centre and bulky goods tenancy development on the site upon gazettal, which would bring-forward development of the site for a development which would be supported under the B5 Business Development zoning of the site under the draft LEP, therefore enabling the site to achieve the proposed objective.

A3. Is there a net community benefit?

Table 2 addresses the evaluation criteria for conducting a "net community benefit test" within the Draft Centres Policy (2009) as required by the guidelines for preparing a Planning Proposal.

Table 2 – Assessment of the Net Community Benefit

Evaluation Criteria	Y/N	Comment
Will the LEP be compatible with agreed State and regional strategic direction for development in the area (e.g. land release, strategic corridors, development within 800m of a transit node)?	Yes	The proposed rezoning is compatible with the Sydney Metropolitan Strategy and Draft North-West Subregional Strategy for the following reasons: ▪ The site is situated on the commercial/ residential interface and will provide a land use which will provide an appropriate transition between the two. ▪ Is consistent with the strategic employment objectives of the North-West Subregional Strategy as outlined in

Evaluation Criteria	Y/N	Comment
		Section 5.3.
Is the LEP located in a global/regional city, strategic centre or corridor nominated within the Metropolitan Strategy or other regional/subregional strategy?	Yes	The subject site is situated directly adjacent to the Rouse Hill Town Centre which is identified in the North West Subregional Strategy as a *'Planned Major Centre'*. Whilst the site is not currently situated within the Rouse Hill Town Centre. The site offers an opportunity to provide additional large-format retailing within close proximity to the existing town centre land, which will complement and support the land uses within the town centre. The strategic location of the site will also support the use of key infrastructure and services, including the North-West T-way.
Is the LEP likely to create a precedent or create or change the expectations of the landowner or other landholders?	No	The proposed rezoning is unlikely to create a precedent within the locality or change the expectations of the site as its location provides a unique opportunity to deliver a modern format retail development which requires a large floor-area which could not otherwise be accommodated within the Rouse Hill Town Centre. Additionally, the subject site has been the subject of a prior Planning Proposal which progressed through the Gateway which would have supported this proposal's objectives.
Have the cumulative effects of other spot rezoning proposals in the locality been considered? What was the outcome of these considerations?	Yes	There are no known other spot rezoning's in the locality that are being considered.
Will the LEP facilitate a permanent employment generating activity or result in a loss of employment lands?	No	The proposal seeks to expand the permissible land uses to accommodate a modern retailing offer which is anticipated to have a positive impact on the ability of the site to generate employment. The site is currently undeveloped and is zoned to permit development which could generate employment. However, the lack of development attracted to the site indicates that demand for the existing permissible land uses within the locality is limited. By expanding the permissible land uses on the site a wider range of employment generating activities can be accommodated, and it is anticipated that a Home Improvement Centre consistent with the indicative scheme would generate additional employment within the Rouse Hill Planned Centre and assist in meeting the draft North-West Subregional Strategy employment targets for Baulkham Hills. The proposal will create employment through the construction jobs and therefore delivering an economic benefit to the community. The on-going operation of the developments will generate in the order of 130 to 150 staff (full-time, part-time and casual).

Evaluation Criteria	Y/N	Comment
Will the LEP impact upon the supply of residential land and therefore housing supply and affordability?	Yes	The subject site is currently zoned Residential 2(c) – Tourist Village Zone which permits a range of residential and housing uses. While the proposal seeks to expand the permissible uses on the site, the proposal will not remove these existing permissible residential land uses. This will allow for market demand for the site to guide the type of development which is ultimately located on the site. Further, the strategic location of the site and its surrounding land use context provides lend the site to a commercial land use.
Is the existing public infrastructure (roads, rail, utilities) capable of servicing the proposed site? Is there good pedestrian and cycling access? Is public transport currently available or is there infrastructure capacity to support future transport?	Yes	The existing road and bus infrastructure surrounding the property is adequate to support the development. The site is highly accessible via the local and regional road network. As discussed in the Traffic Report at **Appendix B** site access for staff, customers and servicing will be gained directly from Commercial Road. Some upgrades are proposed to facilitate this access including the introduction of a signalised intersection at the entrance which aligns with Civic Way opposite. The site's proximity to Windsor Road ensures that it is easily accessible from a number of regional locations. Public transport access to the site is already supported in the form of the North West T-Way bus network which operates from Rouse Hill to Parramatta and provides connections to a range of other destinations. Rouse Hill Town Centre provides one of the major interchange stations for the T-Way network. In addition, it is understood that a new station is proposed at Rouse Hill as part of the North West Rail Link.
Will the proposal result in changes to the car distances travelled by customers, employees and suppliers? If so, what are the likely impacts in terms of greenhouse gas emissions, operating costs and road safety?	N/A	N/A
Are there significant Government investments in infrastructure or services in the area where patronage will be affected by the proposal? If so, what is the expected impact?	No	The proposal does not require further government investment in public infrastructure, it will utilise the existing infrastructure and services beyond the property boundaries. The existing surrounding road network has sufficient capacity to support the commercial development of the site. However any future development application for the site will include some road upgrades to facilitate access to the site, including the introduction of a signalised intersection at the entrance to the development which will be undertaken at the cost of the developer.

Evaluation Criteria	Y/N	Comment
Will the proposal impact on land that the Government has identified a need to protect (e.g. land with high biodiversity values) or have other environmental impacts? Is the land constrained by environmental factors such as flooding?	No	The property is currently Residential 2(c) – Tourist Village Zone and not 'environmental conservation'. A Flora and Fauna Assessment attached in **Appendix C** indicates that the site is not constrained by any threatened flora or fauna species. The property has existing stormwater easement which benefits the adjoining Mean Fiddler site, and any future development of the site will have regard to maintaining the rights of this easement.
Will the LEP be compatible/ complementary with surrounding adjoining land uses? What is the impact on the amenity in the location and wider community? Will the public domain improve?	Yes	The proposed LEP amendment will permit additional land uses on the site which are compatible with the surrounding land uses, including the Mean Fiddler directly adjacent to the west of the site, and the Rouse Hill Town Centre to the south of the site. The proposed additional land uses will expand the potential development of the site to accommodate a modern retail format which will improve the retail offer to the local community. The proposed additional land uses will allow for the adjoining land to the west to be developed in a manner which will transition between the commercial development on the site, and the residential area to the north and further west. The development potential of this land is discussed in more detail in **Section 6.2**.
Will the proposal increase choice and competition by increasing the number of retail and commercial premises operating in the area?	Yes	The proposal will increase retailing choice and competition in the Baulkham Hills LGA. The proposal will allow for the site to support a new retailer into the Australian market, which will increase retail competition within the Baulkham Hills area. There are currently no appropriate sites to accommodate a home improvement centre within the Rouse Hill Town Centre or surrounding area. Therefore this proposal will facilitate the delivery of a competitive and modern home improvement retailer to a market area which cannot currently be provided.
If a stand-alone proposal and not a centre, does the proposal have the potential to develop into a centre in the future?	-	The proposal is a stand-along proposal, however its proximity to the Rouse Hill town centre provides it with the scope to integrate into the centre and provide a transitional development between the more intense 'centre' retailing and the residential area to the north and east.
What are the public interest reasons for preparing the draft plan? What are the implications of not proceeding at that time?	-	The proposal will support a modern retail product, which will improve the retailing offer to the community and provide a more competitive retailing environment. If the proposal was not supported, the site would remain undeveloped and its strategic potential to deliver a development of the nature intended.

Overall, the proposal will provide a net community benefit for the following reasons:

- Complements the new Rouse Hill Town Centre development to the south of the site, as well as the Mean Fiddler development to the west.
- Provides a unique and modern retailing offer to the community of Baulkham Hills and the surrounding market area.
- Size of the site and its proximity to the Rouse Hill Town Centre provide it with the potential to provide retailing which will complement the retailing offer within the Town Centre with a large-format Home Improvement retail store.
- Location of the site will improve the demand and use of the T-way which runs along Windsor Road to the west of the site, and will serviced by the existing road network, being located approximately 8km north of the intersection of the M2 and M7 Motorways.
- Supports a development type which is compatible in scale and use to transition between the Rouse Hill Town Centre and the residential area to the north and east.
- Generate employment during both the construction phase and on-going operation of the development, and assisting in meeting the employment targets for Baulkham Hills under the North-West Subregional Strategy.
- Expand the retail offer to the growing population of Baulkham Hills.

6.3 Section B – Relationship to Strategic Planning Framework

B1. Is the Planning Proposal consistent with the objectives and actions contained within the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and exhibited draft strategies)?

Metropolitan Plan for Sydney 2036

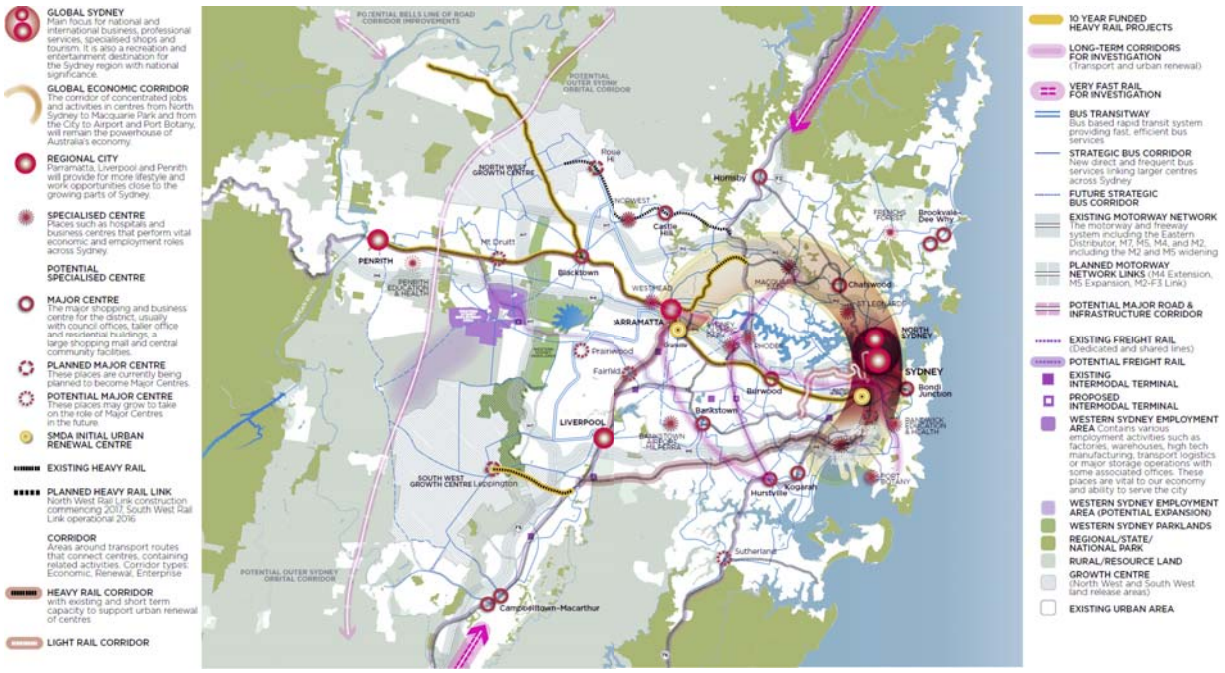
Rouse Hill is situated in Sydney's North-West, at interface between the existing urban area and the North-west Growth Centre. The Sydney Metropolitan Strategy (the Metro Strategy) was released in 2005 and was reviewed in 2010. The Metro Strategy was replaced in December 2010 with the *'Metropolitan Plan for Sydney 2036'* (the Metro Plan) which builds on the Metro Strategy *'city of cities'* approach to create a multi-citied city, with each city being supported by radial public transport, cross regional transport connections and transport connections to strategic centres that support economic activity in a range of locations. The Metro Plan identifies Rouse Hill as a 'Planned Major Centre', which is to be characterised by a concentration of activities generating and supporting employment for the local community including: retail and commercial; community, health and education; commercial competition; infrastructure and transport services.

The proposal is consistent with the following key objectives of the Metro Plan:

- **Objective B1: To focus activity in accessible centres** – The proposal will provide additional permissible land uses which will increase the commercial development capability of the site which will strengthen the growth of the Rouse Hill 'Planned Major Centre', and also reduce the need for large-format developments such as the a home improvement centre to locate in out-of-centre locations.
- **Objective B2: To Strengthen Major and Specialised Centres to support sustainable growth of the city** – The proposal will provide for a greater range of retailing activities to be located in clusters within close proximity to Major Centres, such as the Rouse Hill 'Planned Major Centre'. This will assist the delivery the social and economic advantages of retail operator's collaboration, improve competition within the retailing market, and drive retail innovation.

- **Objective E1: To ensure adequate land supply for economic activity, investment and jobs in the right locations** – The expansion of the permissible land uses on the site will allow for greater economic activity, investment and job generation within close proximity to the Planned Major Centre of Rouse Hill, and within the catchment of the existing T-way and planned North-West heavy rail link. This will also assist in achieving the revised North-West Subregional employment targets, which seeks to accommodate an additional 145,000 new jobs within the subregion between 2006 and 2036.
- **Objective E2: To focus Sydney's economic growth and renewal, employment and education in centres** – The proposal identifies land which is strategically located on the edge of the existing Rouse Hill Town Centre to accommodate a retail format which would not otherwise be accommodated within the centre, and therefore strengthening the cluster of retail activity within the Rouse Hill Major Centre.
- **Objective E4: To provide for a broad range of local employment types in dispersed locations** – While the site is located adjacent to the Rouse Hill Town Centre, the proposal will provide a location for a retailing typology which could not be accommodated within the existing centre lands, however will still benefit from the infrastructure and transport services which have been developed or planned to support the rouse Hill town centre.

Figure 4 – Metropolitan Plan 2036



Source: Metropolitan Plan for Sydney 2036, page 18.

Draft North-West Subregional Strategy

The Draft North West Subregional Strategy (the Subregional Strategy) was placed on public exhibition in December 2007. The Subregional Strategy seeks to provide greater detail to the Metro Strategy and provide a tool for the implementation of the wider Metro strategy objectives and actions. For example, the Subregional Strategy provides the following in support of Action B4.1 of the Centres and Corridors chapter:

> *"Action B4.1.1: North West Councils to investigate appropriate locations for retail uses in centres, business development zones … and enterprise corridors.*

… In developing out of centre retail … it will be important to ensure that these areas complement rather than compete with centres."

The proposal will support the development of a much needed retail use ensuring a service which is compatible with, but not the same as those retail uses envisaged for the Rouse Hill Town Centre. Accordingly, the proposal represents an opportunity to cluster complementary uses in close proximity to one another, enhancing the retail offer within an identified housing growth area without detrimentally impacting on the nature or intent of the Planned Major Centre of Rouse Hill.

B2. Is the Planning Proposal consistent with the local council's Community Strategic Plan, or other local strategic plan?

The Baulkham Hills LEP 2005 is currently the relevant local planning policy. The Planning Proposal is consistent with the aims of this plan because:

- The proposal will enhance the built form and retailing offer within the Baulkham Hills LGA within a well-serviced location and to accommodate a modern retailing typology which will provide a compatible with the surrounding natural and built environment.
- The proposal will support the future development of the site by a retailer which will improve the economic activity within the Baulkham Hills LGA through providing new employment opportunities and providing a competitive retail offer currently not provided within the LGA.
- The proposal will expand the permissible uses on the site which currently remains undeveloped, to accommodate a future development for a home improvement centre and bulky goods tenancy which is an compatible transitional land use between the Rouse Hill town centre to the south and the residential areas to the north and east.
- The additional permissible uses will expand the flexibility of land use controls that apply to the site and allow for more market driven responses to economic investment in the Baulkham Hills LGA.

Similar aims have been incorporated into the non-exhibited draft LEP 2010. Baulkham Hills Shire Council prepared an Adopted Draft Local Strategy 2008 (the Draft Local Strategy), to inform the preparation of the draft LEP 2010. The vision of the Draft Local Strategy is to provide *'Resilient leadership creating vibrant communities balances urban growth protecting our environment and building a modern local economy'*. To achieve this vision, the following strategies are identified for implementation:

- Facilitate sustainable economic development that promotes growth in local business and employment opportunities.
- Plan for local job opportunities.
- Reinforce, promote and protect the hierarchy of centres within the Shire.
- Ensure the concentration of large scale retail and commercial activities in the Major Centres and Town Centres.
- Encourage appropriate transport infrastructure including public transport to serve, support, and connect centres.
- Support and encourage the timely development of planned centres.

The proposal will positively assist the achievement of this vision through implementing these strategies in the following ways:

- Introduce a new retailer into the Baulkham Hills LGA which will generate competition in the home improvement and bulky goods markets.
- Generate approximately 377 employment multipliers (including 186 direct jobs during construction).

- Reinforce and strengthen the development of the Rouse Hill Major Centre, being a key Major Centre in the Baulkham Hills LGA.
- Utilise the existing and proposed transport infrastructure within close proximity to the site, including the North-West Transitway and the planned North-West Heavy Rail.

B3. Is the Planning Proposal consistent with applicable state environmental planning policies?

The Planning Proposal is consistent with the applicable State Environmental Planning Policies as summarised in the following table.

Table 3 – Application of State Environmental Planning Policies

SEPP Title	Consistency	Consistency of Planning Proposal
SEPP 1 – Development Standards	Yes	The Planning Proposal will not contain provisions that will contradict or would hinder the application of the SEPP.
SEPP 4 – Development Without Consent and Miscellaneous Exempt and Complying Development	Yes	The Planning Proposal will not contain provisions that will contradict or would hinder the application of the SEPP.
SEPP 6 – Number of Storeys in a Building	Yes	The Planning Proposal will not contain provisions that will contradict or would hinder the application of the SEPP.
SEPP 14 – Coastal Wetlands	N/A	-
SEPP 15 – Rural Land sharing Communities	N/A	-
SEPP 19 – Bushland in Urban Areas	N/A	-
SEPP 21 – Caravan Parks	N/A	-
SEPP 22 – Shops and Commercial Premises	Yes	The Planning Proposal will not contain provisions that will contradict or would hinder the application of the SEPP.
SEPP 26 – Littoral Rainforests	N/A	-
SEPP 29 – Western Sydney Recreation Area	N/A	-
SEPP 30 – Intensive Agriculture	N/A	-
SEPP 32 – Urban Consolidation (Redevelopment of Urban Land)	N/A	-
SEPP 33 – Hazardous and Offensive Development	N/A	-
SEPP 36 – Manufactured Home Estates	N/A	-
SEPP 39 – Spit Island Bird Habitat	N/A	-
SEPP 41 – Casino Entertainment Complex	N/A	-
SEPP 44 – Koala Habitat Protection	N/A	-
SEPP 47 – Moore Park Showground	N/A	-
SEPP 50 – Canal Estate Development	N/A	-

SEPP Title	Consistency	Consistency of Planning Proposal
SEPP 52 – Farm Dams, Drought Relief and Other Works	N/A	-
SEPP 53 – Metropolitan Residential Development	N/A	-
SEPP 55 – Remediation of Land	N/A	The potential contamination of the site has been assessed in Contamination Investigation attached in **Appendix E**. Further contamination investigations will be undertaken in accordance with the provisions of SEPP 55 prior to any future development application being submitted.
SEPP 59 – Central Western Sydney Economic and Employment Area	N/A	-
SEPP 60 – Exempt and Complying Development	N/A	-
SEPP 62 – Sustainable Aquaculture	N/A	-
SEPP 64 – Advertising and Signage	Yes	The Planning Proposal will not contain provisions that will contradict or would hinder the application of the SEPP.
SEPP 65 – Design Quality of Residential Flat Development	N/A	-
SEPP 70 – Affordable Housing (Revised Schemes)	N/A	-
SEPP 71 – Coastal Protection	N/A	-
SEPP (Building Sustainability Index: BASIX) 2004	N/A	-
SEPP (Housing for Seniors or People with a Disability) 2004	N/A	-
SEPP (Major Projects) 2005	N/A	-
SEPP (Sydney Region Growth Centres) 2006	N/A	-
SEPP (Infrastructure) 2007	Yes	The proposal has considered the relevant parts of SEPP (Infrastructure) 2007, namely traffic generating developments and is considered consistent.
SEPP (Kosciuszko National Park-Alpine Resorts) 2007	N/A	-
SEPP (Mining, Petroleum Production and Extractive Industries) 2007	N/A	-
SEPP (Temporary Structures and Places of Public Entertainment) 2007	N/A	-
SEPP (Exempt and Complying Development Codes) 2008	Yes	The Planning Proposal will not contain provisions that will contradict or would hinder the application of the SEPP at future stages, post rezoning.

SEPP Title	Consistency	Consistency of Planning Proposal
SEPP (Rural Lands) 2008	N/A	-
SEPP (Western Sydney Parklands) 2009	N/A	-
SEPP (Affordable Rental Housing) 2009	N/A	-

B4. Is the Planning Proposal consistent with applicable Ministerial Directions (s.117 directions)?

The Section 117(2) Ministerial Directions (issued under s.117 of the *Environmental Planning and Assessment Act 1979*) provide local planning direction to be considered in the assessment of a request to rezone land or amend a LEP.

The relevant Ministerial Directions applicable to the proposal are:

- Direction 1.1 Business and Industrial Zones
- Direction 3.1 Residential Zones
- Direction 3.4 Integrated Land Use and transport
- Direction 6.1 Approval and Referral Requirements
- Direction 6.3 Site Specific Provisions
- Direction 7.1 Implementation of the Metropolitan Strategy

The proposal is consistent with the Ministerial Directions, pursuant to Section 117(2) of the EP&A Act as demonstrated by the following:

- The proposal is consistent with the 'Direction 1.1 Business and Industrial Zones' direction, as it:
  - Will generate employment within a location which is directly adjacent to a subregional Major Centre and benefits from being well serviced by established transport infrastructure (Direction 1.1.1(a)).
  - Can accommodate retail activities which are complementary to the retailing within the Rouse Hill Town Centre, and will not be in competition for the same tenancies (Direction 1.1.1(c)).
- The proposal is consistent with the 'Direction 3.1 Residential Zones' direction, as it:
  - Complements the surrounding land uses by supporting a development which is appropriate for the transitional location of the site between the Rouse Hill Town Centre to the south and the residential areas to the north and east (Direction 3.1.1(c)).
  - Will assist in the delivery of infrastructure and services to support the surrounding residential land uses, by including up-grades of the intersection to service the future development on the site which will alleviate congestion on the major road network which services the residential areas (Direction 3.1.1(b)).
- The proposal is consistent with the 'Direction 3.4 Integrated Land Use and transport' direction, as it:
  - Will provide additional employment within the Baulkham Hills LGA which is within close proximity to existing and planned residential areas, and services by existing and proposed transport infrastructure including the Transitway and the planning North-West Rail Link (Direction 3.4.1(a), (b) and (d)).
  - Provides opportunity for a greater variety of retail formats to be clustered together, reducing the number of trips generated and the distances travelled by customers (Direction 3.4.1(c)).

- The proposal is consistent with the 'Direction 6.1 Approval and Referral Requirements' direction, as:
  - The proposal will not alter the provisions relating to the approval and referral requirements
- The proposal is consistent with the 'Direction 6.3 Site Specific Provisions' direction, as it:
  - Proposes the most minor amendment to the LEP 2005, and will not support out-of-centre retail developments.
  - Supports a development which is suitable for the unique character and strategic location of the site.
- The proposal is consistent with the 'Direction 7.1 Implementation of the Metropolitan Strategy' direction, as it:
  - Seeks to support the growth of the 'Planned Major Centre' of Rouse Hill, which is also translated into the Metro Plan 2036.
  - Will cluster retailing and commercial activities.

6.4 Section C – Environmental, Social and Economic Impact

C1. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

A Flora and Fauna Assessment has been undertaken by Cumberland Ecology which determines that *"the current subject site does not provide suitable habitat for any endangered ecological communities, threatened flora or fauna."* The Flora and Fauna assessment is included as **Appendix C**.

Based on the limited vegetation currently on the site, and the findings of the Floor and Fauna Assessment, it is unlikely that the proposal will adversely effect any critical habitat, threatened species, or ecological communities.

C2. Are there any other likely environmental effects as a result of the Planning Proposal and how are they proposed to be managed?

The key environmental effects of the proposal are summarised below, and can be addressed in the following manner:

(a) Infrastructure

The site is located directly adjacent to the Rouse Hill Town Centre and as such it is understood that upgrades to infrastructure and services will occur as development within the area is established. Any augmentation to services required as a result of the proposal will be catered for as part of appropriate developer contributions.

(b) Roads and traffic generation

The proposed upgrades and alterations to the current road network associated with the concept will also be accounted for as part of appropriate developer contributions.

(c) Stormwater

Appropriate stormwater management will be designed as part of any future development application for the site, in accordance with a number of stormwater design principles. Stormwater management will incorporate on-site stormwater detention, rainwater harvesting, roofwater reuse, and accommodating the stormwater easement bisecting the site which benefits the Mean Fiddler.

C3. How has the Planning Proposal adequately addressed any social and economic effects?

The proposed development is considered to generate positive social and economic effects by:

- Creating jobs to support the intended population increase in the Rouse Hill Development Area, Hills Shire LGA and North-west Growth Centre, enabling people to live work and shop within their local area.
- Improving retail competition within the area, which will deliver better economic outcomes to the local community.
- Utilising the existing transport infrastructure which services the Rouse Hill town centre and will improve the opportunity for a range of shopping to be done in a single journey.
- Fast-tracking the timing of development which would by supported by the rezoning of the site under the draft LEP 2010, which would otherwise be delayed until the draft LEP 2010 is gazetted.

6.5 Section D – State and Commonwealth Interests

D1. Is there adequate public infrastructure for the Planning Proposal?

The property is adequately supported by the following public infrastructure:

- Connections and Access, including:
  - Commercial Road to the south,
  - Windsor Road being a primary collector road to the west
  - The T-way running along Windsor Road providing key bus services between the site and other Major Centres including Parramatta and Liverpool.
  - The planned North-West Rail Link connecting Rouse Hill to the CBD via Epping and Chatswood.
- Retail and Business facilities, including:
  - The Rouse Hill town centre lands which are directly adjacent to the south of the site, which provide a range of complementary retailing uses however does not accommodate developments of the type and scale which this proposal seeks to support.
  - The Annangrove industrial area which is to the north of the site, which comprises approximately 120ha of employment lands.

The Planning Proposal will not generate any noticeable increase in demand on other public infrastructure, however any subsequent development application on the site will include the payment of Developer Contributions in accordance with the local contribution plan adopted under Section 94 of the *Environmental Planning and Assessment Act 1979*.

D2. What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?

A gateway determination has not yet been issued. While preliminary discusses have been undertaken with the Department of Planning, no formal consultation with State agencies on the Planning Proposal has been undertaken to date.

7 Part 4 – Community Consultation

7.1 Public Exhibition

The Planning Proposal seeks to add uses which are indicated to be permissible on the site under the draft LEP 2010 which indicates Council have undertaken investigations into the appropriate nature of these uses on the site. The Planning Proposal requires consideration of the compatibility of the proposed additional land uses on surrounding development. Having regard to the site context, the Planning Proposal does not fall within the definition of a *low impact Planning Proposal*, and therefore is a proposal that will require exhibition for a minimum of 28 days. The community will be notified of the commencement of the exhibition period via a notice in the local newspaper and via a notice on the Baulkham Hills Shire Council website.

The written notice will:

- Give a brief description of the objectives or intended outcomes of the Planning Proposal;
- Indicate the land affected by the Planning Proposal;
- State where and when the Planning Proposal can be inspected;
- Give the name and address of the RPA for the receipt of submissions; and
- Indicate the last date for submissions.

During the exhibition period, the following material will be made available for inspection:

- The Planning Proposal, in the form approved for community consultation by the Director General of Planning;
- The gateway determination; and
- Any studies relied upon by the Planning Proposal.

7.2 Baulkham Hills Shire Council Consultation

A meeting was held with Baulkham Hills Shire Council on 23 July 2010. The minutes of the meeting are attached in **Appendix A**.

A subsequent meeting was held with Baulkham Hills Shire Council, including a representative from the Department of Planning, Helen Deegan on 22 December 2010. The meeting minutes for the second meeting are attached in **Appendix A**.

The key areas of discussion at the meetings have been outlined in detail in **Section 3** of this report and relate to:

- Uncertified draft LEP proposed rezoning of the site
- Integration of adjoining lands and ensuring these sites can be separately developed.
- Access and servicing arrangement for the future development of the site.
- Extension of Prestwick Avenue in accordance with the provisions of the DCP.
- Landscaping treatments of interfaces with surrounding land uses, particularly along the northern boundary interface with the existing residential area.

7.3 Department of Planning Consultation

Preliminary discussions have been undertaken with the Department of Planning, and a Department of Planning representative, Helen Deegan, was present at the second meeting with Baulkham Hills Shire Council on 22 December.

It is anticipated that further consultation will be undertaken with the Department of Planning during the Council assessment process of the Planning Proposal, and when the Council refer the proposal to the Department of Planning to obtain an gateway approval.

8 Conclusion

The subject site offers a unique opportunity for the additional retailing activities to be accommodated within the Baulkham Hills LGA. The strategic location of the site directly adjacent to the Rouse Hill Town Centre provides scope for the site to accommodate a retailing land use which is complementary to the land uses situated within the Rouse Hill Town Centre, and also sympathetic to the residential areas to the north and east.

The uncertified draft LEP 2010 proposes rezoning the site to a B5 Business Development zone which would permit the additional land uses proposed as part of this Planning Proposal for the site. This indicates that Council have assessed the suitability of the site to accommodate the land uses proposed on the site, and identified they are appropriate and compatible with surrounding land uses. As such, this Planning Proposal seeks to fast track the rezoning of the site, through adding the necessary additional land uses prior to the comprehensive Standard LEP process being completed so that market investment in the site can commence.

The Planning Proposal will deliver:

- Land for a modern retailing offer of a large-format nature which will complement the retail offer within the Rouse Hill Town Centre.
- Improved retailing offer and competition to the local and sub-regional community.
- Jobs for 130 to 150 staff (full-time, part-time and casual), and generate approximately 377 employment multipliers (including 186 direct jobs during construction).

The Planning Proposal is consistent with the strategic and market context of the site, and will utilise existing infrastructure and services, as well as increase the investment in local infrastructure through Section 94 Developer Contributions.

The proposal is consistent with the key strategic planning documents including the Metro Plan 2011, and the draft North-West Subregional Strategy.

In summary, the Planning Proposal is suitable for the site and should be supported for the following reasons:

- **From a strategic policy perspective** – The proposal will strengthen the strategic position of the Rouse Hill Town Centre in the Metro Plan and the draft North-West Subregional Strategy, and will support the establishment of retail clusters and providing diversity within centres.
- **From an environmental perspective** – The site presents no environmental constraints which would prevent development of the site. Further, the site is substantially cleared and its development would not result in the loss of a site which contributes to the visual or ecological environment of surrounding sites.
- **From a social and economic perspective** – The proposal will assist Baulkham Hills Council to contribute to the employment growth targets of the draft North-West Subregional Strategy, contributing approximately 130 – 150 new jobs. Further the proposal will support future development of the site to deliver a wider retailing offer to the local and regional community, and will improve competition in the home improvement sector, which will in turn deliver more competitive prices to the community.

For all the reasons above, we request that Baulkham Hills Shire Council support the progress of this Planning Proposal and that the Baulkham Hills Local Environmental Plan 2005 be amended accordingly.

Appendix A Minutes of meetings with Council

PLANNING SERVICES - DEVELOPMENT ASSESSMENT
2nd PRE-LODGEMENT MEETING

22 December 2010

APPLICANT: **Hyrox C:/ Urbis**
TELEPHONE: **8233 9952**
PROPERTY: **Lots 1021 & 1022 DP 1091484**
Commercial Road, Rouse Hill
ZONING: **Residential 2(c) (Tourist Village)**
SITE AREA: **3.714ha**
SUBJECT: **Bulky Goods Premises (Home Improvement)**

OFFICERS IN ATTENDANCE: **P. Oborne, R. Buckham, B. Hawkins, F. Rayner, A. King**

PROPOSAL:

- The application is for a bulky goods development comprising one major and one minor tenancy. The major tenancy will comprise a home improvements store including trade supplies, landscape and gardening supplies and general sales. The use of the minor tenancy has not yet been identified. The major tenancy has a gross floor area of 13, 500m^2 and the minor tenancy a gross floor area of approximately 1,200m^2.
- The plans tabled show the primary building located adjacent to the Mean Fiddler boundary with loading docks also located along this boundary.
- Multi-directional access to and from the site is proposed via a signalised intersection and left in and left out only service driveways.
- The proposal is not permissible under the current zoning and the applicant has identified that a rezoning would be lodged to facilitate the development.

FURTHER ISSUES FOR CONSIDERATION:

The following issues are raised in addition to the issues identified in earlier meetings.

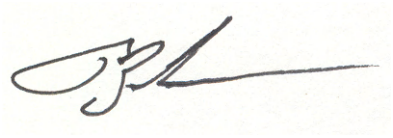
- The applicant is required to undertake a rezoning, to enable the proposal to be carried out on the site. Discussions should be undertaken with Council's Forward Planning Section in relation to this matter.

- Orderly development is to be addressed as the proposal has not incorporated Lot 5 DP 30916. Schematic designs are to be submitted that demonstrate that the site (lot 5) can be appropriately developed.
- The DCP maps envisage the continuation of Prestwick Avenue into the subject site. It is considered appropriate that a cul-de-sac head or other appropriate turning facility should be provided within the site. This will allow for adequate servicing of existing residential properties.
- Within the carpark and adjacent to driveways landscaping to a minimum width of 2 metres is to be provided.
- The application given it's expected Capital Investment Value will be forwarded to the Joint Regional Planning Panel for determination.

FURTHER MEETING REQUIRED: **Yes. A further informal meeting is required to discuss elevation plans, landscaping and continuation of Prestwick Avenue.**

Please note that it is the responsibility of the applicant to address all issues raised and any further issues that may arise as a result of more detailed information being provided and/or detailed assessment being undertaken.

PRELODGEMENT



Robert Buckham
DEVELOPMENT ASSESSMENT COORDINATOR
23 JANUARY 2011

Required
(Yes √ /No -)

√	**Owner's consent** (if Company, then under Company Seal and stating capacity of signatory	
√	**Fee**	
√	**PDF Disc copy of all documents**	
-	**Advertised development**	
√	**Number of sets of plans (A1)**	Number Required) - 11
	Coloured set of plans	(Number Required) - as above

√ **Written Statement of Environmental Effects** (Number Required) 11

Issues that should be addressed include:

• S.79C Heads of Consideration • Detailed description of proposal • Statutory provisions • SEPP Growth Centres	• DCP List: • Part D Section 1 – Parking • Part D Section 3 - Landscaping • Other matters

- **Integrated Referral Required**
(A cheque for $250 is required to be submitted with the DA for each approval body)

√ Schedule of areas (Floor Space Ratio, landscaped area, on site parking rates etc.)

√ **Studies** (all studies are to be carried out by a suitably qualified person) **(4 Copies of each).**
Traffic, Soil Contamination and Salinity, Noise, Flora/Fauna, Bushfire Assessment, Arborist, Economic, Heritage

√ **External Consultation**
Sydney Water and Energy Provider

Plans

√ Survey Plan (carried out by a suitably qualified person)
{contours (AHD), vegetation (girth & spread of canopy), existing structures, natural features}

√ On-site detention details/drainage details
√ Shadow diagrams (9am, 12.noon, 3pm on 21 June.)
√ Waste Management Plan
√ Water Supply and Sewage Disposal
√ Cross sections and long sections
√ Natural and finished levels
√ Landscape Plan and fencing details
√ Driveway grades
√ Subdivision plans
- **Model**
√ **Coloured perspectives**

NOTE: APPLICATIONS WILL NOT BE ACCEPTED UNLESS ALL THE REQUIRED INFORMATION REQUESTED ABOVE IS SUBMITTED.

PLANNING SERVICES - DEVELOPMENT ASSESSMENT PRE-LODGEMENT MEETING

23 July 2010

APPLICANT:	**PTC Projects - Mark Dibben**
TELEPHONE:	**0425 277 006**
PROPERTY:	**Lots 1021 & 1022 DP 1091484**
	Commercial Road, Rouse Hill
ZONING:	**Residential 2(c) (Tourist Village)**
SITE AREA:	**3.714ha**
SUBJECT:	**Bulky Goods Premises (Home Improvement)**

OFFICERS IN ATTENDANCE: **C. McKenzie, R. Buckham, G. Samardzic, B. Hawkins, F. Rayner, D. Alderson and J. Bryant**

PROPOSAL:

- The application is for a bulky goods development comprising one major and one minor tenancy. The major tenancy will comprise a home improvements store including trade supplies, landscape and gardening supplies and general sales. The use of the minor tenancy has not yet been identified. The major tenancy has a gross floor area of 13, 500m^2 and the minor tenancy a gross floor area of approximately 1,200m^2.
- The subject proposal does not incorporate Lot 5 DP 30916 (which includes Green Hills Drive), Lot 901 DP 1029396 and an number of residential allotments on the southern side of Carnoustie Street which were part of the previous rezoning, incorporating the subject site.
- Multi directional access to Commercial Road is proposed.
- The proposal is not permissible under the current zoning and the applicant has identified that a rezoning would be lodged to facilitate the development.

FORWARD PLANNING:

- The uncertified draft template LEP has been prepared and will be made publicly available shortly (This document is now available on Council's website).
- It is advised that the Commercial Centres Direction has identified a potential bulky goods precinct on Commercial Road. This document is available on Council's website

- Timeframes are uncertain in relation to the adoption of the template LEP and a separate rezoning process is suggested.
- Despite the differences of the current scheme and the previous rezoning incorporating the subject site, the delivery of Green Hills Drive will need to be addressed, despite Lot 5 DP 30916 not being incorporated within the subject proposal. It should be noted that this matter was of particular importance to the Roads and Traffic Authority.
- A copy of the Director General's determination for the previous rezoning is attached for the applicant's consideration.

ENGINEERING/TRAFFIC:

- The previous traffic report for the previous proposal had earmarked the use of Green Hills Drive to support the additional traffic volumes. A further traffic report is required to be submitted despite it being a smaller development, and is to demonstrate that the proposal is satisfactory and that access to Commercial Road only is sufficient.
- The report is to consider the impact of the proposal on the intersection of Commercial Road and Windsor Road.
- A separate access for service deliveries is recommended.
- Provision of traffic lights required as multi directional access is proposed. The cost of the traffic signals will need to be provided for by the development.
- In relation to drainage, there is a 6m fall west to east and drainage passes through Lot 5 down to the existing drainage point.
- Stormwater piping from the Mean Fiddler premises goes to the subject site. A 1 in 100 pipe is required to go through the middle of the site or around the proposed building.
- The Mean Fiddler enjoys a temporary easement over the site and they need to be approached.
- No On Site Detention is required.
- Rainwater reuse is to be provided.

HEALTH AND ENVIRONMENT:

- An acoustic report is required to be submitted and is to address proposed trading hours and loading dock use.
- The design scheme with the main building on the southern side of the site is considered to be more desirable, particularly given the increased interface with the Mean Fiddler site. Impacts on adjoining properties are an important factor to consider.
- A preliminary contamination report (phase 1) is required to be submitted.

- A salinity report is to be submitted as the subject premises has moderate salinity potential.
- Loading dock times are to be addressed.
- Address relevant car park security measures to be implemented.
- Café details is required to be submitted.

PLANNING:

- The interface with adjoining residential area (zoning interface) is required to be addressed.
- The original rezoning report considered that a 25m landscape buffer was appropriate. This is to be addressed particularly as there is no road buffer between the development site and adjoining residential properties.
- Orderly development is to be addressed as the proposal has not incorporated Lot 5 DP 30916 and residential allotments adjacent to the subject development site.
- The DCP maps envisage the continuation of Prestwick Avenue into the subject site. It is considered appropriate that a cul-de-sac head should be provided within the site. This will allow for adequate servicing of existing residential properties.
- The proposal must address the adjoining State heritage item at the Mean Fiddler premises.
- Bushfire protection measures are to be addressed as the Bushfire mapping identifies the property as bushfire prone land.
- A flora and fauna survey is to be undertaken given prevalence of Cumberland Plain Woodland in the locality.
- A further meeting is required to examine detailed design of the proposal. The proposal is to address and consider whether Lot 5 will be incorporated into the development at a later date to facilitate multiple access to accommodate traffic.
- Levies from the RTA will be imposed for the upgrade of Windsor Road.

FURTHER MEETING REQUIRED: **Yes. A Further meeting required to discuss more detailed plans and consideration of the issues raised above.**

Please note that it is the responsibility of the applicant to address all issues raised and any further issues that may arise as a result of more detailed information being provided and/or detailed assessment being undertaken.

PRELODGEMENT

Robert Buckham

DEVELOPMENT ASSESSMENT COORDINATOR

04 AUGUST 2010

Appendix B Traffic Report

HYDROX NOMINEES PTY LTD

TRAFFIC ASPECTS OF PROPOSED HOME IMPROVEMENT CENTRE, ROUSE HILL

FEBRUARY 2010

COLSTON BUDD HUNT & KAFES PTY LTD
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APPENDICES

1. INTRODUCTION

1.1 Colston Budd Hunt and Kafes Pty Ltd has been commissioned by Hydrox Nominees Pty Ltd to examine traffic aspects of a proposed rezoning and subsequent development of a home improvement centre on the northern side of Commercial Road at Rouse Hill. The site location is shown in Figure 1.

1.2 The proposed rezoning seeks to support a future development anticipated to comprise a home improvement centre of some 13,531m^2, plus a separate tenancy of 1,200m^2. Access is proposed from Commercial Road via a new signalised intersection, opposite Civic Way.

1.3 Traffic aspects of this indicative development are discussed in the following chapter.

2. TRAFFIC ASPECTS OF PROPOSED HOME IMPROVEMENT CENTRE

2.1 This traffic report has been prepared to support a rezoning of the site to support bulky goods development. The traffic assessment has been based on an indicative development scheme for the site to accommodate a home improvement centre and separate bulky goods tenancy. The traffic aspects of the development are set down through the following sections:

- site location and road network;
- traffic flows;
- indicative development;
- public transport;
- parking provision;
- traffic generation of home improvement centre;
- intersection operations;
- other matters; and
- summary.

Site Location and Road Network

2.2 The site is located on the northern side of Commercial Road, east of Windsor Road, at Rouse Hill. It is currently largely vacant, with a dwelling on the south-western corner of the site. The Rouse Hill town centre is some 400 metres south of the site and the Mean Fiddler Hotel adjoins to the site to the west.

2.3 In the vicinity of the site, Windsor Road provides two traffic lanes in each direction with an 80 kilometre per hour speed limit. South of Schofields Road, Windsor Road provides three traffic lanes in each direction. There is a central concrete

median and additional turn lanes at signalised intersections. There are bus stops on both sides of the road, as well as the major bus interchange and transitway terminus at the Rouse Hill town centre.

2.4 Commercial Road runs east from Windsor Road at a t-intersection. Commercial Road provides two traffic lanes in each direction near Windsor Road, and one traffic lane in each direction further east. The intersection of Commercial Road with Windsor Road is controlled by traffic signals. There are twin right turn lanes from Windsor Road into Commercial Road and left slip lanes for turns to and from Windsor Road.

2.5 East of the site, Caddies Boulevard links Commercial Road in the north with Sanctuary Drive in the south. Caddies Boulevard provides two traffic lanes in each direction with a central median. It has a signalised intersection with Rouse Hill Drive and an unsignalised t-intersection with Commercial Road.

2.6 Civic Way is south of the site and intersects Rouse Hill Drive between Windsor Road and Caddies Boulevard. It has a signalised intersection with Rouse Hill Drive and provides access to and from parking areas in the Rouse Hill town centre. The fourth (northern) approach to the intersection has been constructed, but does not yet provide access to development.

2.7 Prestwick Avenue runs south from Carnoustie Street and terminates at the subject site. It provides for two way traffic and provides access to residential properties.

2.8 As part of future planning for the area, Caddies Boulevard will be extended north of Commercial Road to connect to Green Hills Drive. The intersection of

Commercial Road/Caddies Boulevard would be signalised. The intersection of Green Hills Drive with Carnoustie Street would have a roundabout installed.

Traffic Flows

2.9 Traffic counts have been provided by the RTA[1] for the Windsor Road/ Commercial Road intersection for 2016, assuming full development has occurred in the North-West Growth Centre. These flows have been used to estimate future two-way traffic flows on Commercial Road for 2016, and are shown in Figure 2. A summary is provided in Table 2.1.

Table 2.1: 2016 Traffic flows with all development in North-West Growth Centre

Road	Location	Weekday afternoon peak hour
Windsor Road	North of Commercial Road	4,255
	South of Commercial Road	4,730
Commercial Road	East of Windsor Road	1,455

2.10 Table 2.1 shows that flows on Windsor Road would be some 4,000 to 5,000 vehicles per hour two-way during weekday afternoon peak hours. Flows on Commercial Road would be lower at some 1,400 to 1,500 vehicles per hour two-way.

2.11 We note that the above traffic flows are based on full development of the North-West Growth Centre by 2016, which is unlikely to occur by 2016. Therefore the traffic flows are likely to be conservatively high.

[1] Extract from "Rouse Hill Regional Centre Traffic Report." Prepared by Maunsell Aecom, March 2006.

Indicative Development

2.12 The indicative development includes a home improvement centre of some 13,531m^2, plus a separate tenancy of 1,200m^2. To appropriately provide for right turns to and from the site, as well as land on the southern side of Commercial Road, vehicular access is proposed via a new signalised intersection on Commercial Road. The intersection would be located where a new stub road has been constructed (Civic Way) for future access to land on the southern side of the road. The proposed signalised intersection would therefore serve land on both sides of Commercial Road.

2.13 The intersection would be located some 285 metres from Windsor Road, and some 120 metres from Caddies Boulevard. The RTA has given in-principle support for the proposed signalised access arrangements on Commercial Road. A copy of the RTA correspondence is attached as Appendix A.

Public Transport

2.14 Public transport services in the area are being significantly improved as part of the Rouse Hill Regional Centre. The Rouse Hill bus interchange is on the eastern side of Windsor Road, south of Schofields Road. Currently this interchange is the terminus for the North West Transitway that connects Rouse Hill with Blacktown and Parramatta. In the future, the North West Transitway will be extended north along Windsor Road past the site and to the south to Castle Hill.

2.15 Local bus services provide feeder services to the transitway. These services currently operate along Windsor Road and Commercial Road.

2.16 The subject site is located some 500 metres from the Rouse Hill Bus Interchange. Location of development within 800 metres of regional public transport services (such as rail lines or bus transitways) indicates good access to public transport. In addition the subject site is located within 400 metres of local bus services.

2.17 In the long term a rail line is proposed to connect Rouse Hill to the City Rail network.

2.18 As part of the upgrade of Windsor Road a combined regional pedestrian/cycle path was provided on the western side of Windsor Road. This provides a regional off street cycle path that connects the Rouse Hill Regional Centre with surrounding areas. In addition Baulkham Hills Council has developed a sub regional cycle plan for the area to connect surrounding areas with Rouse Hill Regional Centre. A number of these cycle paths have been constructed.

2.19 Thus the site has good access to existing and future public transport services and cycle paths. These provide opportunities for travel by modes other than car.

Parking Provision

2.20 Part D Section 1 of the Baulkham Hills Development Control Plan (Parking) indicates that bulky goods development should provide one space per 40m^2 GFA. On this basis the indicative development, with some 14,731m^2, should provide 368 spaces.

2.21 The indicative parking proposed will satisfy these requirements. Bicycle and disabled parking should also be provided in accordance with Council requirements.

Traffic Generation of Home Improvement Centre

2.22 The proposed development would be expected to generate some 2.5 and 4.5 vehicles per hour per 100m^2 during weekday afternoon and Saturday peak hours respectively. With an indicative centre of some 13,531m^2, plus an additional tenancy of some 1,200m^2, the proposed uses would generate a total of some 360 and 650 vehicles per hour, two-way, during weekday afternoon and Saturday peak periods respectively.

2.23 The RTA's "Guide to Traffic Generating Developments" indicates that 20 per cent of retail traffic would be passing trade, i.e. traffic which would have driven past the site regardless of its visit to the site. Our assessment is conservative in that no allowance has been made for passing trade.

2.24 Traffic flows on Commercial Road, including the home improvement centre development, with traffic signal access from Commercial Road, are also shown in Figure 2. The traffic flows in Figure 2 are based on some 400 vehicles per hour generated through the proposed traffic signals from future development of land on the southern side of Commercial Road. Two-way traffic flows are summarised in Table 2.2.

2.25 Traffic increases on Commercial Road would be some 105 to 250 vehicles per hour two-way during weekday afternoon peak hours. Increases on Windsor Road would be lower at some 80 to 165 vehicles per hour two-way.

Table 2.2: 2016 base traffic flows plus traffic from proposed home improvement centre development			
Road	**Location**	**Weekday afternoon peak hour**	
		Base flow	**Plus development**
Windsor Road	North of Commercial Road	4,255	+80
	South of Commercial Road	4,730	+165
Commercial Road	East of Windsor Road	1,455	+250
	East of signalised access	1,255	+105
Site access	North of Commercial Road	-	+360
Civic Way	South of Commercial Road	400	+10

Intersection Operations

2.26 The capacity of the road network is generally determined by the ability of its intersections to cater for peak period traffic flows. The operations of the Commercial Road intersections have been analysed using the SIDRA computer program for the traffic flows shown in Figure 2. The analysis is based on the configuration of the site access intersection suggested by the RTA in its correspondence attached in Appendix A.

2.27 SIDRA analyses intersections controlled by traffic signals, roundabouts and signs. SIDRA provides a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode
>70	=	"F"	Unsatisfactory and requires additional capacity

2.28 The analysis found that the signalised intersection of Windsor Road with Commercial Road would operate with average delays of less than 30 seconds per vehicle during weekday afternoon peak hours. This represents level of service C, a satisfactory level of service.

2.29 The proposed signalised intersection of Commercial Road with the site access and Civic Way would operate with average delays of less than 25 seconds per vehicle during weekday afternoon peak hours. This represents level of service B, a good level of service.

2.30 We have also analysed the operation of the Commercial Road intersections (Windsor Road and proposed signalised access) for a Saturday using a traffic generation of 650 vehicles per hour two-way from the indicative development.

2.31 The SIDRA analysis found that the signalised intersection of Windsor Road with Commercial Road would operate with average delays of less than 40 seconds per vehicle. This represents level of service C, a satisfactory level of service.

2.32 The proposed signalised intersection of Commercial Road with the site access and new road to the south would operate with average delays of less than 25 seconds per vehicle during weekday afternoon peak hours. This represents level of service B, a good level of service.

2.33 Therefore, with the proposed signalised access on Commercial Road, the road network will be able to cater for the traffic generation of the proposed development. Copies of the SIDRA output summaries are attached as Appendix B.

Other Matters

2.34 The proposed signalised intersection on Commercial Road would include a 60 metre right turn lane for right turns into the site. As previously discussed, there is some 120 metres between the proposed intersection and the intersection of Caddies Boulevard. The Caddies Boulevard intersection includes an existing 60 metre right turn lane from Commercial Road. The two right turn lanes can therefore be accommodated on Commercial Road.

2.35 The SIDRA analysis indicates that 95th percentile queue length for vehicles turning right into the site would be some 37 metres. Therefore, a 60 metre right turn lane would have appropriate capacity to accommodate queues of traffic turning into the site.

2.36 Acor has prepared a concept plan for the proposed signalised intersection on Commercial Road at the home improvement centre access.

2.37 In the future, in association with the development of an adjacent site, Council's planning for the area has identified traffic signals at the intersection of Commercial Road/Caddies Boulevard. A new northern leg to the intersection would be provided as an extension to Green Hill Drive. Traffic flows through the new intersection, including the extension of Green Hills Drive, are also shown in Figure 2.

2.38 The operation of the future signalised intersection of Commercial Road with Caddies Boulevard and the Green Hills Drive extension has been analysed with SIDRA for the flows shown in Figure 2. The analysis found that the intersection would operate with average delays of less than 40 seconds per vehicle or less during peak hours. This represents level of service C, a satisfactory level of service.

2.39 The analysis also found that the 95th percentile queue length for vehicles turning right into Caddies Boulevard would be some 16 metres. Therefore, the existing 60 metre right turn lane would have appropriate capacity to accommodate queues of traffic turning into Caddies Boulevard.

2.40 The SIDRA analysis also indicates that queuing from the three Commercial Road intersections (Windsor Road, site access and future Caddies Boulevard intersection) would not affect adjacent intersections.

2.41 As previously discussed, Prestwick Avenue terminates at the northern side of the site. An extension to Prestwick Avenue was previously envisaged through the site, in association with development of the site for residential purposes.

2.42 To assist Council and its waste collection vehicles in Prestwick Avenue, the applicant proposes a turning area within the site. The turning area will be provided to allow rigid garbage collection vehicles, as well as other vehicles in Prestwick Avenue to turn around. Pedestrian access between the site and the turning area/Prestwick Avenue will be physically restricted.

2.43 The matters raised in the RTA's letter are discussed below.

2. *The RTA would agree "in principle" to a signalised access along Commercial Road to serve the proposed development site subject to the following requirements:*

- *That the vehicular access lines up directly opposite the Civic Way road connection into the Rouse Hill Town Centre (Northern Frame).*

2.44 The site access is opposite Civic Way, as shown in the plan prepared by Acor.

- *That the signalised access is a minimum of 120m from the intersection of Commercial Road / Caddies Blvd.*

2.45 The proposed access location is 120 metres from Caddies Boulevard as discussed in paragraph 2.13.

- *That the Civic Way road connection into the Rouse Hill Town Centre (Northern Frame) be restricted to the following movements:*

  a) Unsignalised left in / left out;
  b) Signalised southbound through movement from the Home Improvement Centre into the Rouse Hill Town Centre (Northern Frame).

c) Signalised right turn movement from Commercial Road (west leg) into Civic Way road connection (south leg).

- *That the site access be designed with the following configuration:*

  Dual entry lane;
  Three exit lanes under the following lane configuration (L / TR / R) with the left turn lane constructed as a slip lane.

2.46 The plans prepared by Acor include the above requirements, with the exception of the dual entry lane into the site. As only one lane of traffic turns into the site (left or right turns from Commercial Road), two entry lanes are not required. The SIDRA modelling indicates that one entry lane has appropriate capacity to cater for traffic entering the development.

- *That a 60m long right turn bay be constructed within Commercial Road (east leg).*

- *That there be no pedestrian crossing installed across Commercial Road on the (west leg).*

2.47 The plans prepared by Acor include the above requirements.

- *That the proposed signalised access / intersection be designed in accordance with the RTA's Road Design Guide and Traffic Signal Design Manual.*

- *That the operation of the signals be similar to the operation of TCS #3399 (Silverwater Road / Clyde Street).*

2.48 The design of the intersection has been based on the Silverwater Road/Clyde Street intersection. The detailed intersection design will occur in accordance with relevant design standards at the detailed design stage.

- *That the Woolworths Home Improvement Centre development of this land must occur within the next 18 months from the date of this correspondence.*

2.49 Further discussions with the RTA have confirmed that the RTA wishes the traffic signal approval to relate to the Woolworths development rather than the site in perpetuity. The RTA has indicated that the 18 month period relates to approval and commencement of work. The proposed development does not have to be operational within that time frame.

3. *A further review of the submitted traffic modelling has indicated the need to provide for an additional 60m of storage for the right turn movement from Windsor Road into Commercial Road. (Note: This can be provided either by lengthening the existing dual right turn lanes by 30m each or by lengthening the outer right turn lane by 60m).*

2.50 This matter is noted and will be addressed at the development application stage.

4. *That service vehicle access and loading be clearly segregated from the customer parking and access.*

2.51 The plan includes separate access for service vehicles and loading areas separated from the customer parking area.

5. *The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, aisle widths, aisle lengths, turning paths, sight distance*

requirements, and parking bay dimensions) should be in accordance with AS 2890.1 – 2004 and AS 2890.2 – 2002 for heavy vehicle usage.

2.52 These matters will be included in the plans at the development application stage.

6. Car parking provision to Council's satisfaction.

2.53 Parking provision is discussed in paragraphs 2.20 to 2.21.

7. Suitable provision must be made to ensure all vehicles enter and exit the site in a forward direction.

2.54 The design provides for all vehicles to enter and exit in a forward direction.

8. All works associated with the proposed development are to be at no cost to the RTA.

2.55 This matter is noted.

Summary

2.56 In summary, the main points relating to the traffic aspects of the home improvement centre are as follows:

i) signalised site access will operate at a satisfactory level of service with a right turn bay from Commercial Road;

ii) adjacent intersections on Commercial Road at Windsor Road and Caddies Boulevard will also operate at satisfactory levels of service;

iii) the proposed 60 metre right turn bay into the site would have appropriate capacity to accommodate vehicles waiting to turn into the site; and

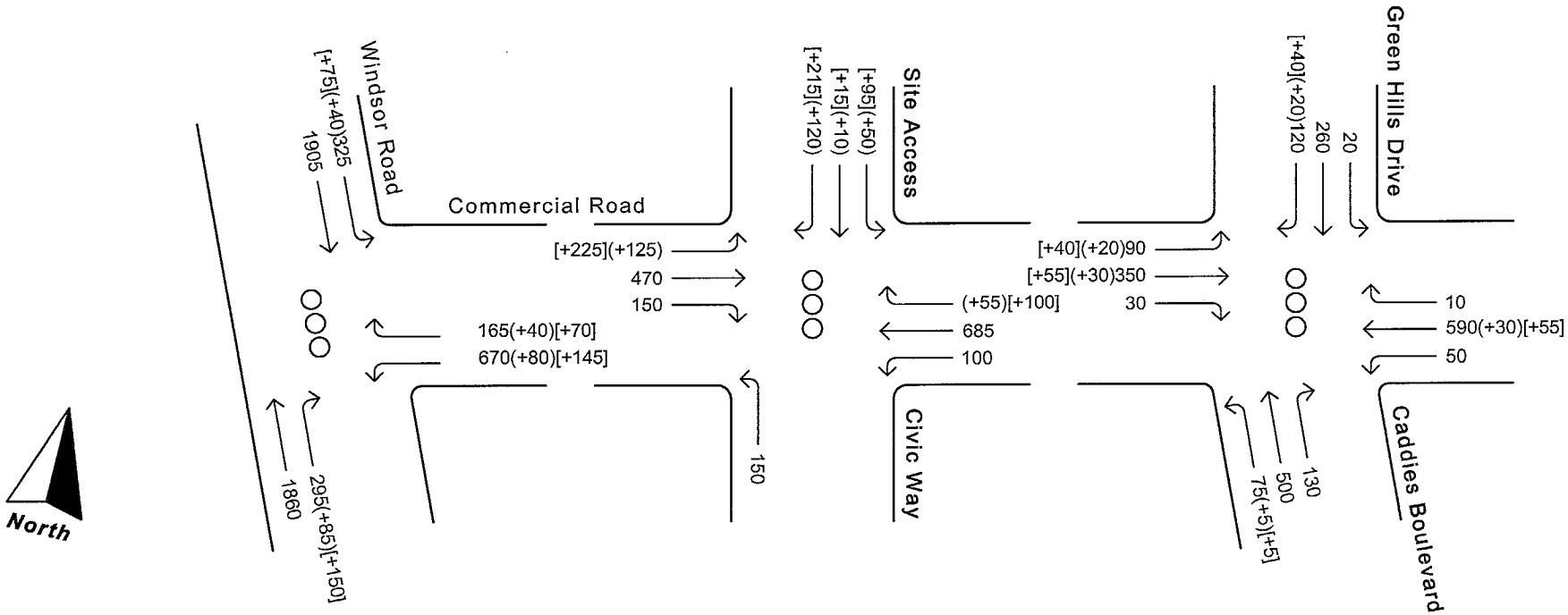
iv) queuing at the three signalised intersections on Commercial Road would not affect the adjacent intersections.

Location Plan

Colston Budd Hunt & Kafes Pty Ltd

DRAWN BY CBHK Pty Ltd_hs Ref: 7875 07 October 2010

Figure 1



LEGEND

100 - 2016 Weekday Afternoon Base Flows
(+10) - Additional Weekday Development Traffic
[+20] - Additional Weekend Development Traffic
- Traffic Signals

2016 weekday afternoon peak hour traffic flows plus development traffic

Colston Budd Hunt & Kafes Pty Ltd

DRAWN BY CBHK Pty Ltd_hs Ref: 7875 07 October 2010

Figure 2

APPENDIX A

RTA CORRESPONDENCE

Your Reference:	JH\7875\jj
Our Reference:	RDC 10M1883 - SYD 10/00695
Contact:	Andrew Popoff
Telephone	8849 2180

NSW GOVERNMENT | RTA

Director
Colston Budd Hunt & Kafes Pty Ltd
PO Box 5186
West Chatswood NSW 1515

Attention: Josh Hollis

PRE DA ADVICE: PROPOSED HOME IMPROVEMENT CENTRE AT COMMERCIAL ROAD, ROUSE HILL.

Dear Sir,

I refer to your emails dated 15 July 2010, 2 August 2010 and 11 August 2010 which included plans and reports dated 30 July 2010 and 11 August 2010 regarding the proposed Home Improvement Centre, associated vehicular access arrangements and your request for pre-development application advice from the Roads and Traffic Authority (RTA).

The RTA has reviewed the submitted documentation and following meetings held on the 10 and 17 August 2010 has included the following points for consideration should a development application be lodged to the relevant consent authority:

1. The Hills Shire Council must be satisfied in rezoning the site from its current Residential 2(c) to Business 3(a) or Zone B5 Business Development.

2. The RTA would agree "in principle" to a signalised access along Commercial Road to serve the proposed development site subject to the following requirements:

    - That the vehicular access lines up directly opposite the Civic Way road connection into the Rouse Hill Town Centre (Northern Frame).

    - That the signalised access is a minimum of 120m from the intersection of Commercial Road / Caddies Blvd.

    - That the Civic Way road connection into the Rouse Hill Town Centre (Northern Frame) be restricted to the following movements:

        a) Unsignalised left-in / left-out;
        b) Signalised southbound through movement from the Home Improvement Centre into the Rouse Hill Town Centre (Northern Frame).
        c) Signalised right turn movement from Commercial Road (west leg) into Civic Way road connection (south leg).

    - That the site access be designed with the following configuration:

        Dual entry lane;

Three exit lanes under the following lane configuration (L / TR / R) with the left turn lane constructed as a slip lane.

- That a 60m long right turn bay be constructed within Commercial Road (east leg).
- The there be no pedestrian crossing installed across Commercial Road on the (west leg).
- That the proposed signalised access / intersection be designed in accordance with the RTA's Road Design Guide and Traffic Signal Design Manual.
- That the operation of the signals be similar to the operation of TCS #3399 (Silverwater Road / Clyde Street).
- That the Woolworths Home Improvement Centre development of this land must occur within the next 18 months from the date of this correspondence.

3. A further review of the submitted traffic modelling has indicated the need to provide for an additional 60m of storage for the right turn movement from Windsor Road into Commercial Road. (Note: This can be provided either by lengthening the existing dual right turn lanes by 30m each or by lengthening the outer right turn lane by 60m).

4. That service vehicle access and loading be clearly segregated from the customer parking and access.

5. The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, aisle widths, aisle lengths, turning paths, sight distance requirements, and parking bay dimensions) should be in accordance with AS 2890.1- 2004 and AS 2890.2 – 2002 for heavy vehicle usage.

6. Car parking provision to Council's satisfaction.

7. Suitable provision must be made to ensure all vehicles enter and exit the site in a forward direction.

8. All works associated with the proposed development are to be at no cost to the RTA.

It is emphasised that the comments provided above are informal and of a Pre-DA nature. They are not to be interpreted as binding upon the RTA and may change following formal assessment of a submitted development application from the appropriate consent authority.

A copy of this letter has been forwarded to Council for their information.

Any inquiries on this matter can be directed to the undersigned on 8849 2180, or facsimile 8849 2918.

Yours sincerely

Andrew Popoff
A/Senior Land Use Planner
Transport Planning, Sydney Region

3 September 2010

APPENDIX B

SIDRA OUTPUT SUMMARIES

MOVEMENT SUMMARY

Commercial Road & site access
2016 Saturday flows + development + other development
Alternate configuration
Signals - Fixed Time Cycle Time = 92 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Other land to south											
1	L	150	1.0	0.468	46.1	LOS D	7.9	55.9	0.95	0.80	26.4
Approach		150	1.0	0.468	46.1	LOS D	7.9	55.9	0.95	0.80	26.4
East: Commercial Road east											
4	L	100	1.0	0.458	24.3	LOS B	11.4	80.4	0.60	0.90	37.1
5	T	685	1.0	0.457	16.0	LOS B	11.5	81.2	0.60	0.52	39.8
6	R	100	1.0	0.312	43.7	LOS D	5.2	36.8	0.87	0.77	25.7
Approach		885	1.0	0.458	20.1	LOS B	11.5	81.2	0.63	0.59	37.4
North: Site access											
7	L	95	1.0	0.083	6.6	LOS A	1.1	8.0	0.25	0.58	37.3
8	T	15	1.0	0.337	35.9	LOS C	6.1	43.3	0.91	0.73	23.1
9	R	215	1.0	0.336	41.7	LOS C	6.1	43.3	0.91	0.78	23.3
Approach		325	1.0	0.336	31.2	LOS C	6.1	43.3	0.72	0.72	26.2
West: Commercial Road west											
10	L	225	1.0	0.409	22.8	LOS B	9.9	69.9	0.57	0.82	35.8
11	T	470	1.0	0.409	15.6	LOS B	10.2	71.8	0.57	0.49	40.1
12	R	150	1.0	0.468	46.2	LOS D	7.6	53.9	0.91	0.80	26.3
Approach		845	1.0	0.468	23.0	LOS B	10.2	71.8	0.63	0.64	35.7
All Vehicles		2205	1.0	0.468	24.6	LOS B	11.5	81.2	0.66	0.64	33.6

Level of Service (Aver. Int. Delay): LOS B. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS D. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	13.6	LOS B	0.1	0.1	0.54	0.54
P3	Across E approach	53	29.8	LOS C	0.1	0.1	0.80	0.80
P5	Across N approach	53	13.6	LOS B	0.1	0.1	0.54	0.54
All Pedestrians		159	19.0				0.63	0.63

Level of Service (Aver. Int. Delay): LOS B. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS C. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: 2016 weekday PM + dev + other dev

Windsor Road & Commercial Road
2016 weekday PM + development + other development to south
Signals - Fixed Time Cycle Time = 114 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Windsor Road south											
2	T	1860	1.0	0.667	10.3	LOS A	27.9	196.7	0.59	0.59	50.4
3	R	380	1.0	0.904	76.8	LOS F	13.8	97.6	1.00	0.98	20.1
Approach		2240	1.0	0.904	21.5	LOS B	27.9	196.7	0.66	0.65	40.1
East: Commercial Road											
4	L	451	1.0	1.000[3]	30.6	LOS C	19.5	137.9	0.85	0.84	34.1
6	R	504	1.0	0.925	63.7	LOS E	21.1	148.7	0.99	0.33	24.4
Approach		955	1.0	1.000	48.1	LOS D	21.1	148.7	0.92	0.57	30.4
North: Windsor Road north											
7	L	365	1.0	0.414	10.5	LOS A	5.2	36.7	0.27	0.69	51.5
8	T	1905	1.0	0.890	33.6	LOS C	52.8	373.1	0.96	0.96	32.4
Approach		2270	1.0	0.890	29.9	LOS C	52.8	373.1	0.85	0.92	34.5
All Vehicles		5465	1.0	1.000	29.6	LOS C	52.8	373.1	0.78	0.75	36.0

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

3 x = 1.00 due to short lane

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	37.9	LOS D	0.1	0.1	0.82	0.82
P3	Across E approach	53	11.0	LOS B	0.1	0.1	0.44	0.44
All Pedestrians		106	24.4				0.63	0.63

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS D. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: 2016 Saturday + dev + other dev

Windsor Road & Commercial Road
2016 Saturday + development + other development to south
Signals - Fixed Time Cycle Time = 106 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Windsor Road south											
2	T	1860	1.0	0.688	11.0	LOS A	27.9	197.2	0.63	0.62	49.5
3	R	445	1.0	0.984	94.3	LOS F	17.2	121.5	1.00	1.10	17.3
Approach		2305	1.0	0.984	27.1	LOS B	27.9	197.2	0.70	0.71	36.4
East: Commercial Road											
4	L	484	1.0	1.000[3]	30.7	LOS C	19.5	138.0	0.86	0.84	34.0
6	R	566	1.0	0.952	64.0	LOS E	23.1	163.2	0.99	0.35	25.3
Approach		1050	1.0	1.000	48.7	LOS D	23.1	163.2	0.93	0.57	30.6
North: Windsor Road north											
7	L	400	1.0	0.466	10.9	LOS A	6.0	42.5	0.31	0.70	50.9
8	T	1905	1.0	0.947	51.5	LOS D	62.5	441.1	1.00	1.14	25.6
Approach		2305	1.0	0.948	44.5	LOS D	62.5	441.1	0.88	1.06	28.0
All Vehicles		5660	1.0	1.000	38.2	LOS C	62.5	441.1	0.82	0.83	31.5

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

3 x = 1.00 due to short lane

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	34.1	LOS D	0.1	0.1	0.80	0.80
P3	Across E approach	53	11.8	LOS B	0.1	0.1	0.47	0.47
All Pedestrians		106	22.9				0.64	0.64

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS D. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: 2016 weekday PM + dev + other dev

Commercial Road & Caddies Boulevard
2016 flows + development + other development
Signals - Fixed Time Cycle Time = 100 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Caddies Boulevard											
1	L	80	1.0	0.572	42.5	LOS D	13.9	98.3	0.92	0.85	28.7
2	T	500	1.0	0.572	34.7	LOS C	13.9	98.3	0.92	0.78	29.2
3	R	130	1.0	0.552	51.3	LOS D	7.6	54.0	0.96	0.79	24.9
Approach		710	1.0	0.572	38.6	LOS C	13.9	98.3	0.93	0.79	28.2
East: Commercial Road east											
4	L	50	1.0	0.595	40.6	LOS C	15.4	108.9	0.91	0.87	29.6
5	T	620	1.0	0.595	32.7	LOS C	15.5	109.2	0.91	0.78	30.0
6	R	10	1.0	0.090	58.5	LOS E	0.8	5.4	0.97	0.67	23.0
Approach		680	1.0	0.595	33.7	LOS C	15.5	109.2	0.91	0.79	29.9
North: Green Hills Drive											
7	L	20	1.0	0.277	39.4	LOS C	7.1	49.8	0.83	0.84	30.0
8	T	260	1.0	0.277	31.6	LOS C	7.1	50.0	0.84	0.68	30.7
9	R	140	1.0	0.595	51.7	LOS D	8.2	57.8	0.97	0.80	24.8
Approach		420	1.0	0.595	38.6	LOS C	8.2	57.8	0.88	0.73	28.4
West: Commercial Road west											
10	L	110	1.0	0.430	37.9	LOS C	11.4	80.2	0.85	0.84	30.1
11	T	380	1.0	0.430	30.6	LOS C	11.4	80.2	0.85	0.72	30.9
12	R	30	1.0	0.271	59.8	LOS E	2.2	15.8	0.99	0.72	22.7
Approach		520	1.0	0.430	33.9	LOS C	11.4	80.2	0.86	0.74	30.1
All Vehicles		2330	1.0	0.595	36.1	LOS C	15.5	109.2	0.90	0.77	29.1

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	24.5	LOS C	0.1	0.1	0.70	0.70
P3	Across E approach	53	26.6	LOS C	0.1	0.1	0.73	0.73
P5	Across N approach	53	24.5	LOS C	0.1	0.1	0.70	0.70
P7	Across W approach	53	26.6	LOS C	0.1	0.1	0.73	0.73
All Pedestrians		212	25.6				0.72	0.72

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS C. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Commercial Road & Caddies Boulevard
2016 Saturday flows + development + other development
Signals - Fixed Time Cycle Time = 100 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Caddies Boulevard											
1	L	80	1.0	0.646	45.6	LOS D	14.5	102.2	0.96	0.85	27.6
2	T	500	1.0	0.645	37.8	LOS C	14.5	102.2	0.96	0.81	28.0
3	R	130	1.0	0.524	46.9	LOS D	7.3	51.4	0.92	0.79	26.2
Approach		710	1.0	0.645	40.3	LOS C	14.5	102.2	0.95	0.81	27.6
East: Commercial Road east											
4	L	50	1.0	0.637	41.9	LOS C	16.2	114.7	0.93	0.87	29.1
5	T	645	1.0	0.639	34.0	LOS C	16.3	114.9	0.93	0.80	29.5
6	R	10	1.0	0.090	58.5	LOS E	0.8	5.4	0.97	0.67	23.0
Approach		705	1.0	0.639	34.9	LOS C	16.3	114.9	0.93	0.80	29.4
North: Green Hills Drive											
7	L	20	1.0	0.314	42.2	LOS C	7.3	51.7	0.87	0.84	28.9
8	T	260	1.0	0.313	34.4	LOS C	7.4	51.9	0.87	0.70	29.4
9	R	160	1.0	0.646	48.3	LOS D	8.9	62.7	0.93	0.82	25.8
Approach		440	1.0	0.646	39.8	LOS C	8.9	62.7	0.89	0.75	28.0
West: Commercial Road west											
10	L	130	1.0	0.484	39.3	LOS C	12.5	88.6	0.87	0.85	29.6
11	T	405	1.0	0.484	32.0	LOS C	12.5	88.6	0.88	0.74	30.2
12	R	30	1.0	0.271	59.8	LOS E	2.2	15.8	0.99	0.72	22.7
Approach		565	1.0	0.484	35.2	LOS C	12.5	88.6	0.88	0.76	29.6
All Vehicles		2420	1.0	0.646	37.4	LOS C	16.3	114.9	0.92	0.79	28.6

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	25.2	LOS C	0.1	0.1	0.71	0.71
P3	Across E approach	53	28.9	LOS C	0.1	0.1	0.76	0.76
P5	Across N approach	53	25.2	LOS C	0.1	0.1	0.71	0.71
P7	Across W approach	53	28.9	LOS C	0.1	0.1	0.76	0.76
All Pedestrians		212	27.0				0.74	0.74

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS C. LOS Method for individual pedestrian movements: Delay (HCM).

Appendix C Flora + Fauna Assessment

9 February 2010

Cameron Barnes
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REVIEW OF FLORA AND FAUNA ASSESSMENT FOR COMMERCIAL ROAD, ROUSE HILL

Dear Cameron

Cumberland Ecology has conducted a review of the existing Flora and Fauna Assessment (Cumberland Ecology 2008) to confirm that the current subject site does not support any endangered ecological communities or threatened flora and/or fauna.

Appendix A to this letter provides a review of the Flora and Fauna Assessment undertaken by Cumberland Ecology in 2008. Future development in accordance with the proposed rezoning of the site (the current subject site) is contained wholly within the area investigated during the previous assessment (the original subject site). **Appendix B** provides the vegetation mapping from the original report and illustrates the location of the current subject site within this area.

The review confirms that the current subject site does not support any endangered ecological communities, threatened flora or fauna. Further, the current subject site does not provide suitable habitat for any of these species. Development of the site once rezoned generally in accordance with the schematic plans that accompany the planning proposal is therefore unlikely to result in any significant ecological impacts. The original subject site supports some remnant vegetation, however this lies entirely outside of the current subject site and would not be impacted by the proposed development.

Yours sincerely

Carl Corden

Ecologist/Project Manager

carl.corden@cumberlandecology.com.au

Appendix A

Review of Flora and Fauna Assessment for Commercial Road, Rouse Hill

A.1 Introduction

Hydrox Nominees Pty Ltd are proposing to rezone a parcel of land at Commercial Road, Rouse Hill (the current subject site) to support a bulky goods development including a home improvement centre. As part of the Planning Proposal for the subject site a review has been undertaken of the Flora and Fauna Assessment that was prepared by Cumberland Ecology in 2008. The current subject site is contained wholly within the original subject site investigated during the 2008 assessment. The vegetation mapping provided in **Appendix B** shows the boundaries of both the current and original (2008) subject sites, as well as the vegetation communities mapped during the 2008 Flora and Fauna Assessment.

The purpose of the 2008 Flora and Fauna Assessment was to assess the flora and fauna values of the Commercial Road, Rouse Hill property under the *Environmental Planning and Assessment Act 1979* and predict impacts of the proposed retail rezoning on the flora and fauna of the original subject site. The vegetation on the larger original subject site consisted of grasslands, partially inundated drainage lines, landscaped areas and a patch of remnant woodland trees. Most of the vegetation was dominated by exotic species, or remained in a degraded state.

A.2 Review of 2008 Flora and Fauna Assessment

Surveys of the original subject site were carried out for flora (23rd October 2008) and fauna (15th October, 2008). The fauna survey included assessment of potential habitat, e.g. hollow-bearing trees, for threatened species which may use the site.

Background research was also conducted, including consultation of the Atlas of NSW Wildlife and Protected Matters search tool, to determine endangered ecological communities and threatened species likely to occur in the study area.

The majority of the vegetation mapped across the original study area in 2008 consisted of exotic grassland with associated exotic herbaceous species. The subject site currently consists predominantly of this vegetation type. Some native-dominated grassland was also mapped in areas of the original subject site (but outside of the current subject site). Two drainage lines run through the current subject site. During the 2008 assessment these drainage lines were heavily over-grown with weeds and aquatic species.

An area of remnant woodland trees was mapped within the original subject site, however this area lies outside of the current subject site. The area of remnant trees would have historically represented River-flat Eucalypt Forest, an endangered ecological community. The understorey of this area was highly degraded due to weed invasion and heavy grazing. As such, this area was determined to not constitute River-flat Eucalypt Forest in the 2008 assessment.

No threatened flora or fauna species were found in the 2008 survey. Areas partially inundated with water and drainage lines may have provided marginal habitat for threatened fauna species, however the removal of this vegetation was not judged to pose a significant threat to any threatened species.

A.3 Impact Assessment

A review of the previous Flora and Fauna Assessment undertaken by Cumberland Ecology in 2008 indicates that the current subject site does not support any endangered ecological communities, threatened flora or fauna. The subject site does not currently provide any potential habitat for any of the threatened flora and fauna known to occur in the locality. Further, there are no trees or understorey vegetation, rocky outcrops, fallen timber etc that would potentially provide shelter habitat for fauna. The proposed rezoning and subsequent development of the subject site is therefore unlikely to result in any significant ecological impacts.

The area of remnant woodland trees mapped during the 2008 assessment adjacent to the current subject site does not represent an endangered ecological community, due to its highly degraded state. All trees were located adjacent to the subject site, and would not be removed under the indicative development scheme. There are unlikely to be any indirect impacts on trees adjacent to the current subject site. The rezoning and future development of the current subject site will not therefore require the removal of any of these trees and would not constitute a significant threat to any potentially occurring endangered ecological community.

No threatened flora or fauna species were found in the 2008 survey. The wooded area outside of the current subject site was not found to provide suitable habitat for any threatened fauna species, as no tree hollows were present. The partially inundated drainage lines within the current subject site may provide some marginal habitat for threatened or migratory fauna species, however habitat of greater quality is available close to the site, and the removal of the these features of the current subject site does not amount to a significant threat to any threatened fauna species.

A.4 Conclusions

The report prepared by Cumberland Ecology in 2008 adequately assessed the ecological constraints of the current subject site, which is contained wholly within the original subject site investigated during the previous assessment.

The current subject site consists of exotic grassland and weedy drainage lines. It does not support any endangered ecological communities or threatened flora and fauna, and does not provide suitable habitat for any of the threatened species known from the wider locality. It is therefore highly unlikely that the proposed rezoning and subsequent development of the current subject site would result in any significant ecological impacts.

Areas of remnant woodland trees adjacent to the current subject site do not represent an endangered ecological community. Further, these trees are located outside of the area covered by the current subject site. The proposed rezoning of the subject site is unlikely to produce indirect impacts on trees adjacent to the site. It is therefore unlikely that the proposed rezoning would result in any significant impacts on endangered ecological communities that may lie adjacent to the current subject site.

Appendix B

Vegetation Mapping

Coordinate System: MGA Zone 56 (GDA 94)

Grid North

Drainage Lines
Native Dominated Grasssland
Remnant Woodland Trees
Remnant Woodland Trees (On Subject Site)

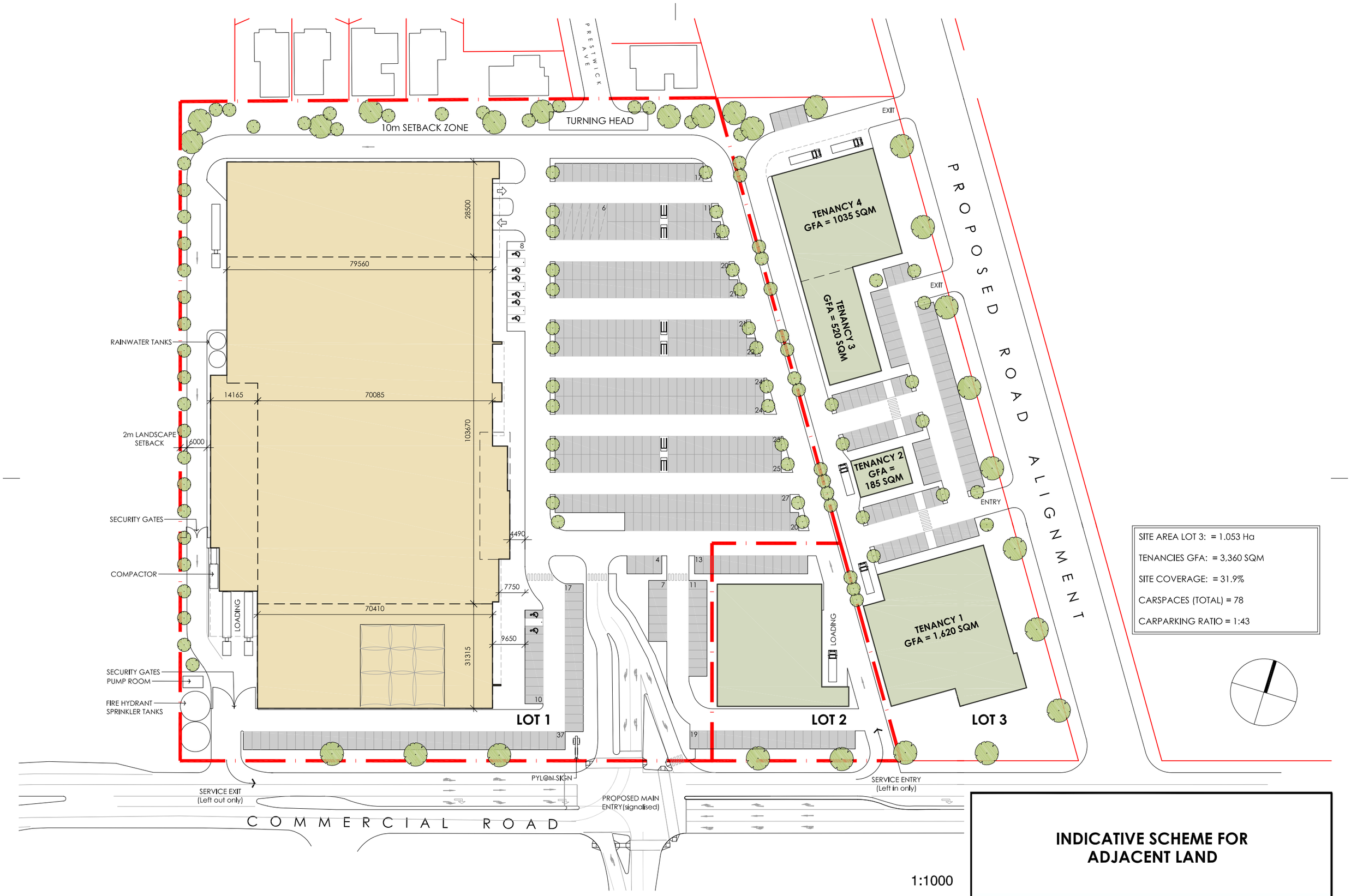
Proposed Rezoning Site - Current Subject Site
Original Subject Site - Cumberland Ecology 2008

I:\...\10078\Figures\Figure 1

Figure 1 Vegetation on the Subject Site

50 0 50m

Appendix D Indicative Schematics for adjacent land



SITE AREA LOT 3: = 1.053 Ha

TENANCIES GFA: = 3,360 SQM

SITE COVERAGE: = 31.9%

CARSPACES (TOTAL) = 78

CARPARKING RATIO = 1:43

1:1000

INDICATIVE SCHEME FOR ADJACENT LAND

LEVEL 2, 18 OLIVER LANE,
MELBOURNE, VIC 3000. Tel. +61 3 9654 6344

2/290 BOUNDARY ST, SPRING HILL,
BRISBANE, QLD 4000. Tel. +61 7 3123 5544

7 YOUNG STREET, NEUTRAL BAY,
SYDNEY, NSW 2089. Tel. +61 2 9909 3344

LEFFLER SIMES ARCHITECTS

Appendix E Contamination Investigation

GEO-LOGIX PTY LTD
ABN 86 116 892 936

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Warriewood, NSW 2102

P 02 9979 1722
F 02 9979 1222
W www.geo-logix.com.au

30th July 2010

Mr Mark Dibben
Managing Director
PTC Projects Pty Ltd
64 Lorraine Street
Peakhurst NSW 2210

SUBJECT: DUE DILIGENCE CONTAMINATION INVESTIGATION

SITE: COMMERCIAL ROAD, ROUSE HILL, NSW

Geo-Logix Pty Ltd (Geo-Logix) was engaged by PTC Projects Pty Ltd on behalf of Hydrox Nominees Pty Ltd to complete Environmental Due Diligence of Lots 1021 and 1022 DP 1091484, Commercial Road, Rouse Hill (Figure 1). Hydrox proposes to develop the site as a Bulky Goods warehouse.

The objective of the works was to assess for the presence of widespread soil contamination that could potentially affect the viability of the proposed development. The scope of work completed by Geo-Logix is intended for internal due diligence purposes only and does not meet minimum regulatory and/or legislative requirements for contaminated land assessment.

SITE DESCRIPTION

The site is located on Commercial Road, Rouse Hill NSW and occupies an area of 3.73 hectares (Figure 2). The site can be divided into six distinct areas as follows:

Area 1: Area 1 is located in the southwest corner of the site and covers an area of approximately 5660m2. Area 1 shares a boundary with the Mean Fiddler Hotel (southwest) and a soil mound that lies adjacent to the northwest boundary. The surface of Area 1 is a mix of grass, shale and sandstone gravel.

Area 2: Area 2 is located in the northeast portion of the site and covers an area of approximately 4600m2. The area is completely grassed with the exception of a farm dam located in the southern central portion. Two rusted 44 gallon drums and scrap timber pieces were located to the west of the dam and a mound of soil material was found midway along the southwest boundary. The soil mound continues along the full length of the northwest boundary. The area is bound by a rural/residential property to the east.

Area 3: Area 3 is sealed with asphalt and was formerly used as an overflow carpark for the Mean Fiddler Hotel. The area covers approximately 5420m^2. Garden areas with mixed tree and shrub vegetation were aligned in east to west rows and along the eastern boundary of the area. The garden beds appear raised above the sealed carpark area and appears to be the original soil surface. This suggests some excavation has occurred in this area. A skip bin containing broken glass bottles and plastic drums containing detergents and other cleaners was located in the southwest corner of the area.

Area 4: Area 4 is located centrally within the site and is predominantly covered with grass. The area is largely level and covers an area of 6850m^2. Almost the entire area appears to have been filled. Minor bare areas exist where rubble is exposed at the surface.

Area 5: Area 5 is predominantly grass covered with the exception of a gravelled entrance road in the southwest portion and gravel surfaced area extending northeast from the entrance road. Well established mature trees are located in the eastern portion of the area. Area 5 covers approximately 11,200m^2.

The southeast portion of the site slopes down to the northwest away from Commercial Road. The remainder of the area slopes down to the east and northeast.

Area 6: Area 6 is occupied by two fibro and brick residences joined by a carport. Two sheds, a swimming pool and a water tank are located at the rear of the dwellings. The remainder of the site comprises lawn and garden beds. Area 6 covers approximately 3220m^2.

SITE HISTORY

Environmental Investigation Services (EIS) completed a Phase 1 Preliminary Environmental Site Assessment in November 2008 (EIS, 2008). The investigation comprised a review of historical site information and limited soil sampling across the site.

The site history review indicated the site was vacant and vegetated with scattered trees until sometime between 1941 and 1961 when the site was cleared. A small dwelling was constructed in the location of the current dwelling between 1961 and 1970 (Area 6). The dwelling was expanded between 1978 and 1986 and several sheds existed in the western portion of the site (Area 3). A small paved area also existed in the northwest portion (Area 1). Between 1986 and 1994 the sheds were removed and the paved area was expanded. By 2005 the majority of the site was cleared and an access driveway was constructed around the eastern and northern sides of the residential dwellings. The entire western portion of the site (Areas 1 and 3) appeared to have been paved. Disturbed earth indicative of filling activities was evident across Area 4.

EIS completed eight borings across Areas 1, 3, 4 and 5. Area 2 and Area 6 were not assessed. Fill material was encountered across the site at depths between 0.3 metres below grade (mbg) and 2.5 mbg. Fill samples from each soil boring were submitted for analytical testing for a broad suite of contaminants of potential concern (COPC). COPC were not detected at concentrations greater than commercial/industrial assessment criteria in all fill samples analysed. Nickel was detected at concentrations within Restricted Solid Waste classification in one sample collected in the western portion of Area 4.

SCOPE OF WORK

Due to the very low sampling density completed by EIS (approximately 2 sample points per hectare) and the large volume of fill evident across the site, further investigation was recommended. Geo-Logix completed trenching, testpitting and surface soil sampling across the site. Sampling densities were based on the type and volume of fill material in each area, and potential contaminant source areas.

The scope of works completed by Geo-Logix was aimed at identifying contamination originating from fill material and from previous agricultural use. Works were completed over two events on the 20th and 28th July. Works completed on the 20th July 2010 comprised:

- Excavation of 22 trenches and six testpits across the site to assess fill composition and depth. Trench and testpit locations were judgementally placed to target areas of fill and provide general site coverage;
- Excavation of two testpits within the soil mound along the northern site boundary;
- Collection of soil samples from each trench and testpit;
- Collection of seven judgemental surface soil samples targeting potential source areas; and
- Laboratory analysis of selected soil samples for contaminants of potential concern associated with fill material and historical agricultural use (TPH, BTEX, PAH, OCP, PCBs, heavy metals, salinity and asbestos).

After completion of field works on the 20th July, Geo-Logix was advised that the soil mound along the northern site boundary originated from an off-site source. Further investigation of the soil mound was deemed warranted based on this information. In addition, upon receipt of analytical results a hot spot was identified in Area 6. Further investigation was recommended in order to characterise the extent and magnitude of the impact. The following works were completed on 28th July 2010;

- Excavation and sampling of 14 testpits throughout the fill mound along the northern site boundary;
- Completion of three soil borings within Area 6 for hot spot delineation purposes;
- Collection of three surface soil samples within Area 6 for site characterisation; and
- Laboratory analysis of selected soil samples for COPC.

METHODOLOGY

Testpits and trenches were excavated using 5 tonne excavator. Soil samples were collected either from the bucket of the excavator or directly from the testpit/trench wall or floor. Soil samples were placed in laboratory prepared jars, labelled and placed on ice in an esky for transport under chain of custody to a NATA Accredited Laboratory for analysis. A soil subsample was placed in a zip lock bag for field screening for volatile compounds using a Photo-ionisation Detector (PID). Field equipment calibration certificates are included in Attachment A.

Quality control sampling was undertaken in accordance with specifications outlined in AS4482.1, *Guide to Sampling and Investigation of Potentially Contaminated Soil.* Field QC samples included two soil sample duplicate pairs. Duplicates were collected at a rate slightly over the recommended rate of one per 10 primary samples. Due to time constraints inter-laboratory duplicates were not completed.

The laboratory internal quality control procedures are consistent with NEPM policy on laboratory analysis of contaminated soils.

Geo-Logix quality assurance procedures included changing disposable gloves between samples.

RESULTS

The Sampling and Analysis Plan is presented in Table 1. Analytical results are presented in Tables 2 to 8. Laboratory reports are presented in Attachment B.

Area 1

A thin veneer of shale, weathered shale and clayey silt indicative of Riverstone Shale sourced from the former quarry at Riverstone was noted to 0.1 mbg cross the majority of the Area 1. COPC were not detected in the samples collected from this fill material at concentrations greater than commercial industrial landuse or General Solid Waste criteria.

Fill material at trench T4 comprised crushed sandstone, sandstone gravels, concrete and roadbase to 0.2 mbg overlying clayey silty sand with 5% shell indicative of dredging waste to 0.25mbg. Samples S5/0.1 and S5/0.25 were collected from the two fill layers. COPC were not detected at concentrations above commercial/industrial landuse or General Solid waste criteria.

Area 2

The soil stockpile located in the western portion of the site comprises silty clay with sand and roadbase gravels and minor polystyrene inclusions to a depth of 1.3m. No asbestos containing material was observed in the fill material. PAHs and metals were detected in the fill material at concentrations greater than the laboratory reporting limits but below commercial/industrial landuse criteria and within General Solid Waste criteria. All other COPC were not detected at concentrations greater than commercial landuse criteria and were within General Solid Waste classification.

TPH, BTEX, PAHs and metals were not detected at concentrations greater than the assessment criteria and were within the General Solid Waste adjacent to the rusted 44 gallon drums and timber waste material.

Pesticides and metals were not detected at concentrations greater than commercial/industrial landuse criteria in the sample collected from native soil (S6/0.1).

Area 3

Area 3 is surfaced by a mix of asphalt and gravel. Crushed shale fill to depths of 0.3 mbg was observed in testpits TP2 and TP3. Crushed shale fill with metal fragments was observed in testpit TP6. No asbestos containing material was observed in fill. No fill was observed in testpits TP4 and TP5.

COPC were not detected at concentrations greater than commercial industrial landuse criteria and were within the General Solid Waste classification in fill samples analysed from testpits TP3 and TP6.

Metals and Organochlorine pesticides were not detected at concentrations greater than commercial/industrial criteria in native soil at testpit TP3.

Area 4

Fill material comprising predominantly clay material with crushed sandstone, roadbase gravel, sandstone gravels, bricks, plastic, rubber and metal fragments and steel pipes were observed throughout Area 4 at depth of up to 1.8m. No asbestos containing material was observed in fill. The fill overlies native stiff silty clays.

COPC were not detected at concentrations greater than commercial/industrial landuse criteria and were within General Solid Waste classification in the fill samples.

Pesticides and metals were not detected at elevated concentrations in native soil sample S122/1.0.

Area 5

Variable fill occurs across Area 5 as follows:

- Southwest portion: Up to 0.4m of coarse gravel fill with associated ag pipe and pvc water pipe;
- Eastern portion: No fill;
- Northwest portion: Mixed shale and clay fill to 0.4 mbg. Variable area with coarse igneous gravels; and
- Western portion: Access driveway comprising coarse gravels and sand.

COPC were not detected at concentrations greater than commercial/industrial landuse criteria in all samples analysed. Analytical results of samples collected from fill material indicate waste classification as General Solid Waste.

Area 6

Fill was not encountered across Area 6. Chlordane, dieldrin, heptachlor and heptachlor epoxide (OCPs) were detected at elevated concentrations in surface soil in sample location S128/0.1. The individual concentrations were below the commercial/industrial landuse criteria but above the Scheduled Chemical Waste criteria of a combined concentration of 2 mg/kg.

OCPs were detected at concentrations greater than the laboratory reporting limits but below scheduled chemical waste criteria in the soil sample collected from 0.5 mbg at location S128. OCPs were detected at concentrations above the scheduled chemical waste criteria in delineation sample S128B/0.1. OCPs were not detected at concentrations greater than the scheduled chemical waste criteria in all other samples in Area 6.

Soil Mound

The soil mound along the northern boundary comprises silty clay material with varying percentage of shale gravel inclusions. The material was largely free of anthropogenic material with the exception of a small piece of bitumen in testpit location MTP8.

COPC were not detected at concentrations above commercial/industrial landuse criteria and were within General Solid waste classification.

Salinity

Four soils samples from shallow native soils were submitted for salinity analysis. Salinity ranged from <50 mg/kg to 300 mg/kg. In accordance with Site Investigations for Urban Salinity (DLWC, 2002) the soil is classed as non-saline.

DISCUSSION AND CONCLUSIONS

Widespread fill material of varying composition was encountered across Areas 1 to 5. Laboratory analysis of fill samples did not indicate COPC at concentrations above commercial/industrial landuse criteria. As such the fill material is considered suitable for re-use on-site and would likely be classifiable as General Solid Waste should off-site disposal be required.

Scheduled chemical wastes chlordane, dieldrin, heptachlor and heptachlor epoxide were detected in sample S128/0.1 with a combined concentration of 31.22 mg/kg. The sample was collected in a garden bed adjacent to the southern exterior of the residential dwelling in Area 6. The concentration is well above the scheduled chemical waste criteria of combined concentration of 2 mg/kg as defined by the Chemical Control Order in Relation to Scheduled Chemical Wastes (NSW EPA, 2004). The scheduled chemical waste concentrations are below the off-site disposal criteria of 50 mg/kg.

Three samples were collected in order to define the extent of impacted soil (S128B, S128D and S128F). Chlordane, dieldrin, heptachlor and heptachlor epoxide were detected at concentrations greater than the scheduled chemical waste criteria in delineation sample S128B/0.1. The extent of chlordane, dieldrin, heptachlor and heptachlor epoxide was defined by samples S128D/0.1, S128F/0.1 and S127/0.1. Scheduled chemical waste compounds were not detected at elevated concentrations in all other samples collected in Areas 6.

The sampling has demonstrated that scheduled chemical waste is confined to shallow soil in and around the garden bed at the southern side of the residential dwelling. The volume of impacted soil is estimated to be between 20m^3 and 45m^3.

Scheduled chemical waste can be kept on site however storage and handling must be done in accordance with the Chemical Control Order (CCO). The CCO states that where more than one tonne of Scheduled Chemical Waste is kept at premises it must be kept in an approved manner or in a storage facility under authority of and in accordance with the conditions of a license. The occupier of the waste storage facility must abide by the following:

- The waste is kept in a clearly defined storage area;
- Conspicuous notices located on or adjacent to the storage area providing warning that the storage area contains scheduled chemical wastes;
- The storage area is sited and constructed to prevent any discharge of the waste into the environment
- The storage facility is inspected monthly;
- An inspection log is maintained;

In Geo-Logix experience the cost and effort involved in maintaining a license is significantly more than excavation and off-site disposal. As the concentrations are below disposal criteria excavation and off-site disposal would be the recommended management option. Costs to excavate and dispose of impacted soil and perform soil validation would not be expected to exceed $30,000.

Please do not hesitate to contact Geo-Logix should you require further information.

Ben Pearce
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Environment Manager

David Gregory
BSc (Hons), R.G., MEIANZ CEnvP #139
Principal Geologist – Director

FIGURES:

Figure 1: Site Location Map
Figure 2: Site Map

TABLES:

Table 1: Sampling and Analysis Plan
Table 2: Summary of Soil Analytical Data – TPH and BTEX
Table 3: Summary of Soil Analytical Data – PAHs
Table 4: Summary of Soil Analytical Data – Heavy Metals
Table 5: Summary of Soil Analytical Data – OCPs
Table 6: Summary of Soil Analytical Data – PCBs
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Table 8: Summary of Soil Analytical Data – Salinity

ATTACHMENTS:

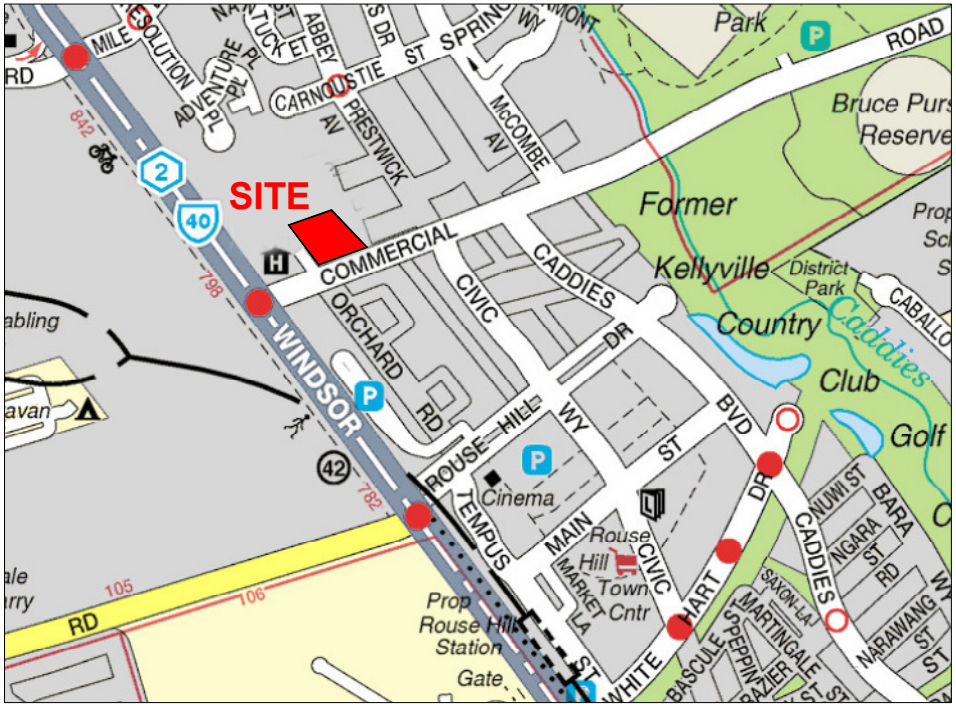
Attachment A: Field Equipment Calibration Certificates
Attachment B: Laboratory Reports

LIMITATIONS

It is understood that the Environmental advice provided by Geo-Logix is based on the available historical data presented in Environmental Investigation Services Phase 1 Preliminary Environmental Site Assessment, November 2008 and limited field data. Geo-Logix has conducted the investigation in general accordance with accepted methodologies for investigation of contaminated land. Geo-Logix has formed an interpretation based on scientific principal and experience.

By accepting the advice presented in the Geo-Logix report you agree to indemnify Geo-Logix against any loss, damage, liability, claim, suits, demands and actions for advice which, as a result of local geological/hydrogeological anomalies caused further pollution or exacerbated existing pollution.

FIGURES



PART MAP ORANGE

PART MAP NSW

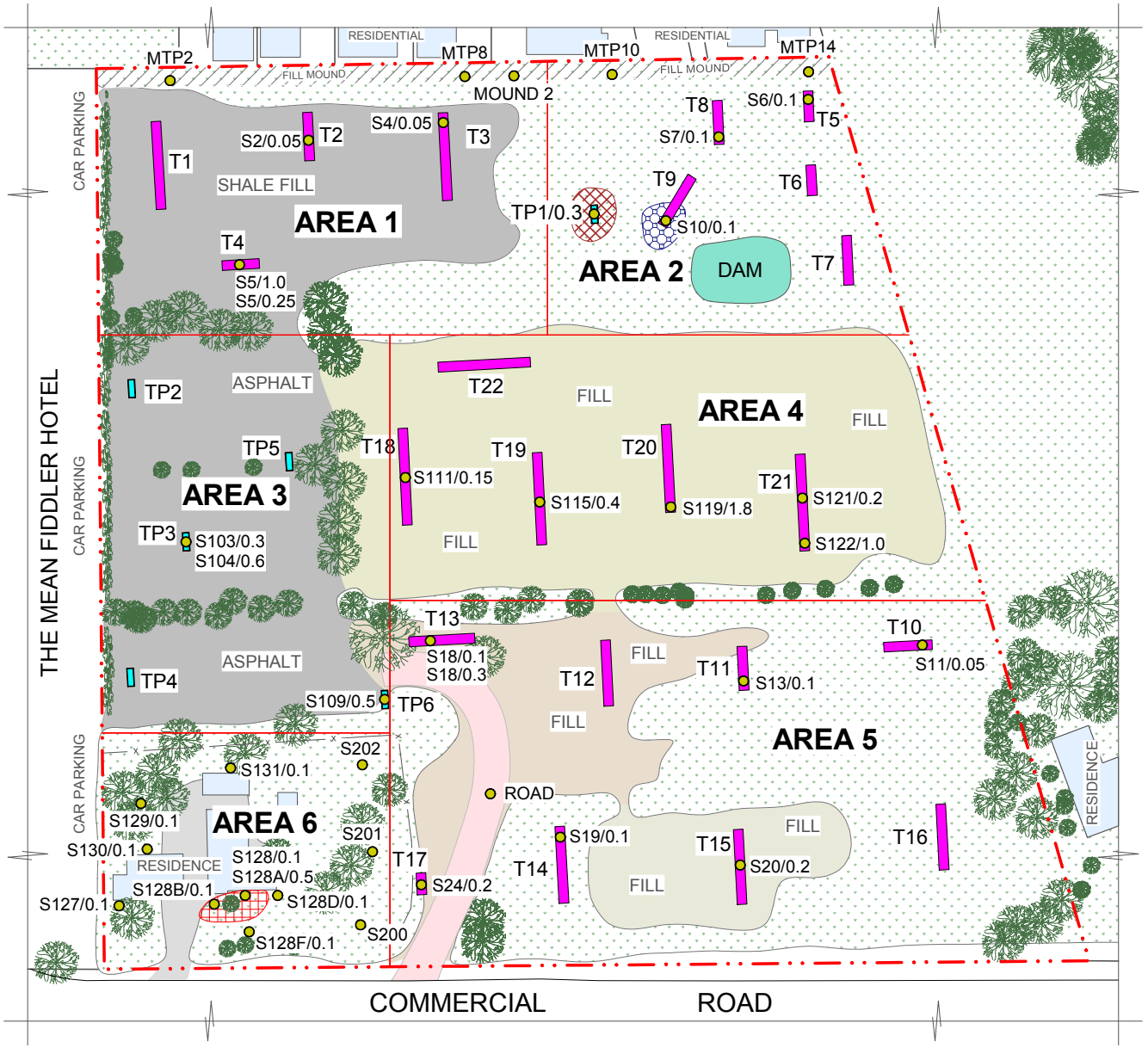
ISSUE	DATE	AMENDMENTS	DRAWN	CHECKED
01		ORIGINAL ISSUE		

GEO-LOGIX PTY LTD
UNIT 2309, 4 DAYDREAM STREET
WARRIEWOOD NSW 2102
Ph: (02) 9979 1722
Fax: (02) 9979 1222

DRAWN:	CHECKED:
J.E.D.	B.P.
APPROVED:	D.G.
DATE:	24/07/2010

SITE LOCATION MAP
HYDROX NOMINEES PTY LTD
COMMERCIAL ROAD, ROUSE HILL NSW 2153

SHEET SIZE:	PROJECT No.	REV:	
A4	1001046	02	FIGURE 1



ISSUE	DATE	AMENDMENTS	DRAWN	CHECKED
01		ORIGINAL ISSUE		

GEO-LOGIX PTY LTD
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Ph: (02) 9979 1722
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DRAWN:	CHECKED:
J.E.D.	B.P.
APPROVED:	D.G.
DATE:	22/07/2010

SITE MAP
HYDROX NOMINEES PTY LTD
COMMERCIAL ROAD, ROUSE HILL NSW 2153

SHEET SIZE:	PROJECT No.	REV:	
A4	1001046	02	FIGURE 2

TABLES

TABLE 1:
Sampling and Analysis Plan
Commercial Road
Rouse Hill, NSW

Area	Testpit ID	Sample ID	Material	Analysis
Area 1	T1			
	T2	S2/0.05	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	T3	S4/0.05	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	T4	S5/0.01, S5/0.25	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
Area 2	TP1	TP1/0.3	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	T5	S6/0.1	Native	OCPs, Metals (8)
	T6			
	T7			
	T8			
	T9	S10/0.1	Native	TPH, BTEX, PAH, Metals (8)
Area 3	TP2			
	TP3	S103/0.3	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	TP3	S104/0.6	Native	OCPs, Metals (8)
	TP4			
	TP5			
	TP6	S109/0.5	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
Area 4	T18	S111/0.15	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8), Asbestos
	T19	S115/0.4	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	T20	S119/1.8	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	T21	S121/0.2	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8), Asbestos
	T21	S122/1.0	Native	OCPs, Metals (8)
	T22			
Area 5	T10	S11/0.05	Native	OCPs, Metals (8)
	T11	S13/0.1	Native	OCPs, Metals (8)
	T12			
	T13	S18/0.1	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
		S18/0.3	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	T14	S19/0.1	Native	OCPs, Metals (8)
	T15	S20/0.2	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	T16			
	T17	S24/0.2	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)

TABLE 1:
Sampling and Analysis Plan
Commercial Road
Rouse Hill, NSW

Area	Testpit ID	Sample ID	Material	Analysis
Area 6	S128	S128/0.1	Native	OCPs, Metals (8), Asbestos
	S128A	S128A/0.5	Native	OCPs
	S128B	S128B/0.1	Native	OCPs
	S128D	S128D/0.1	Native	OCPs
	S128F	S128F/0.1	Native	OCPs
	S129	S129/0.1	Native	OCPs, Metals (8)
	S131	S131/0.1	Native	OCPs, Metals (8)
	S200	S200	Native	OCPs
	S201	S201	Native	OCPs
	S202	S202	Native	OCPs
Mound	MTP1			
	MTP2	MTP2	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	MTP3			
	MTP4			
	MTP5			
	MTP6			
	MTP7			
	MTP8	MTP8	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	MTP9			
	MTP10	MTP10	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	MTP11			
	MTP12			
	MTP13			
	MTP14	MTP14	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)
	MOUND1			
	MOUND2	MOUND2	Fill	TPH, BTEX, PAH, OCP, PCBs, Metals (8)

TABLE 2
Summary of Soil Analytical Data
TPH and BTEX
Commercial Road
Rouse Hill, NSW

TPH and BTEX	Assessment Criteria	Sample ID	S2/0.05	S4/0.05	S5/0.10	D1	*RPD**
		Depth (m)	0.05	0.05	0.1		-
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	%
Total Petroleum Hydrocarbons							
C_6-C_9	65		<20	<20	<20	<20	*nc*
C_{10}-C_{14}	n/a		<50	<50	<50	<50	*nc*
C_{15}-C_{28}	n/a		<100	<100	<100	<100	*nc*
C_{28}-C_{36}	n/a		<100	<100	<100	<100	*nc*
Sum of TPH	1000		-	-	-	-	--
BTEX							
Benzene	1		<0.05	<0.05	<0.05	<0.05	*nc*
Toluene	1.4		<0.05	<0.05	<0.05	<0.05	*nc*
Ethylbenzene	3.1		<0.05	<0.05	<0.05	<0.05	*nc*
m & p xylenes	n/a		<0.05	<0.05	<0.05	<0.05	*nc*
o xylene	n/a		<0.05	<0.05	<0.05	<0.05	*nc*
Xylenes	14		<0.05	<0.05	<0.05	<0.05	*nc*

Notes:

Assessment Criteria = NSW EPA (1994) Threshold Concentrations for Sensitive Landuse

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

nc = RPD not calcuated, one or both samples below laboratory reporting limits

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 2
Summary of Soil Analytical Data
TPH and BTEX
Commercial Road
Rouse Hill, NSW

TPH and BTEX	Assessment Criteria	Sample ID	S5/0.25	S10/0.1	S18/0.1	S18/0.3	S20/0.2
		Depth (m)	0.25	0.1	0.1	0.3	0.2
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Total Petroleum Hydrocarbons							
C_6-C_9	65		<20	<20	<20	<20	<20
C_{10}-C_{14}	n/a		<50	<50	<50	<50	<50
C_{15}-C_{28}	n/a		<100	<100	<100	<100	<100
C_{28}-C_{36}	n/a		<100	<100	<100	<100	<100
Sum of TPH	1000		-	-	-	-	-
BTEX							
Benzene	1		<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	1.4		<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	3.1		<0.05	<0.05	<0.05	<0.05	<0.05
m & p xylenes	n/a		<0.05	<0.05	<0.05	<0.05	<0.05
o xylene	n/a		<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes	14		<0.05	<0.05	<0.05	<0.05	<0.05

Notes:

Assessment Criteria = NSW EPA (1994) Threshold Concentrations for Sensitive Landuse

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TABLE 2
Summary of Soil Analytical Data
TPH and BTEX
Commercial Road
Rouse Hill, NSW

TPH and BTEX	Assessment Criteria	Sample ID	TP1/0.3	MOUN02	ROAD	S103	S109
		Depth (m)	0.3			0.30	0.5
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Total Petroleum Hydrocarbons							
C_6-C_9	65		<20	<20	<20	<20	<20
C_{10}-C_{14}	n/a		<50	<50	<50	<50	<50
C_{15}-C_{28}	n/a		<100	<100	<100	<100	<100
C_{28}-C_{36}	n/a		<100	<100	<100	<100	<100
Sum of TPH	1000		-	-	-	-	-
BTEX							
Benzene	1		<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	1.4		<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	3.1		<0.05	<0.05	<0.05	<0.05	<0.05
m & p xylenes	n/a		<0.05	<0.05	<0.05	<0.05	<0.05
o xylene	n/a		<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes	14		<0.05	<0.05	<0.05	<0.05	<0.05

Notes:

Assessment Criteria = NSW EPA (1994) Threshold Concentrations for Sensitive Landuse

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

nc = RPD not calcuated, one or both samples below laboratory reporting limits

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 2
Summary of Soil Analytical Data
TPH and BTEX
Commercial Road
Rouse Hill, NSW

TPH and BTEX	Assessment Criteria	Sample ID	S111	S115	S119	D2	*RPD**	S121
		Depth (m)	0.2	0.40	1.80		-	0.20
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	%	20/07/2010
Total Petroleum Hydrocarbons								
C_6-C_9	65		<20	<20	<20	<20	*nc*	<20
C_{10}-C_{14}	n/a		<50	<50	<50	<50	*nc*	<50
C_{15}-C_{28}	n/a		<100	<100	<100	<100	*nc*	<100
C_{28}-C_{36}	n/a		<100	<100	<100	<100	*nc*	<100
Sum of TPH	1000		-	-	-	-	--	-
BTEX								
Benzene	1		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Toluene	1.4		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Ethylbenzene	3.1		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
m & p xylenes	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
o xylene	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Xylenes	14		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05

Notes:

Assessment Criteria = NSW EPA (1994) Threshold Concentrations for Sensitive Landuse

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

nc = RPD not calcuated, one or both samples below laboratory reporting limits

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 2
Summary of Soil Analytical Data
TPH and BTEX
Commercial Road
Rouse Hill, NSW

TPH and BTEX	Assessment Criteria	Sample ID	S24	S123	MTP2	MTP8	MTP10	MTP14
		Depth (m)	0.20	0.3	0.8	0.9	0.8	0.9
		Date	20/07/2010	20/07/2010	28/07/2010	28/07/2010	28/07/2010	28/07/2010
Total Petroleum Hydrocarbons								
C_6-C_9	65		<20	<20	<20	<20	<20	<20
C_{10}-C_{14}	n/a		<50	<50	<50	<50	<50	<50
C_{15}-C_{28}	n/a		<100	<100	<100	<100	<100	<100
C_{28}-C_{36}	n/a		<100	<100	<100	<100	<100	<100
Sum of TPH	1000		-	-	-	-	-	-
BTEX								
Benzene	1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	1.4		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	3.1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p xylenes	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o xylene	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes	14		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:

Assessment Criteria = NSW EPA (1994) Threshold Concentrations for Sensitive Landuse

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

nc = RPD not calcuated, one or both samples below laboratory reporting limits

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 3:
Summary of Soil Analytical Data
Polycyclic Aromatic Hydrocarbons
Commercial Road
Rouse Hill, NSW

PAHs	Assessment Criteria (F)	Sample ID Depth (m) Date	S2/0.05 0.05 20/07/2010	S4/0.05 0.05 20/07/2010	S5/0.10 0.1 20/07/2010	D1 20/07/2010	RPD* - %
Naphthalene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Acenaphthylene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Acenaphthene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Fluorene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Phenanthrene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Anthracene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Fluoranthene	n/a		<0.1	<0.1	<0.1	0.1	*nc*
Pyrene	n/a		<0.1	<0.1	<0.1	0.1	*nc*
Benz(a)anthracene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Chrysene	n/a		0.8	0.3	<0.1	<0.1	*nc*
Benzo(b)&(k)fluoranthene	n/a		<0.1	0.7	<0.1	<0.1	*nc*
Benzo(a) pyrene	5		<0.1	<0.1	<0.1	<0.1	*nc*
Indeno(1,2,3-c,d)pyrene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Dibenz(a,h)anthracene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Benzo(g,h,i)perylene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Sum of reported PAHs	100		0.8	1	<0.1	0.2	*nc*

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 3:
Summary of Soil Analytical Data
Polycyclic Aromatic Hydrocarbons
Commercial Road
Rouse Hill, NSW

PAHs	Assessment Criteria (F)	Sample ID	S5/0.25	S10/0.1	S18/0.1	S18/0.3	S20/0.2	TP1/0.3
		Depth (m)	0.25	0.1	0.1	0.3	0.2	0.3
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Naphthalene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	n/a		<0.1	<0.1	<0.1	<0.1	0.2	0.3
Anthracene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	n/a		<0.1	<0.1	0.2	<0.1	0.2	0.5
Pyrene	n/a		<0.1	<0.1	0.2	<0.1	0.2	0.4
Benz(a)anthracene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Chrysene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	0.3
Benzo(b)&(k)fluoranthene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	0.7
Benzo(a) pyrene	5		<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Indeno(1,2,3-c,d)pyrene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum of reported PAHs	100		<0.1	<0.1	0.4	<0.1	0.6	2.7

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 3:
Summary of Soil Analytical Data
Polycyclic Aromatic Hydrocarbons
Commercial Road
Rouse Hill, NSW

PAHs	Assessment Criteria (F)	Sample ID	MOUND2	ROAD	S103	S109	S111	S115
		Depth (m)			0.30	0.5	0.2	0.40
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Naphthalene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	n/a		<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Pyrene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)&(k)fluoranthene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a) pyrene	5		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum of reported PAHs	100		<0.1	<0.1	<0.1	<0.1	0.1	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 3:
Summary of Soil Analytical Data
Polycyclic Aromatic Hydrocarbons
Commercial Road
Rouse Hill, NSW

PAHs	Assessment Criteria (F)	Sample ID	S119	D2	RPD*	S121	S24	S123
		Depth (m)	1.80		-	0.20	0.20	0.3
		Date	20/07/2010	20/07/2010	%	20/07/2010	20/07/2010	20/07/2010
Naphthalene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Acenaphthylene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Acenaphthene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Fluorene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Phenanthrene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Anthracene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Fluoranthene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Pyrene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Benz(a)anthracene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Chrysene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Benzo(b)&(k)fluoranthene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Benzo(a) pyrene	5		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	n/a		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1
Sum of reported PAHs	100		<0.1	<0.1	*nc*	<0.1	<0.1	<0.1

Notes:
Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria
Concentrations in milligrams/kilogram (mg/kg)
n/a = criteria not available
<# = analyte not detected at concentration in excess of laboratory reporting limits
D1 = field duplicate of S5/0.05
D2 = field duplicate of S119
nc = RPD not calcuated, one or both samples below EQL
RPD* = Relative Percent Difference between primary sample and field duplicate sample
Bold indicates exceedance of Assessment Criteria
-- = not applicable

TABLE 3:
Summary of Soil Analytical Data
Polycyclic Aromatic Hydrocarbons
Commercial Road
Rouse Hill, NSW

PAHs	Assessment Criteria (F)	Sample ID Depth (m) Date	MTP2 0.8 28/07/2010	MTP8 0.9 28/07/2010	MTP10 0.8 28/07/2010	MTP14 0.9 28/07/2010
Naphthalene	n/a		<0.1	<0.1	<0.1	<0.1
Acenaphthylene	n/a		<0.1	<0.1	<0.1	<0.1
Acenaphthene	n/a		<0.1	<0.1	<0.1	<0.1
Fluorene	n/a		<0.1	<0.1	<0.1	<0.1
Phenanthrene	n/a		<0.1	<0.1	<0.1	<0.1
Anthracene	n/a		<0.1	<0.1	<0.1	<0.1
Fluoranthene	n/a		<0.1	<0.1	<0.1	<0.1
Pyrene	n/a		<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	n/a		<0.1	<0.1	<0.1	<0.1
Chrysene	n/a		<0.1	<0.1	<0.1	<0.1
Benzo(b)&(k)fluoranthene	n/a		<0.1	<0.1	<0.1	<0.1
Benzo(a) pyrene	5		<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	n/a		<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	n/a		<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	n/a		<0.1	<0.1	<0.1	<0.1
Sum of reported PAHs	100		<0.1	<0.1	<0.1	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 4:
Summary of Soil Analytical Data
Metals
Commercial Road
Rouse Hill, NSW

Metals	**Assessment Criteria (F)**	Sample ID	S2/0.05	S2/0.2	S4/0.05	S5/0.10	D1	RPD*
		Depth (m)	0.05	0.2	0.05	0.1	-	-
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	%
Arsenic	500		9.3	7.9	14	4.7	3.6	*27*
Cadmium	100		<0.5	<0.5	<0.5	<0.5	<0.5	*nc*
Chromium	60%		<5	11	<5	<5	<5	*nc*
Copper	5000		11	16	30	14	8.3	*51*
Lead	1500		17	30	11	21	15	*33*
Mercury	75		<0.1	<0.1	<0.1	<0.1	<0.1	*nc*
Nickel	3000		<5	19	8.9	6.8	7.1	*4*
Zinc	35000		23	160	44	46	27	*52*

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Total concentrations in milligrams per kilogram (mg/kg)

<# = analyte not detected at concentration in excess of laboratory reporting limits

- = sample not analysed

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 4:
Summary of Soil Analytical Data
Metals
Commercial Road
Rouse Hill, NSW

Metals	**Assessment Criteria (F)**	Sample ID	S5/0.25	S6/0.1	S10/0.1	S11/0.05	S13/0.10	S18/0.1
		Depth (m)	0.25	0.1	0.1	0.05	0.1	0.1
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Arsenic	500		7.2	5.3	9.2	5.5	7.9	4.4
Cadmium	100		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	60%		<5	<5	7.1	6.8	8.8	<5
Copper	5000		12	21	8.7	6.5	5.5	36
Lead	1500		17	21	26	20	28	19
Mercury	75		<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Nickel	3000		<5	8.4	8.1	<5	6.4	8.3
Zinc	35000		610	40	36	34	29	65

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Total concentrations in milligrams per kilogram (mg/kg)

<# = analyte not detected at concentration in excess of laboratory reporting limits

- = sample not analysed

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 4:
Summary of Soil Analytical Data
Metals
Commercial Road
Rouse Hill, NSW

Metals	**Assessment Criteria (F)**	Sample ID	S18/0.3	S19/0.1	S20/0.2	TP1/0.3	MOUND2	ROAD
		Depth (m)	0.3	0.1	0.2	0.3	-	0.10
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Arsenic	500		8.8	10	3.5	7	6.6	3.2
Cadmium	100		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	60%		<5	5.6	<5	12	6.2	11
Copper	5000		<5	12	<5	55	24	14
Lead	1500		15	25	13	21	27	14
Mercury	75		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	3000		<5	7.8	6.2	29	18	8.8
Zinc	35000		20	28	24	170	60	21

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Total concentrations in milligrams per kilogram (mg/kg)

<# = analyte not detected at concentration in excess of laboratory reporting limits

- = sample not analysed

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 4:
Summary of Soil Analytical Data
Metals
Commercial Road
Rouse Hill, NSW

Metals	Assessment Criteria (F)	Sample ID	S103	S104	S109	S111	S115	S119
		Depth (m)	0.30	0.60	0.5	0.2	0.40	1.80
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Arsenic	500		6.8	<2	<2	9.1	5.1	6.3
Cadmium	100		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	60%		5.7	<5	8.3	11	<5	5.1
Copper	5000		19	13	13	14	15	7.6
Lead	1500		23	15	9	64	14	12
Mercury	75		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	3000		8	<5	<5	7.8	<5	6.2
Zinc	35000		40	19	34	160	22	48

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Total concentrations in milligrams per kilogram (mg/kg)

<# = analyte not detected at concentration in excess of laboratory reporting limits

- = sample not analysed

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 4:
Summary of Soil Analytical Data
Metals
Commercial Road
Rouse Hill, NSW

Metals	**Assessment Criteria (F)**	Sample ID	D2	RPD*	S121	S122	D3	RPD*
		Depth (m)	-	-	0.20	1.00	-	-
		Date	20/07/2010	%	20/07/2010	20/07/2010	20/07/2010	%
Arsenic	500		6.9	*9*	6.7	11	9.6	*14*
Cadmium	100		<0.5	*nc*	<0.5	<0.5	<0.5	*nc*
Chromium	60%		<5	*nc*	8	9.8	8.6	*13*
Copper	5000		18	*81*	<5	<5	<5	*nc*
Lead	1500		23	*63*	19	21	23	*9*
Mercury	75		<0.1	*nc*	<0.1	<0.1	<0.1	*nc*
Nickel	3000		<5	*nc*	<5	8.5	8.9	*5*
Zinc	35000		20	*82*	18	23	26	*12*

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Total concentrations in milligrams per kilogram (mg/kg)

<# = analyte not detected at concentration in excess of laboratory reporting limits

- = sample not analysed

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 4:
Summary of Soil Analytical Data
Metals
Commercial Road
Rouse Hill, NSW

Metals	**Assessment Criteria (F)**	Sample ID	S128	S129	S131	S24	S123
		Depth (m)	0.1	0.1	0.1	0.20	0.3
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Arsenic	500		3.4	3.6	6.1	7.2	7
Cadmium	100		<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	60%		15	<5	<5	<5	6.9
Copper	5000		27	17	23	15	14
Lead	1500		45	22	31	22	39
Mercury	75		0.1	<0.1	<0.1	<0.1	<0.1
Nickel	3000		10	9.8	11	7.2	11
Zinc	35000		130	66	91	33	60

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Total concentrations in milligrams per kilogram (mg/kg)

<# = analyte not detected at concentration in excess of laboratory reporting limits

- = sample not analysed

D1 = field duplicate of S5/0.1

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

Bold indicates exceedance of Assessment Criteria

-- = not applicable

TABLE 4:
Summary of Soil Analytical Data
Metals
Commercial Road
Rouse Hill, NSW

Metals	**Assessment Criteria (F)**	Sample ID	MTP2	MTP8	MTP10	MTP14
		Depth (m)	0.8	0.9	0.8	0.9
		Date	28/07/2010	28/07/2010	28/07/2010	28/07/2010
Arsenic	500		3.3	6.6	6.2	4.9
Cadmium	100		<0.5	<0.5	<0.5	<0.5
Chromium	60%		7.2	12	9	15
Copper	5000		17	34	14	19
Lead	1500		14	18	14	15
Mercury	75		<0.1	<0.1	<0.1	<0.1
Nickel	3000		15	9.2	<5	8.3
Zinc	35000		62	40	23	30

Notes:
Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria
Total concentrations in milligrams per kilogram (mg/kg)
<# = analyte not detected at concentration in excess of laboratory reporting limits
- = sample not analysed
D1 = field duplicate of S5/0.1
D2 = field duplicate of S119
D3 = field duplicate of S122
nc = RPD not calcuated, one or both samples below EQL
RPD* = Relative Percent Difference between primary sample and field duplicate sample
Bold indicates exceedance of Assessment Criteria
-- = not applicable

TABLE 5:
Summary of Soil Analytical Data
Organochlorine Pesticides
Commercial Road
Rouse Hill, NSW

OCP	Assessment Criteria	Sample ID	S2/0.05	S2/0.2	S4/0.05	S5/0.10	D1	RPD*	S5/0.25
		Depth	0.05	0.2	0.05	0.1	-	-	0.25
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	%	20/07/2010
4.4'-DDD	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
4.4'-DDE	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
4.4'-DDT	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
a-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Aldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
b-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Chlordane	250**		<0.1	<0.1	<0.1	<0.1	<0.1	*nc*	<0.1
d-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Dieldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Endosulfan I	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Endosulfan II	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Endosulfan sulphate	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Endrin	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Endrin aldehyde	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Endrin ketone	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
g-BHC (Lindane)	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Heptachlor	50		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Heptachlor epoxide	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Hexachlorobenzene	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Methoxychlor	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	*nc*	<0.05
Toxophene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	*nc*	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in miligrams per kilogram (mg/kg)

* = combine Aldrin + Dieldrin concentration

** = combined cis and trans chlordane concentration

*** = combined DDD, DDE and DDT concentration

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

TABLE 5:
Summary of Soil Analytical Data
Organochlorine Pesticides
Commercial Road
Rouse Hill, NSW

OCP	Assessment Criteria	Sample ID	S6/0.1	S9/0.1	S11/0.05	S13/0.10	S18/0.1	S18/0.3	S19/0.1
		Depth	0.1	0.1	0.05	0.1	0.1	0.3	0.1
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
4.4'-DDD	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDE	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDT	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlordane	250**		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
d-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin ketone	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	50		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toxophene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in miligrams per kilogram (mg/kg)

* = combine Aldrin + Dieldrin concentration

** = combined cis and trans chlordane concentration

*** = combined DDD, DDE and DDT concentration

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

TABLE 5:
Summary of Soil Analytical Data
Organochlorine Pesticides
Commercial Road
Rouse Hill, NSW

OCP	Assessment Criteria	Sample ID	S20/0.2	TP1/0.3	MOUND2	ROAD	S103	S104	S109
		Depth	0.2	0.3	-	0.10	0.30	0.60	0.5
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
4.4'-DDD	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDE	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDT	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlordane	250**		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
d-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin ketone	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	50		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toxophene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in miligrams per kilogram (mg/kg)

* = combine Aldrin + Dieldrin concentration

** = combined cis and trans chlordane concentration

*** = combined DDD, DDE and DDT concentration

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

TABLE 5:
Summary of Soil Analytical Data
Organochlorine Pesticides
Commercial Road
Rouse Hill, NSW

OCP	Assessment Criteria	Sample ID	S111	S115	S119	D2	RPD*	S121	S122
		Depth	0.2	0.40	1.80	-	-	0.20	1.00
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	%	20/07/2010	20/07/2010
4.4'-DDD	1000***		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
4.4'-DDE	1000***		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
4.4'-DDT	1000***		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
a-BHC	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Aldrin	50*		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
b-BHC	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Chlordane	250**		<0.1	<0.1	<0.1	<0.1	*nc*	<0.1	<0.1
d-BHC	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Dieldrin	50*		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Endosulfan I	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Endosulfan II	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Endosulfan sulphate	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Endrin	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Endrin aldehyde	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Endrin ketone	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
g-BHC (Lindane)	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Heptachlor	50		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Heptachlor epoxide	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Hexachlorobenzene	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Methoxychlor	n/a		<0.05	<0.05	<0.05	<0.05	*nc*	<0.05	<0.05
Toxophene	n/a		<0.1	<0.1	<0.1	<0.1	*nc*	<0.1	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in miligrams per kilogram (mg/kg)

* = combine Aldrin + Dieldrin concentration

** = combined cis and trans chlordane concentration

*** = combined DDD, DDE and DDT concentration

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

n/a = criteria not available

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TABLE 5:
Summary of Soil Analytical Data
Organochlorine Pesticides
Commercial Road
Rouse Hill, NSW

OCP	Assessment Criteria	Sample ID	D3	RPD*	S128	S129	S131	S24	S123
		Depth	-	-	0.1	0.1	0.1	0.20	0.3
		Date	20/07/2010	%	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
4.4'-DDD	1000***		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDE	1000***		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDT	1000***		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	50*		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Chlordane	250**		<0.1	*nc*	25	<0.1	0.3	<0.1	<0.1
d-BHC	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	50*		<0.05	*nc*	0.45	<0.05	<0.05	<0.05	<0.05
Endosulfan I	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin ketone	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	50		<0.05	*nc*	0.37	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	n/a		<0.05	*nc*	5.4	<0.05	0.07	<0.05	<0.05
Hexachlorobenzene	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	n/a		<0.05	*nc*	<0.05	<0.05	<0.05	<0.05	<0.05
Toxophene	n/a		<0.1	*nc*	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in miligrams per kilogram (mg/kg)

* = combine Aldrin + Dieldrin concentration

** = combined cis and trans chlordane concentration

*** = combined DDD, DDE and DDT concentration

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

TABLE 5:
Summary of Soil Analytical Data
Organochlorine Pesticides
Commercial Road
Rouse Hill, NSW

OCP	Assessment Criteria	Sample ID	S127	S130	S128A	S128B	S128D	S128F	S200
		Depth	0.1	0.1	0.5	0.1	0.1	0.1	0.1
		Date	20/07/2010	20/07/2010	28/07/2010	28/07/2010	28/07/2010	28/07/2010	28/07/2010
4.4'-DDD	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDE	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDT	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlordane	250**		<0.1	<0.1	0.4	2.8	0.2	<0.1	<0.1
d-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin ketone	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	50		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	n/a		<0.05	<0.05	0.12	0.4	0.06	<0.05	<0.05
Hexachlorobenzene	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toxophene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in miligrams per kilogram (mg/kg)

* = combine Aldrin + Dieldrin concentration

** = combined cis and trans chlordane concentration

*** = combined DDD, DDE and DDT concentration

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

TABLE 5:
Summary of Soil Analytical Data
Organochlorine Pesticides
Commercial Road
Rouse Hill, NSW

OCP	Assessment Criteria	Sample ID	S201	S202	MTP2	MTP8	MTP10	MTP14
		Depth	0.1	0.1	0.8	0.9	0.8	0.9
		Date	28/07/2010	28/07/2010	28/07/2010	28/07/2010	28/07/2010	28/07/2010
4.4'-DDD	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDE	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4.4'-DDT	1000***		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlordane	250**		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
d-BHC	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	50*		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin ketone	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	50		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	n/a		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toxophene	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

Assessment Criteria = NEPM (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in miligrams per kilogram (mg/kg)

* = combine Aldrin + Dieldrin concentration

** = combined cis and trans chlordane concentration

*** = combined DDD, DDE and DDT concentration

D1 = field duplicate of S5/0.05

D2 = field duplicate of S119

D3 = field duplicate of S122

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

n/a = criteria not available

<# = analyte not detected at concentration in excess of laboratory reporting limits

TABLE 6:
Summary Soil Analytical Data
PCBs
Commercial Road
Rouse Hill, NSW

PCBs	Assessment Criteria	Sample ID	S2/0.05	S4/0.05	S5/0.10	D1	RPD*
		Depth (m)	0.05	0.05	0.1	-	-
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	%
Aroclor-1016	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Aroclor-1221	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Aroclor-1232	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Aroclor-1242	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Aroclor-1248	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Aroclor-1254	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Aroclor-1260	n/a		<0.1	<0.1	<0.1	<0.1	*nc*
Total PCB	50		<0.5	<0.5	<0.5	<0.5	*nc*

Notes:

Assessment Criteria = NEPC (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

D1 = field duplicate of S5/0.05

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

<# = analyte not detected at concentration in excess of laboratory reporting limits

-- = sample not analysed

Bold indicates exceedance of Assessment Criteria

TABLE 6:
Summary Soil Analytical Data
PCBs
Commercial Road
Rouse Hill, NSW

PCBs	Assessment Criteria	Sample ID	S5/0.25	S10/0.1	S18/0.1	S18/0.3	S20/0.2	TP1/0.3
		Depth (m)	0.25	0.1	0.1	0.3	0.2	0.3
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Aroclor-1016	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1221	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1232	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1242	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1248	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1254	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1260	n/a		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCB	50		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

Assessment Criteria = NEPC (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

D1 = field duplicate of S5/0.05

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

<# = analyte not detected at concentration in excess of laboratory reporting limits

-- = sample not analysed

Bold indicates exceedance of Assessment Criteria

TABLE 6:
Summary Soil Analytical Data
PCBs
Commercial Road
Rouse Hill, NSW

PCBs	Assessment Criteria	Sample ID	MOUND2	ROAD	S103	S109	S111
		Depth (m)	-	0.10	0.30	0.5	0.2
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Aroclor-1016	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1221	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1232	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1242	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1248	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1254	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1260	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Total PCB	50		<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

Assessment Criteria = NEPC (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

D1 = field duplicate of S5/0.05

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

<# = analyte not detected at concentration in excess of laboratory reporting limits

-- = sample not analysed

Bold indicates exceedance of Assessment Criteria

TABLE 6:
Summary Soil Analytical Data
PCBs
Commercial Road
Rouse Hill, NSW

PCBs	Assessment Criteria	Sample ID	S115	S119	S121	S24	S123
		Depth (m)	0.40	1.80	0.20	0.20	0.3
		Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Aroclor-1016	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1221	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1232	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1242	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1248	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1254	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor-1260	n/a		<0.1	<0.1	<0.1	<0.1	<0.1
Total PCB	50		<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

Assessment Criteria = NEPC (1999) HIL 'F' Commercial/Industrial criteria

Concentrations in milligrams/kilogram (mg/kg)

n/a = criteria not available

D1 = field duplicate of S5/0.05

nc = RPD not calcuated, one or both samples below EQL

RPD* = Relative Percent Difference between primary sample and field duplicate sample

<# = analyte not detected at concentration in excess of laboratory reporting limits

-- = sample not analysed

Bold indicates exceedance of Assessment Criteria

TABLE 7:
Summary of Analytical Data
Asbestos
Commercial Road
Rouse Hill, NSW

Asbestos	Sample ID	S111	S121	S128
	Depth	0.2	0.2	0.1
	Media	Fill	Fill	Fill
	Date	20/07/2010	20/07/2010	20/07/2010
Asbestos		ND	ND	ND

Notes:
ND = No Asbestos Detected

TABLE 8:
Summary of Soil Analytical Data
Salinity
Commercial Road
Rouse Hill, NSW

Salinity	Sample ID	S22/0.3	S112	S6/0.3	S105
	Depth	0.3	0.7	0.3	0.3
	Date	20/07/2010	20/07/2010	20/07/2010	20/07/2010
Salinity		<50	300	85	95

Notes:
Total concentrations in milligrams per kilogram (mg/kg)

ATTACHMENT A

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - MINIRAE 2000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☑		
Span – Isobutylene	101 ppm	103 ppm	☑		
Set Alarm limits to	High	100 ppm	Low	50 ppm	
Operations Check					
☑ Performance Check (pump, lamp, sensor & battery voltage check)					
☑ Battery Charged	☑ Filters Check	☑ Spare battery Voltage (5.5v minimum) 6 V			
☐ Electrical Safety Tag attached (AS/NZS 3760)	Tag No:.....	Valid to:.....			
☑ Bump test / Date: 19-07-10					

** Calibration gas traceability information is available upon request.*

This PID has been performance checked / calibrated* as follows:

Date: 15/07/2010 Checked by: MILENKO

Signed:

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☑	☐	MiniRae 2000 PID / Operational Check, plus Battery Voltage @ 5.8 V
☑	☐	Lamp Voltage @ 10.6eV Compound Set to: Isobutylene C/factor: 1
☑	☐	Protective yellow rubber boot
☑	☐	Inlet probe (attached to PID)
☑	☐	Spare water trap filter(s) Qty 2
☑	☐	Charger 240V to 12V 500mA
☑	☐	Instruction Manual behind foam on the lid of case "
☑	☐	Quick Guide Sheet behind foam on the lid of case "
☑	☐	Spare Alkaline Battery Compartment with batteries
☑	☐	Inline Moisture trap Filter Guide Laminated
☐	☐	Calibration regulator & tubing (optional)
☑	☐	Carry Case
	☐	Check to confirm electrical safety (tag must be valid)
☐	☐	

Processors Signature/ Initials

EE Quote Reference	20715	Condition on return
Customer Ref	282769	
Equipment ID	PID MINSW	
Equipment serial no.	110008699	
Return Date	21/07/10	

ThermoFisher SCIENTIFIC

RENTALS

Equipment Report - MINIRAE 2000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☑		
Span – Isobutylene	101 ppm	101 ppm	☑		
Set Alarm limits to	High	100 ppm	Low	50 ppm	
Operations Check					

☑ Performance Check (pump, lamp, sensor & battery voltage check)

☑ Battery Charged ☑ Filters Check ☑ Spare battery Voltage (5.5v minimum) 6 V

☒ Electrical Safety Tag attached (AS/NZS 3760) Tag No:..... Valid to:.....

☑ Bump test / Date: 27/07/2010

** Calibration gas traceability information is available upon request.*

This PID has been performance checked / calibrated* as follows:

Date: 21/07/2010 Checked by: MILENKO

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☑	☐	MiniRae 2000 PID / Operational Check, plus Battery Voltage @ 5.3 V
☑	☐	Lamp Voltage @ 10.6 V Compound Set to: ISOBUTYLENE C/factor: 1
☑	☐	Protective yellow rubber boot
☑	☐	Inlet probe (attached to PID)
☑	☐	Spare water trap filter(s) Qty 1
☑	☐	Charger 240V to 12V 500mA
☑	☐	Instruction Manual behind foam on the lid of case ¨
☑	☐	Quick Guide Sheet behind foam on the lid of case ¨
☑	☐	Spare Alkaline Battery Compartment with batteries
☑	☐	Inline Moisture trap Filter Guide Laminated
☒	☐	Calibration regulator & tubing (optional)
☑	☐	Carry Case
	☐	Check to confirm electrical safety (tag must be valid)
☐	☐	

Processors Signature/ Initials MS

EE Quote Reference	20857	Condition on return
Customer Ref		
Equipment ID	PID MINS2	
Equipment serial no.	11001011	
Return Date	/ /	

ATTACHMENT B

mgt Environmental

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Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

CERTIFICATE OF ANALYSIS

Geo-Logix Pty Ltd
Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD
NSW 2102
Site: ROUSE HILL 1001046

Report Number: 271031-V1 Page 1 of 43
Order Number:
Date Received: Jul 21, 2010
Date Sampled: Jul 20, 2010
Date Reported: Jul 27, 2010
Contact: Ben Pearce

Methods

- USEPA 8270C Phenols
- USEPA 8082 Polychlorinated Biphenyls
- USEPA 8081A Organochlorine Pesticides
- USEPA 8270C Polycyclic Aromatic Hydrocarbons
- USEPA 8260B - MGT 350A Monocyclic Aromatic Hydrocarbons
- TRH C6-C36 - MGT 100A
- USEPA 6020 Heavy Metals & USEPA 7470/71 Mercury
- Method 102 - ANZECC - % Moisture

Comments

Asbestos analysis subcontracted to ASET, reference number ASET22589/25769/1-3, NATA accreditation number 14484.

Notes

Authorised

Report Number: 271031-V1

Michael Wright
Senior Principal Chemist
NATA Signatory

Dan Thompson
Laboratory Manager NSW

Rhonda Chouman
Client Manager
NATA Signatory

GLOSSARY OF TERMS

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

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 Environment Protection Authority
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

QC - ACCEPTANCE CRITERIA

RPD Duplicates	Results <10 times the LOR : No Limit Results between 10-20 times LOR : RPD must lie between 0-50% Results >20 times LOR : RPD must lie between 0-20%
LCS Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
CRM Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Method Blanks	Not to exceed LOR
SPIKE Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Surrogate Recoveries	Recoveries must lie between 50-150% - Phenols 20-130%

GENERAL COMMENTS

1. All results in this report supersede any previously corresponded results.
2. All soil results are reported on a dry basis.
3. Samples are analysed on an as received basis.

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, Toxaphene & Chlordane are not added to the LCS.
4. Orgaonchlorine Pesticide analysis - where reporting Spike data, Toxaphene 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. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
7. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
8. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
9. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two two sets of data below the LOR with a positive RPD - eg: LOR 0.1, Result A = <0.1 (raw data is 0.02) & Result B = <0.1 (raw data is 0.03) resulting in a RPD of 40% calculated from the raw data.

REPORT SPECIFIC NOTES

mgt Environmental

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NATA Site # 1254

Sydney
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Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Company Name: Geo-Logix Pty Ltd
Address: Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD
NSW 2102

Order No.:
Report #: 271031
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Jul 21, 2010 12:00
Due: Jul 26, 2010 03:19
Priority: 3 Day
Contact name: Ben Pearce

Client Job No.: ROUSE HILL 1001046

mgt Client Manager: Andrew Thexton

Sample Detail					% Moisture	Arsenic	Asbestos	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Organochlorine Pesticides	Polychlorinated Biphenyls	Phenols	MGT Suite #4
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site #1254						X		X	X	X	X	X	X	X	X	X		
Sydney Laboratory - NATA Site #18217					X		X										X	X
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
S2/0.05	Jul 20, 2010		Soil	T10-JL07749	X	X		X	X	X	X	X	X	X	X	X		X
S2/0.2	Jul 20, 2010		Soil	T10-JL07750	X	X		X	X	X	X	X	X	X	X			
S4/0.05	Jul 20, 2010		Soil	T10-JL07751	X	X		X	X	X	X	X	X	X	X	X		X
S5/0.10	Jul 20, 2010		Soil	T10-JL07752	X	X		X	X	X	X	X	X	X	X	X		X
S5/0.25	Jul 20, 2010		Soil	T10-JL07753	X	X		X	X	X	X	X	X	X	X	X		X
S6/0.1	Jul 20, 2010		Soil	T10-JL07754	X	X		X	X	X	X	X	X	X	X			
S9/0.1	Jul 20, 2010		Soil	T10-JL07755	X										X	X		
S10/0.1	Jul 20, 2010		Soil	T10-JL07756	X	X		X	X	X	X	X	X	X				X
S11/0.05	Jul 20, 2010		Soil	T10-JL07757	X	X		X	X	X	X	X	X	X	X			
S13/0.10	Jul 20, 2010		Soil	T10-JL07758	X	X		X	X	X	X	X	X	X	X			
S18/0.1	Jul 20, 2010		Soil	T10-JL07759	X	X		X	X	X	X	X	X	X	X	X		X
S18/0.3	Jul 20, 2010		Soil	T10-JL07760	X	X		X	X	X	X	X	X	X	X	X		X
S19/0.1	Jul 20, 2010		Soil	T10-JL07761	X	X		X	X	X	X	X	X	X	X			
S20/0.2	Jul 20, 2010		Soil	T10-JL07762	X	X		X	X	X	X	X	X	X	X	X		X

mgt Environmental

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mgt Client Manager: Andrew Thexton

Sample Detail					% Moisture	Arsenic	Asbestos	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Organochlorine Pesticides	Polychlorinated Biphenyls	Phenols	MGT Suite #4
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site #1254						X		X	X	X	X	X	X	X	X	X		
Sydney Laboratory - NATA Site #18217					X		X										X	X
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
TP1/0.3	Jul 20, 2010		Soil	T10-JL07763	X	X		X	X	X	X	X	X	X	X	X		X
MOUN02	Jul 20, 2010		Soil	T10-JL07764	X	X		X	X	X	X	X	X	X	X	X		X
ROAD	Jul 20, 2010		Soil	T10-JL07765	X	X		X	X	X	X	X	X	X	X	X		X
D1	Jul 20, 2010		Soil	T10-JL07766	X	X		X	X	X	X	X	X	X	X	X		X
S103	Jul 20, 2010		Soil	T10-JL07767	X	X		X	X	X	X	X	X	X	X	X		X
S104	Jul 20, 2010		Soil	T10-JL07768	X	X		X	X	X	X	X	X	X	X			
S109	Jul 20, 2010		Soil	T10-JL07769	X	X		X	X	X	X	X	X	X	X	X		X
S111	Jul 20, 2010		Soil	T10-JL07770	X	X	X	X	X	X	X	X	X	X	X	X		X
S115	Jul 20, 2010		Soil	T10-JL07771	X	X		X	X	X	X	X	X	X	X	X		X
S119	Jul 20, 2010		Soil	T10-JL07772	X	X		X	X	X	X	X	X	X	X	X		X
S121	Jul 20, 2010		Soil	T10-JL07773	X	X	X	X	X	X	X	X	X	X	X	X		X
S122	Jul 20, 2010		Soil	T10-JL07774	X	X		X	X	X	X	X	X	X	X			
S128	Jul 20, 2010		Soil	T10-JL07775	X	X	X	X	X	X	X	X	X	X	X			
S129	Jul 20, 2010		Soil	T10-JL07776	X	X		X	X	X	X	X	X	X	X			

mgt Environmental

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Received: Jul 21, 2010 12:00
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Contact name: Ben Pearce

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mgt Client Manager: Andrew Thexton

Sample Detail					% Moisture	Arsenic	Asbestos	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Organochlorine Pesticides	Polychlorinated Biphenyls	Phenols	MGT Suite #4
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site #1254						X		X	X	X	X	X	X	X	X	X		
Sydney Laboratory - NATA Site #18217					X		X										X	X
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
S131	Jul 20, 2010		Soil	T10-JL07777	X	X		X	X	X	X	X	X	X	X			
S24	Jul 20, 2010		Soil	T10-JL07778	X	X		X	X	X	X	X	X	X	X	X		X
D2	Jul 20, 2010		Soil	T10-JL07779	X	X		X	X	X	X	X	X	X	X		X	X
D3	Jul 20, 2010		Soil	T10-JL07780	X	X		X	X	X	X	X	X	X	X			
S123	Jul 20, 2010		Soil	T10-JL07781	X	X		X	X	X	X	X	X	X	X	X		X

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NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Geo-Logix Pty Ltd	**Client Sample ID**		**S2/0.05**	**S2/0.2**	**S4/0.05**	**S5/0.10**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL07749**	**T10-JL07750**	**T10-JL07751**	**T10-JL07752**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	-	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	-	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	-	< 100	< 100
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Toluene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
o-Xylene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Total m+p-Xylenes	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Fluorobenzene (surr.)	1	%	88	-	92	107
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Anthracene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Benz(a)anthracene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Benzo(a)pyrene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	-	0.7	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Chrysene	0.1	mg/kg	0.8	-	0.3	< 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Fluorene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Naphthalene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Pyrene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Total PAH	0.1	mg/kg	0.8	-	1.0	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S2/0.05**	**S2/0.2**	**S4/0.05**	**S5/0.10**
	Lab Number		**T10-JL07749**	**T10-JL07750**	**T10-JL07751**	**T10-JL07752**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	81	-	86	76
2-Fluorobiphenyl (surr.)	1	%	71	-	87	75
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	134	126	105	88
Tetrachloro-m-xylene (surr.)	1	%	122	111	90	90
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S2/0.05**	**S2/0.2**	**S4/0.05**	**S5/0.10**
	Lab Number		**T10-JL07749**	**T10-JL07750**	**T10-JL07751**	**T10-JL07752**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Total PCB	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	134	-	105	88
Tetrachloro-m-xylene (surr.)	1	%	122	-	90	90
% Moisture	0.1	%	17	20	12	5.7
Heavy Metals						
Arsenic	2	mg/kg	9.3	7.9	14	4.7
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	< 5	11	< 5	< 5
Copper	5	mg/kg	11	16	30	14
Lead	5	mg/kg	17	30	11	21
Nickel	5	mg/kg	< 5	19	8.9	6.8
Zinc	5	mg/kg	23	160	44	46
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

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Geo-Logix Pty Ltd	**Client Sample ID**		**S5/0.25**	**S6/0.1**	**S9/0.1**	**S10/0.1**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL07753**	**T10-JL07754**	**T10-JL07755**	**T10-JL07756**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	-	-	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	-	-	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	-	-	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	-	-	< 100
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Toluene	0.05	mg/kg	< 0.05	-	-	< 0.05
Ethylbenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
o-Xylene	0.05	mg/kg	< 0.05	-	-	< 0.05
Total m+p-Xylenes	0.05	mg/kg	< 0.05	-	-	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	-	-	< 0.05
Fluorobenzene (surr.)	1	%	94	-	-	84
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	< 0.1	-	-	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1	-	-	< 0.1
Anthracene	0.1	mg/kg	< 0.1	-	-	< 0.1
Benz(a)anthracene	0.1	mg/kg	< 0.1	-	-	< 0.1
Benzo(a)pyrene	0.1	mg/kg	< 0.1	-	-	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	-	-	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1	-	-	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	-	-	< 0.1
Chrysene	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	< 0.1	-	-	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1	-	-	< 0.1
Fluorene	0.1	mg/kg	< 0.1	-	-	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1	-	-	< 0.1
Naphthalene	0.1	mg/kg	< 0.1	-	-	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1	-	-	< 0.1
Pyrene	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PAH	0.1	mg/kg	< 0.1	-	-	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S5/0.25**	**S6/0.1**	**S9/0.1**	**S10/0.1**
	Lab Number		**T10-JL07753**	**T10-JL07754**	**T10-JL07755**	**T10-JL07756**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	84	-	-	82
2-Fluorobiphenyl (surr.)	1	%	86	-	-	83
Organochlorine Pesticides						
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	99	110	127	-
Tetrachloro-m-xylene (surr.)	1	%	90	107	124	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-

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Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S5/0.25**	**S6/0.1**	**S9/0.1**	**S10/0.1**
	Lab Number		**T10-JL07753**	**T10-JL07754**	**T10-JL07755**	**T10-JL07756**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
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	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	-
Total PCB	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	99	-	127	-
Tetrachloro-m-xylene (surr.)	1	%	90	-	124	-
% Moisture	0.1	%	9.9	19	18	23
Heavy Metals						
Arsenic	2	mg/kg	7.2	5.3	-	9.2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chromium	5	mg/kg	< 5	< 5	-	7.1
Copper	5	mg/kg	12	21	-	8.7
Lead	5	mg/kg	17	21	-	26
Nickel	5	mg/kg	< 5	8.4	-	8.1
Zinc	5	mg/kg	610	40	-	36
Mercury	0.1	mg/kg	< 0.1	0.1	-	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	Client Sample ID		S11/0.05	S13/0.10	S18/0.1	S18/0.3
Bld Q2 Level 3, 2309/4 Daydream St	Lab Number		T10-JL07757	T10-JL07758	T10-JL07759	T10-JL07760
WARRIEWOOD	Matrix		Soil	Soil	Soil	Soil
NSW 2102	Sample Date		Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	-	-	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	-	-	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	-	-	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	-	-	< 100	< 100
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Toluene	0.05	mg/kg	-	-	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
o-Xylene	0.05	mg/kg	-	-	< 0.05	< 0.05
Total m+p-Xylenes	0.05	mg/kg	-	-	< 0.05	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	-	-	< 0.05	< 0.05
Fluorobenzene (surr.)	1	%	-	-	92	89
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	-	-	< 0.1	< 0.1
Acenaphthylene	0.1	mg/kg	-	-	< 0.1	< 0.1
Anthracene	0.1	mg/kg	-	-	< 0.1	< 0.1
Benz(a)anthracene	0.1	mg/kg	-	-	< 0.1	< 0.1
Benzo(a)pyrene	0.1	mg/kg	-	-	< 0.1	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	-	-	< 0.1	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	-	-	< 0.1	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	-	-	< 0.1	< 0.1
Chrysene	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	-	-	< 0.1	< 0.1
Fluoranthene	0.1	mg/kg	-	-	0.2	< 0.1
Fluorene	0.1	mg/kg	-	-	< 0.1	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	-	-	< 0.1	< 0.1
Naphthalene	0.1	mg/kg	-	-	< 0.1	< 0.1
Phenanthrene	0.1	mg/kg	-	-	< 0.1	< 0.1
Pyrene	0.1	mg/kg	-	-	0.2	< 0.1
Total PAH	0.1	mg/kg	-	-	0.4	< 0.1

COMMENTS:

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Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S11/0.05**	**S13/0.10**	**S18/0.1**	**S18/0.3**
	Lab Number		**T10-JL07757**	**T10-JL07758**	**T10-JL07759**	**T10-JL07760**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	-	-	84	77
2-Fluorobiphenyl (surr.)	1	%	-	-	85	76
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	122	121	120	110
Tetrachloro-m-xylene (surr.)	1	%	114	115	113	91
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	**Client Sample ID**		**S11/0.05**	**S13/0.10**	**S18/0.1**	**S18/0.3**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL07757**	**T10-JL07758**	**T10-JL07759**	**T10-JL07760**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
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
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB	0.5	mg/kg	-	-	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	-	-	120	110
Tetrachloro-m-xylene (surr.)	1	%	-	-	113	91
% Moisture	0.1	%	26	22	20	15
Heavy Metals						
Arsenic	2	mg/kg	5.5	7.9	4.4	8.8
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	6.8	8.8	< 5	< 5
Copper	5	mg/kg	6.5	5.5	36	< 5
Lead	5	mg/kg	20	28	19	15
Nickel	5	mg/kg	< 5	6.4	8.3	< 5
Zinc	5	mg/kg	34	29	65	20
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	Client Sample ID		S19/0.1	S20/0.2	TP1/0.3	MOUN02
Bld Q2 Level 3, 2309/4 Daydream St	Lab Number		T10-JL07761	T10-JL07762	T10-JL07763	T10-JL07764
WARRIEWOOD	Matrix		Soil	Soil	Soil	Soil
NSW 2102	Sample Date		Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	-	< 20	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	-	< 50	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	-	< 100	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	-	< 100	< 100	< 100
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Toluene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
o-Xylene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Total m+p-Xylenes	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Fluorobenzene (surr.)	1	%	-	83	96	94
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Acenaphthylene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Anthracene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Benz(a)anthracene	0.1	mg/kg	-	< 0.1	0.2	< 0.1
Benzo(a)pyrene	0.1	mg/kg	-	< 0.1	0.2	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	-	< 0.1	0.7	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	-	< 0.1	0.1	< 0.1
Chrysene	0.1	mg/kg	-	< 0.1	0.3	< 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Fluoranthene	0.1	mg/kg	-	0.2	0.5	< 0.1
Fluorene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Naphthalene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Phenanthrene	0.1	mg/kg	-	0.2	0.3	< 0.1
Pyrene	0.1	mg/kg	-	0.2	0.4	< 0.1
Total PAH	0.1	mg/kg	-	0.6	2.7	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S19/0.1**	**S20/0.2**	**TP1/0.3**	**MOUN02**
	Lab Number		**T10-JL07761**	**T10-JL07762**	**T10-JL07763**	**T10-JL07764**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	-	71	84	83
2-Fluorobiphenyl (surr.)	1	%	-	73	86	83
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	123	106	110	104
Tetrachloro-m-xylene (surr.)	1	%	118	102	101	99
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S19/0.1**	**S20/0.2**	**TP1/0.3**	**MOUN02**
	Lab Number		**T10-JL07761**	**T10-JL07762**	**T10-JL07763**	**T10-JL07764**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Total PCB	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	-	106	110	104
Tetrachloro-m-xylene (surr.)	1	%	-	102	101	99
% Moisture	0.1	%	19	16	16	18
Heavy Metals						
Arsenic	2	mg/kg	10	3.5	7.0	6.6
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	5.6	< 5	12	6.2
Copper	5	mg/kg	12	< 5	55	24
Lead	5	mg/kg	25	13	21	27
Nickel	5	mg/kg	7.8	6.2	29	18
Zinc	5	mg/kg	28	24	170	60
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	Client Sample ID		ROAD	D1	S103	S104
Bld Q2 Level 3, 2309/4 Daydream St	Lab Number		T10-JL07765	T10-JL07766	T10-JL07767	T10-JL07768
WARRIEWOOD	Matrix		Soil	Soil	Soil	Soil
NSW 2102	Sample Date		Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	< 50	-
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	< 100	< 100	-
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	< 100	< 100	-
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Toluene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Ethylbenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
o-Xylene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Total m+p-Xylenes	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Fluorobenzene (surr.)	1	%	93	99	93	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Acenaphthylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Benz(a)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Benzo(a)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Chrysene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Dibenz(a.h)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Fluoranthene	0.1	mg/kg	< 0.1	0.1	< 0.1	-
Fluorene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Naphthalene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Phenanthrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Pyrene	0.1	mg/kg	< 0.1	0.1	< 0.1	-
Total PAH	0.1	mg/kg	< 0.1	0.2	< 0.1	-

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**ROAD**	**D1**	**S103**	**S104**
	Lab Number		**T10-JL07765**	**T10-JL07766**	**T10-JL07767**	**T10-JL07768**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	80	81	80	-
2-Fluorobiphenyl (surr.)	1	%	82	80	79	-
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	129	79	92	110
Tetrachloro-m-xylene (surr.)	1	%	118	77	89	94
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-

COMMENTS:

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3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : 03 9564 7055
NATA Site # 1254

Sydney
1a Chilvers Rd
Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

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140 Richmond Rd
Marleston SA 5033
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Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**ROAD**	**D1**	**S103**	**S104**
	Lab Number		**T10-JL07765**	**T10-JL07766**	**T10-JL07767**	**T10-JL07768**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Total PCB	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Dibutylchlorendate (surr.)	1	%	129	79	92	-
Tetrachloro-m-xylene (surr.)	1	%	118	77	89	-
% Moisture	0.1	%	7.5	5.8	16	7.4
Heavy Metals						
Arsenic	2	mg/kg	3.2	3.6	6.8	< 2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	11	< 5	5.7	< 5
Copper	5	mg/kg	14	8.3	19	13
Lead	5	mg/kg	14	15	23	15
Nickel	5	mg/kg	8.8	7.1	8.0	< 5
Zinc	5	mg/kg	21	27	40	19
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	**Client Sample ID**		**S109**	**S111**	**S115**	**S119**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL07769**	**T10-JL07770**	**T10-JL07771**	**T10-JL07772**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
o-Xylene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Total m+p-Xylenes	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Fluorobenzene (surr.)	1	%	96	89	92	100
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benz(a)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1
Fluorene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd Bld Q2 Level 3, 2309/4 Daydream St WARRIEWOOD NSW 2102	Client Sample ID		S109	S111	S115	S119
	Lab Number		T10-JL07769	T10-JL07770	T10-JL07771	T10-JL07772
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	77	80	84	84
2-Fluorobiphenyl (surr.)	1	%	77	80	84	80
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	108	119	117	109
Tetrachloro-m-xylene (surr.)	1	%	108	121	95	107
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S109**	**S111**	**S115**	**S119**
	Lab Number		**T10-JL07769**	**T10-JL07770**	**T10-JL07771**	**T10-JL07772**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	108	119	117	109
Tetrachloro-m-xylene (surr.)	1	%	108	121	95	107
% Moisture	0.1	%	13	15	13	18
Asbestos	0		-	See Attached	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	9.1	5.1	6.3
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	8.3	11	< 5	5.1
Copper	5	mg/kg	13	14	15	7.6
Lead	5	mg/kg	9.0	64	14	12
Nickel	5	mg/kg	< 5	7.8	< 5	6.2
Zinc	5	mg/kg	34	160	22	48
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	Client Sample ID		S121	S122	S128	S129
Bld Q2 Level 3, 2309/4 Daydream St	Lab Number		T10-JL07773	T10-JL07774	T10-JL07775	T10-JL07776
WARRIEWOOD	Matrix		Soil	Soil	Soil	Soil
NSW 2102	Sample Date		Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	-	-	-
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	-	-	-
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	-	-	-
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	-	-	-
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	< 0.05	-	-	-
Toluene	0.05	mg/kg	< 0.05	-	-	-
Ethylbenzene	0.05	mg/kg	< 0.05	-	-	-
o-Xylene	0.05	mg/kg	< 0.05	-	-	-
Total m+p-Xylenes	0.05	mg/kg	< 0.05	-	-	-
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	-	-	-
Fluorobenzene (surr.)	1	%	107	-	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	< 0.1	-	-	-
Acenaphthylene	0.1	mg/kg	< 0.1	-	-	-
Anthracene	0.1	mg/kg	< 0.1	-	-	-
Benz(a)anthracene	0.1	mg/kg	< 0.1	-	-	-
Benzo(a)pyrene	0.1	mg/kg	< 0.1	-	-	-
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	-	-	-
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1	-	-	-
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	-	-	-
Chrysene	0.1	mg/kg	< 0.1	-	-	-
Dibenz(a.h)anthracene	0.1	mg/kg	< 0.1	-	-	-
Fluoranthene	0.1	mg/kg	< 0.1	-	-	-
Fluorene	0.1	mg/kg	< 0.1	-	-	-
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1	-	-	-
Naphthalene	0.1	mg/kg	< 0.1	-	-	-
Phenanthrene	0.1	mg/kg	< 0.1	-	-	-
Pyrene	0.1	mg/kg	< 0.1	-	-	-
Total PAH	0.1	mg/kg	< 0.1	-	-	-

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S121**	**S122**	**S128**	**S129**
	Lab Number		**T10-JL07773**	**T10-JL07774**	**T10-JL07775**	**T10-JL07776**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	79	-	-	-
2-Fluorobiphenyl (surr.)	1	%	79	-	-	-
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	< 0.1	< 0.1	25	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	0.45	< 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	0.37	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	5.4	< 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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	113	102	135	106
Tetrachloro-m-xylene (surr.)	1	%	102	95	139	92
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S121**	**S122**	**S128**	**S129**
	Lab Number		**T10-JL07773**	**T10-JL07774**	**T10-JL07775**	**T10-JL07776**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB	0.5	mg/kg	< 0.5	-	-	-
Dibutylchlorendate (surr.)	1	%	113	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	102	-	-	-
% Moisture	0.1	%	15	19	33	13
Asbestos	0		See Attached	-	See Attached	-
Heavy Metals						
Arsenic	2	mg/kg	6.7	11	3.4	3.6
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	8.0	9.8	15	< 5
Copper	5	mg/kg	< 5	< 5	27	17
Lead	5	mg/kg	19	21	45	22
Nickel	5	mg/kg	< 5	8.5	10	9.8
Zinc	5	mg/kg	18	23	130	66
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	Client Sample ID		S131	S24	D2	D3
Bld Q2 Level 3, 2309/4 Daydream St	Lab Number		T10-JL07777	T10-JL07778	T10-JL07779	T10-JL07780
WARRIEWOOD	Matrix		Soil	Soil	Soil	Soil
NSW 2102	Sample Date		Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	-	< 20	< 20	-
TRH C10-C14 Fraction by GC	50	mg/kg	-	< 50	< 50	-
TRH C15-C28 Fraction by GC	100	mg/kg	-	< 100	< 100	-
TRH C29-C36 Fraction by GC	100	mg/kg	-	< 100	< 100	-
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Toluene	0.05	mg/kg	-	< 0.05	< 0.05	-
Ethylbenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
o-Xylene	0.05	mg/kg	-	< 0.05	< 0.05	-
Total m+p-Xylenes	0.05	mg/kg	-	< 0.05	< 0.05	-
Xylenes(ortho.meta and para)	0.05	mg/kg	-	< 0.05	< 0.05	-
Fluorobenzene (surr.)	1	%	-	93	93	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	-	< 0.1	< 0.1	-
Acenaphthylene	0.1	mg/kg	-	< 0.1	< 0.1	-
Anthracene	0.1	mg/kg	-	< 0.1	< 0.1	-
Benz(a)anthracene	0.1	mg/kg	-	< 0.1	< 0.1	-
Benzo(a)pyrene	0.1	mg/kg	-	< 0.1	< 0.1	-
Benzo(b)fluoranthene	0.1	mg/kg	-	< 0.1	< 0.1	-
Benzo(g.h.i)perylene	0.1	mg/kg	-	< 0.1	< 0.1	-
Benzo(k)fluoranthene	0.1	mg/kg	-	< 0.1	< 0.1	-
Chrysene	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibenz(a.h)anthracene	0.1	mg/kg	-	< 0.1	< 0.1	-
Fluoranthene	0.1	mg/kg	-	< 0.1	< 0.1	-
Fluorene	0.1	mg/kg	-	< 0.1	< 0.1	-
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	-	< 0.1	< 0.1	-
Naphthalene	0.1	mg/kg	-	< 0.1	< 0.1	-
Phenanthrene	0.1	mg/kg	-	< 0.1	< 0.1	-
Pyrene	0.1	mg/kg	-	< 0.1	< 0.1	-
Total PAH	0.1	mg/kg	-	< 0.1	< 0.1	-

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S131**	**S24**	**D2**	**D3**
	Lab Number		**T10-JL07777**	**T10-JL07778**	**T10-JL07779**	**T10-JL07780**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	-	75	86	-
2-Fluorobiphenyl (surr.)	1	%	-	75	83	-
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	0.3	< 0.1	< 0.1	< 0.1
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	0.07	< 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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	112	107	105	90
Tetrachloro-m-xylene (surr.)	1	%	108	108	112	101
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**S131**	**S24**	**D2**	**D3**
	Lab Number		**T10-JL07777**	**T10-JL07778**	**T10-JL07779**	**T10-JL07780**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB	0.5	mg/kg	-	< 0.5	-	-
Dibutylchlorendate (surr.)	1	%	-	107	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	108	-	-
Phenols						
2-Chlorophenol	0.2	mg/kg	-	-	< 0.2	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
2-Nitrophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.2	mg/kg	-	-	< 0.2	-
2.4-Dimethylphenol	0.2	mg/kg	-	-	< 0.2	-
2.4.6-Trichlorophenol	0.2	mg/kg	-	-	< 0.2	-
2.6-Dichlorophenol	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
4-Chloro-3-methylphenol	0.2	mg/kg	-	-	< 0.2	-
Pentachlorophenol	0.5	mg/kg	-	-	< 0.5	-
Phenol	0.2	mg/kg	-	-	< 0.2	-
Phenol-d6 (surr.)	1	%	-	-	87	-
% Moisture	0.1	%	26	18	20	16
Heavy Metals						
Arsenic	2	mg/kg	6.1	7.2	6.9	9.6
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	< 5	< 5	< 5	8.6
Copper	5	mg/kg	23	15	18	< 5
Lead	5	mg/kg	31	22	23	23

COMMENTS:

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Oakleigh Vic 3166
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NATA Site # 1254

Sydney
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Geo-Logix Pty Ltd	**Client Sample ID**		**S131**	**S24**	**D2**	**D3**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL07777**	**T10-JL07778**	**T10-JL07779**	**T10-JL07780**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Nickel	5	mg/kg	11	7.2	< 5	8.9
Zinc	5	mg/kg	91	33	20	26
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	**Client Sample ID**		**S123**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL07781**
WARRIEWOOD	**Matrix**		**Soil**
NSW 2102	**Sample Date**		**Jul 20, 2010**
Analysis Type	**LOR**	**Units**	
Total Recoverable Hydrocarbons			
TRH C6-C9 Fraction by GC	20	mg/kg	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	< 100
Monocyclic Aromatic Hydrocarbons			
Benzene	0.05	mg/kg	< 0.05
Toluene	0.05	mg/kg	< 0.05
Ethylbenzene	0.05	mg/kg	< 0.05
o-Xylene	0.05	mg/kg	< 0.05
Total m+p-Xylenes	0.05	mg/kg	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05
Fluorobenzene (surr.)	1	%	93
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.1	mg/kg	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1
Anthracene	0.1	mg/kg	< 0.1
Benz(a)anthracene	0.1	mg/kg	< 0.1
Benzo(a)pyrene	0.1	mg/kg	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1
Chrysene	0.1	mg/kg	< 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1
Fluorene	0.1	mg/kg	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1
Naphthalene	0.1	mg/kg	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1
Pyrene	0.1	mg/kg	< 0.1
Total PAH	0.1	mg/kg	< 0.1

COMMENTS:

Geo-Logix Pty Ltd Bld Q2 Level 3, 2309/4 Daydream St WARRIEWOOD NSW 2102	Client Sample ID		S123
	Lab Number		T10-JL07781
	Matrix		Soil
	Sample Date		Jul 20, 2010
Analysis Type	**LOR**	**Units**	
p-Terphenyl-d14 (surr.)	1	%	82
2-Fluorobiphenyl (surr.)	1	%	82
Organochlorine Pesticides			
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
Chlordane	0.1	mg/kg	< 0.1
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
Toxophene	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	118
Tetrachloro-m-xylene (surr.)	1	%	111
Polychlorinated Biphenyls			
Aroclor-1016	0.1	mg/kg	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID** **Lab Number** **Matrix** **Sample Date**		**S123** **T10-JL07781** **Soil** **Jul 20, 2010**
Analysis Type	**LOR**	**Units**	
Aroclor-1232	0.1	mg/kg	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1
Total PCB	0.5	mg/kg	< 0.5
Dibutylchlorendate (surr.)	1	%	118
Tetrachloro-m-xylene (surr.)	1	%	111
% Moisture	0.1	%	16
Heavy Metals			
Arsenic	2	mg/kg	7.0
Cadmium	0.5	mg/kg	< 0.5
Chromium	5	mg/kg	6.9
Copper	5	mg/kg	14
Lead	5	mg/kg	39
Nickel	5	mg/kg	11
Zinc	5	mg/kg	60
Mercury	0.1	mg/kg	< 0.1

COMMENTS:

Geo-Logix Pty Ltd Bld Q2 Level 3, 2309/4 Daydream St WARRIEWOOD NSW 2102	Client Sample ID	S2/0.05	S2/0.05	RPD	SPIKE	LCS	Method blank
	Lab Number	10-JL07749	10-JL07749	10-JL07749	10-JL07749	Batch	Batch
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	% Recovery	
	Matrix	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**Units**			% RPD	% Recovery	% Recovery	mg/L
Total Recoverable Hydrocarbons							
TRH C6-C9 Fraction by GC		< 20	< 20	< 1	88	105	< 20
TRH C10-C14 Fraction by GC		< 50	< 50	< 1	88	84	< 50
TRH C15-C28 Fraction by GC		< 100	< 100	< 1	-	-	< 100
TRH C29-C36 Fraction by GC		< 100	< 100	< 1	-	-	< 100
Monocyclic Aromatic Hydrocarbons							
Benzene		< 0.05	< 0.05	< 1	84	100	< 0.05
o-Xylene		< 0.05	< 0.05	< 1	92	-	< 0.05
Total m+p-Xylenes		< 0.05	< 0.05	< 1	90	-	< 0.05
Toluene		< 0.05	< 0.05	< 1	85	101	< 0.05
Ethylbenzene		< 0.05	< 0.05	< 1	88	104	< 0.05
Xylenes(ortho.meta and para)		< 0.05	< 0.05	< 1	91	108	< 0.05
Polycyclic Aromatic Hydrocarbons							
Acenaphthene		< 0.1	< 0.1	< 1	114	112	< 0.1
Acenaphthylene		< 0.1	< 0.1	< 1	102	104	< 0.1
Anthracene		< 0.1	< 0.1	< 1	105	112	< 0.1
Benz(a)anthracene		< 0.1	< 0.1	< 1	102	99	< 0.1
Benzo(a)pyrene		< 0.1	< 0.1	< 1	113	98	< 0.1
Benzo(b)fluoranthene		< 0.1	< 0.1	< 1	123	94	< 0.1
Benzo(g.h.i)perylene		< 0.1	< 0.1	< 1	98	105	< 0.1
Benzo(k)fluoranthene		< 0.1	< 0.1	< 1	107	98	< 0.1
Chrysene		0.8	0.7	4.0	73	108	< 0.1
Dibenz(a.h)anthracene		< 0.1	< 0.1	< 1	129	98	< 0.1
Fluoranthene		< 0.1	< 0.1	< 1	110	105	< 0.1
Fluorene		< 0.1	< 0.1	< 1	119	110	< 0.1
Indeno(1.2.3-cd)pyrene		< 0.1	< 0.1	< 1	115	98	< 0.1
Naphthalene		< 0.1	< 0.1	< 1	99	104	< 0.1
Phenanthrene		< 0.1	< 0.1	< 1	108	117	< 0.1
Pyrene		< 0.1	< 0.1	< 1	109	103	< 0.1

COMMENTS:

Geo-Logix Pty Ltd
Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD

NSW 2102

Client Sample		**S2/0.05**	**S2/0.05**	**RPD**	**SPIKE**	**LCS**	**Method blank**
Lab Number		**10-JL07749**	**10-JL07749**	**10-JL07749**	**10-JL07749**	**Batch**	**Batch**
QA Description			**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**	**% Recovery**	
Matrix		**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**			% RPD	% Recovery	% Recovery	mg/L
Organochlorine Pesticides							
4.4'-DDD		< 0.05	< 0.05	< 1	116	113	< 0.05
4.4'-DDE		< 0.05	< 0.05	< 1	117	110	< 0.05
4.4'-DDT		< 0.05	< 0.05	< 1	114	77	< 0.05
a-BHC		< 0.05	< 0.05	< 1	117	114	< 0.05
Aldrin		< 0.05	< 0.05	< 1	110	110	< 0.05
b-BHC		< 0.05	< 0.05	< 1	108	105	< 0.05
Chlordane		< 0.1	< 0.1	< 1	-	-	< 0.1
d-BHC		< 0.05	< 0.05	< 1	129	122	< 0.05
Dieldrin		< 0.05	< 0.05	< 1	116	111	< 0.05
Endosulfan I		< 0.05	< 0.05	< 1	110	107	< 0.05
Endosulfan II		< 0.05	< 0.05	< 1	125	118	< 0.05
Endosulfan sulphate		< 0.05	< 0.05	< 1	111	102	< 0.05
Endrin		< 0.05	< 0.05	< 1	110	86	< 0.05
Endrin aldehyde		< 0.05	< 0.05	< 1	124	128	< 0.05
Endrin ketone		< 0.05	< 0.05	< 1	78	82	< 0.05
g-BHC (Lindane)		< 0.05	< 0.05	< 1	113	110	< 0.05
Heptachlor		< 0.05	< 0.05	< 1	74	113	< 0.05
Heptachlor epoxide		< 0.05	< 0.05	< 1	123	119	< 0.05
Hexachlorobenzene		< 0.05	< 0.05	< 1	110	103	< 0.05
Methoxychlor		< 0.05	< 0.05	< 1	124	81	< 0.05
Toxophene		< 0.1	< 0.1	< 1	-	-	< 0.1
Polychlorinated Biphenyls							
Aroclor-1016		< 0.1	< 0.1	< 1	-	-	< 0.1
Aroclor-1221		< 0.1	< 0.1	< 1	-	-	< 0.1
Aroclor-1232		< 0.1	< 0.1	< 1	-	-	< 0.1
Aroclor-1242		< 0.1	< 0.1	< 1	-	-	< 0.1
Aroclor-1248		< 0.1	< 0.1	< 1	-	-	< 0.1
Aroclor-1254		< 0.1	< 0.1	< 1	-	-	< 0.1

COMMENTS:

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Geo-Logix Pty Ltd
Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD

NSW 2102

Client Sample		**S2/0.05**	**S2/0.05**	**RPD**	**SPIKE**	**LCS**	**Method blank**
Lab Number		**10-JL07749**	**10-JL07749**	**10-JL07749**	**10-JL07749**	**Batch**	**Batch**
QA Description			**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**	**% Recovery**	
Matrix		**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample Date		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**			% RPD	% Recovery	% Recovery	mg/L
Polychlorinated Biphenyls							
Aroclor-1260		< 0.1	< 0.1	< 1	-	-	< 0.1
Total PCB		< 0.5	< 0.5	< 1	-	-	< 0.5
Phenols							
2-Chlorophenol		-	< 0.2	< 1	108	110	< 0.2
2-Methylphenol (o-Cresol)		-	< 0.2	< 1	-	111	< 0.2
2-Nitrophenol		-	< 0.5	< 1	-	103	< 0.5
2.4-Dichlorophenol		-	< 0.2	< 1	97	115	< 0.2
2.4-Dimethylphenol		-	< 0.2	< 1	91	112	< 0.2
2.4.6-Trichlorophenol		-	< 0.2	< 1	100	115	< 0.2
2.6-Dichlorophenol		-	< 0.2	< 1	101	118	< 0.2
3&4-Methylphenol (m&p-Cresol)		-	< 0.4	< 1	94	112	< 0.4
4-Chloro-3-methylphenol		-	< 0.2	< 1	96	114	< 0.2
Pentachlorophenol		-	< 0.5	< 1	85	120	< 0.5
Phenol		-	< 0.2	< 1	106	115	< 0.2
Heavy Metals							
Arsenic		9.3	11	19	78	86	< 2
Cadmium		< 0.5	< 0.5	< 1	83	92	< 0.5
Chromium		< 5	< 5	< 1	82	93	< 5
Copper		11	11	4.2	83	106	< 5
Lead		17	18	7.6	78	91	< 5
Mercury		< 0.1	< 0.1	< 1	104	102	< 0.1
Nickel		< 5	< 5	< 1	82	94	< 5
Zinc		23	24	4.3	80	89	< 5

COMMENTS:

Geo-Logix Pty Ltd Bld Q2 Level 3, 2309/4 Daydream St WARRIEWOOD NSW 2102	Client Sample ID	S18/0.3	S18/0.3	RPD	SPIKE
	Lab Number	10-JL07760	10-JL07760	10-JL07760	10-JL07760
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**Units**			% RPD	% Recovery
Organochlorine Pesticides					
4.4'-DDD		< 0.05	< 0.05	< 1	103
4.4'-DDE		< 0.05	< 0.05	< 1	97
4.4'-DDT		< 0.05	< 0.05	< 1	79
a-BHC		< 0.05	< 0.05	< 1	102
Aldrin		< 0.05	< 0.05	< 1	96
b-BHC		< 0.05	< 0.05	< 1	91
Chlordane		< 0.1	< 0.1	< 1	-
d-BHC		< 0.05	< 0.05	< 1	108
Dieldrin		< 0.05	< 0.05	< 1	97
Endosulfan I		< 0.05	< 0.05	< 1	97
Endosulfan II		< 0.05	< 0.05	< 1	111
Endosulfan sulphate		< 0.05	< 0.05	< 1	97
Endrin		< 0.05	< 0.05	< 1	84
Endrin aldehyde		< 0.05	< 0.05	< 1	123
Endrin ketone		< 0.05	< 0.05	< 1	87
g-BHC (Lindane)		< 0.05	< 0.05	< 1	96
Heptachlor		< 0.05	< 0.05	< 1	75
Heptachlor epoxide		< 0.05	< 0.05	< 1	105
Hexachlorobenzene		< 0.05	< 0.05	< 1	91
Methoxychlor		< 0.05	< 0.05	< 1	96
Toxophene		< 0.1	< 0.1	< 1	-
Polychlorinated Biphenyls					
Aroclor-1016		< 0.1	< 0.1	< 1	-
Aroclor-1221		< 0.1	< 0.1	< 1	-
Aroclor-1232		< 0.1	< 0.1	< 1	-
Aroclor-1242		< 0.1	< 0.1	< 1	-
Aroclor-1248		< 0.1	< 0.1	< 1	-
Aroclor-1254		< 0.1	< 0.1	< 1	-

COMMENTS:

Geo-Logix Pty Ltd
Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD

NSW 2102

	Client Sample	**S18/0.3**	**S18/0.3**	**RPD**	**SPIKE**
	Lab Number	**10-JL07760**	**10-JL07760**	**10-JL07760**	**10-JL07760**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**			% RPD	% Recovery
Polychlorinated Biphenyls					
Aroclor-1260		< 0.1	< 0.1	< 1	-
Total PCB		< 0.5	< 0.5	< 1	-
Heavy Metals					
Arsenic		8.8	6.0	39	80
Cadmium		< 0.5	< 0.5	< 1	87
Chromium		< 5	7.6	52	87
Copper		< 5	< 5	10	105
Lead		15	18	17	83
Mercury		< 0.1	< 0.1	< 1	98
Nickel		< 5	< 5	< 1	81
Zinc		20	8.9	78	-

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**	**ROAD**	**ROAD**	**RPD**	**SPIKE**
	Lab Number	**10-JL07765**	**10-JL07765**	**10-JL07765**	**10-JL07765**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**			% RPD	% Recovery
Total Recoverable Hydrocarbons					
TRH C6-C9 Fraction by GC		< 20	< 20	< 1	95
TRH C10-C14 Fraction by GC		< 50	< 50	< 1	86
TRH C15-C28 Fraction by GC		< 100	< 100	< 1	-
TRH C29-C36 Fraction by GC		< 100	< 100	< 1	-
Monocyclic Aromatic Hydrocarbons					
Benzene		< 0.05	< 0.05	< 1	89
o-Xylene		< 0.05	< 0.05	< 1	99
Total m+p-Xylenes		< 0.05	< 0.05	< 1	97
Toluene		< 0.05	< 0.05	< 1	91
Ethylbenzene		< 0.05	< 0.05	< 1	94
Xylenes(ortho.meta and para)		< 0.05	< 0.05	< 1	98

COMMENTS:

Geo-Logix Pty Ltd Bld Q2 Level 3, 2309/4 Daydream St WARRIEWOOD NSW 2102	Client Sample ID	D1	D1	RPD	SPIKE
	Lab Number	10-JL07766	10-JL07766	10-JL07766	10-JL07766
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**Units**			% RPD	% Recovery
Polycyclic Aromatic Hydrocarbons					
Acenaphthene		< 0.1	< 0.1	< 1	110
Acenaphthylene		< 0.1	< 0.1	< 1	105
Anthracene		< 0.1	< 0.1	< 1	111
Benz(a)anthracene		< 0.1	< 0.1	< 1	99
Benzo(a)pyrene		< 0.1	< 0.1	< 1	103
Benzo(b)fluoranthene		< 0.1	< 0.1	< 1	102
Benzo(g.h.i)perylene		< 0.1	< 0.1	< 1	105
Benzo(k)fluoranthene		< 0.1	< 0.1	< 1	101
Chrysene		< 0.1	< 0.1	< 1	96
Dibenz(a.h)anthracene		< 0.1	< 0.1	< 1	100
Fluoranthene		0.1	0.1	9.0	102
Fluorene		< 0.1	< 0.1	< 1	109
Indeno(1.2.3-cd)pyrene		< 0.1	< 0.1	< 1	104
Naphthalene		< 0.1	< 0.1	< 1	102
Phenanthrene		< 0.1	< 0.1	< 1	112
Pyrene		0.1	0.1	9.0	101
Phenols					
2-Chlorophenol		-	< 0.2	< 1	108
2-Methylphenol (o-Cresol)		-	< 0.2	< 1	-
2-Nitrophenol		-	< 0.5	< 1	-
2.4-Dichlorophenol		-	< 0.2	< 1	112
2.4-Dimethylphenol		-	< 0.2	< 1	71
2.4.6-Trichlorophenol		-	< 0.2	< 1	114
2.6-Dichlorophenol		-	< 0.2	< 1	115
3&4-Methylphenol (m&p-Cresol)		-	< 0.4	< 1	100
4-Chloro-3-methylphenol		-	< 0.2	< 1	105
Pentachlorophenol		-	< 0.5	< 1	95
Phenol		-	< 0.2	< 1	106

COMMENTS:

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Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**	**S111**	**S111**	**RPD**	**SPIKE**
	Lab Number	**10-JL07770**	**10-JL07770**	**10-JL07770**	**10-JL07770**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**			% RPD	% Recovery
Heavy Metals					
Arsenic		9.1	11	20	79
Cadmium		< 0.5	< 0.5	< 1	87
Chromium		11	13	12	81
Copper		14	15	8.2	108
Lead		64	72	12	90
Mercury		< 0.1	< 0.1	< 1	71
Nickel		7.8	8.6	11	82
Zinc		160	190	11	102

COMMENTS:

Geo-Logix Pty Ltd Bld Q2 Level 3, 2309/4 Daydream St WARRIEWOOD NSW 2102	Client Sample ID	D3	D3	RPD	SPIKE
	Lab Number	10-JL07780	10-JL07780	10-JL07780	10-JL07780
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010	Jul 20, 2010
Analysis Type	**Units**			% RPD	% Recovery
Aroclor-1016		-	< 0.1	< 1	-
Aroclor-1221		-	< 0.1	< 1	-
Aroclor-1232		-	< 0.1	< 1	-
Aroclor-1242		-	< 0.1	< 1	-
Aroclor-1248		-	< 0.1	< 1	-
Aroclor-1254		-	< 0.1	< 1	-
Aroclor-1260		-	< 0.1	< 1	-
Total PCB		-	< 0.5	< 1	-
Organochlorine Pesticides					
4.4'-DDD		< 0.05	< 0.05	< 1	121
4.4'-DDE		< 0.05	< 0.05	< 1	125
4.4'-DDT		< 0.05	< 0.05	< 1	128
a-BHC		< 0.05	< 0.05	< 1	126
Aldrin		< 0.05	< 0.05	< 1	122
b-BHC		< 0.05	< 0.05	< 1	109
Chlordane		< 0.1	< 0.1	< 1	-
d-BHC		< 0.05	< 0.05	< 1	118
Dieldrin		< 0.05	< 0.05	< 1	119
Endosulfan I		< 0.05	< 0.05	< 1	128
Endosulfan II		< 0.05	< 0.05	< 1	128
Endosulfan sulphate		< 0.05	< 0.05	< 1	124
Endrin		< 0.05	< 0.05	< 1	122
Endrin aldehyde		< 0.05	< 0.05	< 1	126
Endrin ketone		< 0.05	< 0.05	< 1	75
g-BHC (Lindane)		< 0.05	< 0.05	< 1	117
Heptachlor		< 0.05	< 0.05	< 1	117
Heptachlor epoxide		< 0.05	< 0.05	< 1	126
Hexachlorobenzene		< 0.05	< 0.05	< 1	116
Methoxychlor		< 0.05	< 0.05	< 1	112

COMMENTS:

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Geo-Logix Pty Ltd
Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD

NSW 2102

	Client Sample	**D3**	**D3**	**RPD**	**SPIKE**
	Lab Number	**10-JL07780**	**10-JL07780**	**10-JL07780**	**10-JL07780**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**			% RPD	% Recovery
Organochlorine Pesticides					
Toxophene		< 0.1	< 0.1	< 1	-
Heavy Metals					
Arsenic		9.6	10	6.7	-
Cadmium		< 0.5	< 0.5	< 1	80
Chromium		8.6	8.6	< 1	77
Copper		< 5	< 5	< 1	100
Lead		23	24	4.9	79
Mercury		< 0.1	< 0.1	< 1	89
Nickel		8.9	10	16	84
Zinc		26	32	20	88

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**	**S123**	**S123**	**RPD**	**SPIKE**
	Lab Number	**10-JL07781**	**10-JL07781**	**10-JL07781**	**10-JL07781**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**			% RPD	% Recovery
Total Recoverable Hydrocarbons					
TRH C6-C9 Fraction by GC		< 20	< 20	< 1	94
TRH C10-C14 Fraction by GC		< 50	< 50	< 1	147
TRH C15-C28 Fraction by GC		< 100	< 100	< 1	-
TRH C29-C36 Fraction by GC		< 100	< 100	< 1	-
Monocyclic Aromatic Hydrocarbons					
Benzene		< 0.05	< 0.05	< 1	90
o-Xylene		< 0.05	< 0.05	< 1	99
Total m+p-Xylenes		< 0.05	< 0.05	< 1	97
Toluene		< 0.05	< 0.05	< 1	90
Ethylbenzene		< 0.05	< 0.05	< 1	94
Xylenes(ortho.meta and para)		< 0.05	< 0.05	< 1	97
Polycyclic Aromatic Hydrocarbons					
Acenaphthene		< 0.1	< 0.1	< 1	97
Acenaphthylene		< 0.1	< 0.1	< 1	90
Anthracene		< 0.1	< 0.1	< 1	97
Benz(a)anthracene		< 0.1	< 0.1	< 1	91
Benzo(a)pyrene		< 0.1	< 0.1	< 1	91
Benzo(b)fluoranthene		< 0.1	< 0.1	< 1	91
Benzo(g.h.i)perylene		< 0.1	< 0.1	< 1	101
Benzo(k)fluoranthene		< 0.1	< 0.1	< 1	87
Chrysene		< 0.1	< 0.1	< 1	97
Dibenz(a.h)anthracene		< 0.1	< 0.1	< 1	89
Fluoranthene		< 0.1	< 0.1	< 1	99
Fluorene		< 0.1	< 0.1	< 1	95
Indeno(1.2.3-cd)pyrene		< 0.1	< 0.1	< 1	86
Naphthalene		< 0.1	< 0.1	< 1	89
Phenanthrene		< 0.1	< 0.1	< 1	103
Pyrene		< 0.1	< 0.1	< 1	97

COMMENTS:

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : 03 9564 7055
NATA Site # 1254

Sydney
1a Chilvers Rd
Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Geo-Logix Pty Ltd
Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD

NSW 2102

Client Sample	**S123**	**S123**	**RPD**	**SPIKE**
Lab Number	**10-JL07781**	**10-JL07781**	**10-JL07781**	**10-JL07781**
QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**
Matrix	**Soil**	**Soil**	**Soil**	**Soil**
Sample Date	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**		% RPD	% Recovery
Phenols				
2-Chlorophenol	-	< 0.2	< 1	93
2-Methylphenol (o-Cresol)	-	< 0.2	< 1	-
2-Nitrophenol	-	< 0.5	< 1	-
2.4-Dichlorophenol	-	< 0.2	< 1	99
2.4-Dimethylphenol	-	< 0.2	< 1	25
2.4.6-Trichlorophenol	-	< 0.2	< 1	102
2.6-Dichlorophenol	-	< 0.2	< 1	98
3&4-Methylphenol (m&p-Cresol)	-	< 0.4	< 1	111
4-Chloro-3-methylphenol	-	< 0.2	< 1	91
Pentachlorophenol	-	< 0.5	< 1	116
Phenol	-	< 0.2	< 1	81

COMMENTS:

MGT ENVIRONMENTAL CONSULTING PTY LTD

MGT DOC : FORMS 011
Issue No:2
Date of update:26/02:08
Updated by: J. Dasallage
Approved by: M Wright
Sheet No:1 of 1

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Page 1 of [illegible]

Company Name : [illegible]	Contact Name : [illegible]	Purchase Order: [illegible]
Office Address : [illegible]	Project Manager : [illegible]	PROJECT Number :
[illegible]	e.mail for results :	Courier Consignment # :
		COC Number :
		mgt QUOTE ID :

Laboratory Address: mgt Environmental Consulting Pty Ltd
3 Kingston Town Close Oakleigh - Australia
Phone : +613 9564 7055
Fax : +613 9564 7190
Contact : Michael Wright
e.mail : wrightm@mgtenv.com.au

Special Directions & Comments :

3 DAY TAT

Sample ID	Date	Matrix	TPH C6-C9	TRH C10-36	VOCs	BTEX	PAH	PCB	OCP	OPP	PCBs	Phenols	Metals M8	TCLP	HOLD			1LP	250P	125P	1LA	VIAL	100mL A	OTHER
S1/0.05	29/9/10	Soil													X									
S1/0.2															X									
S2/0.05			X	X		X	X		X		X		X											
S2/0.2									X				X											
S2/0.3															X									
S3/0.05															X									
S3/0.2															X									
S3/0.4															X									
S4/0.1			X	X		X	X		X		X		X											
[illegible]																								
S5/0.05			X	X		X	X		X		X		X											
S5/0.25			X	X		X	X		X		X		X											
S5/0.5															X									
S6/0.1									X				X											
S6/0.3															X									
S6/0.5															X									
S7/0.05															X									

Relinquished By: [illegible]
Date & Time : [illegible]
Signature:

NOTES :

Laboratory Staff -
Received By: [illegible]
Date & Time : [illegible]
Signature: [illegible]
Report Number : [illegible]

Lab Notes :

Turn around Time :
24 Hrs
5 Days
48 Hrs
10 Days

Comments:

Method Of Shipment:
Courier
Hand Delivered
Postal

MGT ENVIRONMENTAL CONSULTING PTY LTD

MGT DOC : F[illegible]
Date of update: [illegible]
Updated by: J. [illegible]
Approved by: [illegible]
Sheet [illegible]

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Page 2 of 7

Company Name : [illegible] Pty Ltd	Contact Name : [illegible]	Purchase Order: [illegible]
Office Address :	Project Manager : Sean [illegible]	PROJECT Number :
	e.mail for results :	Courier Consignment # :
		COC Number :
		mgt QUOTE ID :

Special Directions & Comments :

Laboratory Address: mgt Environmental Consulting Pty Ltd
3 Kingston Town Close Oakleigh - Australia.
Phone : +613 9564 7055
Fax : +613 9564 7190
Contact : Michael Wright
e.mail : wrightm@mgtenv.com.au

Sample ID	Date	Matrix	TRH	TPH	VOCs	BTEX	PAHs	PCBs	OCPs	OPPs	[illegible]	Phenols	Metals	[illegible]	[illegible]			1LP	250P	125P	1LA	VIAL	100mL A	OTHER
[illegible]	[illegible]	Soil																						
[illegible]															X									
[illegible]															X									
[illegible]															X									
[illegible]									X		X													
[illegible]															X									
[illegible]			X	X		X	X						X											
[illegible]															X									
[illegible]									X				X											
[illegible] 05															X									
[illegible]															X									
[illegible]									X				X											
[illegible]															X									
[illegible]															X									
[illegible]															X									
[illegible]															X									
[illegible]															X									
															X									

Relinquished By: [illegible]
Date & Time : [illegible]
Signature:

NOTES :

Laboratory Staff -
Received By: [illegible]
Date & Time : [illegible]
Signature: [illegible]
Report Number : [illegible]

Lab Notes

Turn around Time :
24 Hrs
5 Days
48 Hrs
10 Days

Comments:

Method Of Shipment:
Courier
Hand Delivered
Postal

MGT ENVIRONMENTAL CONSULTING PTY LTD

MGT DOC : FO
Is
Date of update
Updated by: J. D
Approved by:
Sheet

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name :	Contact Name :	Purchase Order:	COC Number :
Office Address :	Project Manager :	PROJECT Number :	mgt QUOTE ID :
	e.mail for results :	Courier Consignment # :	

Special Directions & Comments :

3 DAY TAT

Analytes

Sample ID	Date	Matrix											

Container

1LP	250P	125P	1LA	VIAL	100mL A	OTH

Laboratory Address: mgt Environmental Consulting Pty Ltd
3 Kingston Town Close Oakleigh - Australia
Phone : +613 9564 7355
Fax : +613 9564 7190
Contact : Michael Wright
e.mail : mwright@mgtenv.com.au

Relinquished By:
Date & Time :
Signature:

NOTES :

Laboratory Staff -
Received By:
Date & Time :
Signature:
Report Number :

Lab Notes :

Turn around Time :
24 Hrs
5 Days
48 Hrs
10 Days

Comments:

Method Of Shipment:
Courier
Hand Delivered
Postal

MGT ENVIRONMENTAL CONSULTING PTY LTD

MGT DOC : FOR
Iss
Date of Update:2
Updated by: J. Da
Approved by: M
Sheet N

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name :
Office Address :

Contact Name :
Project Manager :
e.mail for results :

Purchase Order:
PROJECT Number :
Courier Consignment # :

COC Number :
mgt QUOTE ID :

Laboratory Address: mgt Environmental Consulting Pty Ltd
3 Kingston Town Close Oakleigh - Australia
Phone : +613 9564 7055
Fax : +613 9564 7090
Contact : Michael Wright
e.mail : mwright@mgtenv.com.au

Special Directions & Comments :

3 day TAT.

Sample ID	Date	Matrix	Analytes	Container
				1LP / 250P / 125P / 1LA / VIAL / 100mL A / OTHER
SS3/0.1	27/9/10	Soil	X	
SS3/0.4	"	"	X	
DAM1			X	
DAM2			X	
SS1/0.1			X	
SS1/0.4			X	
SS1/0.7	V	V	X	

Relinquished By:
Date & Time :
Signature:

NOTES :

Laboratory Staff :
Received By:
Date & Time :
Signature:
Report Number :

Lab Notes

Turn around Time :
24 Hrs
5 Days
48 Hrs
10 Days

Comments:

Method Of Shipment:
Courier
Hand Delivered
Postal

MGT ENVIRONMENTAL CONSULTING PTY LTD

MGT DOC : FORMS 011
Issue No:2
Date of update:26/02/05
Updated by: J. Dadallage
Approved by: M.Wright
Sheet No:1 of 1

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : [illegible]	Contact Name : [illegible]	Purchase Order: [illegible]	COC Number :
Office Address : [illegible]	Project Manager : [illegible]	PROJECT Number :	mgt QUOTE ID :
	e.mail for results :	Courier Consignment # :	

Laboratory Address: mgt Environmental Consulting Pty Ltd
3 Kingston Town Close Oakleigh - Australia.
Phone : +613 9564 7055
Fax : +613 9564 7190
Contact : Michael Wright
e.mail : wrightm@mgtenv.com.au

Special Directions & Comments :

3 day TAT

Analytes

Sample ID	Date	Matrix	TRH C6-C9	TRH C10-C36	TDS	BTEX	PAH	PCB	OCP	OPP	PCBs	Phenols	Metals M8	TCLP	Hold			1LP	250P	125P	1LA	VIAL	100mL A	OTHER
S101	[illegible]	Soil													X									
S102	↓	↓													X									
S103			X	X		X	X		X	X			X											
S104									X				X											
S105															X									
S106															X									
S107															X									
S108															X									
S109			X	X		X	X		X	X			X											
S110															X									
S111			X	X		X	X		X	X			X											
S112															X									
S113															X									
S114															X									
S115			X	X		X	X		X	X			X											
S116															X									
S117															X									

Relinquished By: [illegible]
Date & Time : [illegible]
Signature:

NOTES :

Laboratory Staff -
Received By: [illegible]
Date & Time : [illegible]
Signature: [signature]
Report Number : # 237031

Lab Notes :

Turn around Time :
24 Hrs
5 Days
48 Hrs
10 Days

Comments:

Method Of Shipment:
Courier
Hand Delivered
Postal

MGT ENVIRONMENTAL CONSULTING PTY LTD

MGT DOC : FORMS 011
Issue No:2
Date of update 26/02/06
Updated by: J. Dadallage
Approved by: M.Wright
Sheet No:1 of 1

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : [illegible] Pty Ltd	Contact Name : [illegible]	Purchase Order: [illegible]	COC Number :
Office Address :	Project Manager : [illegible]	PROJECT Number :	mgt QUOTE ID :
	e.mail for results :	Courier Consignment # :	

Special Directions & Comments :

3 day TAT

Laboratory Address: mgt Environmental Consulting Pty Ltd
3 Kingston Town Close Oakleigh - Australia
Phone : +613 9564 7055
Fax : +613 9564 7190
Contact : Michael Wright
e.mail : wrightm@mgtenv.com.au

Sample ID	Date	Matrix	TPH C6-C9	TPH C10-C36	VOCs	BTEX	PAHs	[illegible]	[illegible]	[illegible]	PCBs	[illegible]	[illegible]	[illegible]	HOLD	ASBESTOS	1LP	250P	125P	1LA	VIAL	100mLA	OTHER
S115	29/10	Soil													X								
S119	↓	↓	X	X		X	X		X		X		X										
S120	↓	↓													X								
S121	↓	↓	X	X		X	X		X		X		X										
S122	↓	↓							X				X										
S123	↓	↓	X	X		X	X		X		X		X										
S124	↓	↓													X								
S125	↓	↓													X								
S126	↓	↓													X								
S127	↓	↓													X								
S128	↓	↓							X				X			X							
S129	↓	↓							X				X										
S130	↓	↓													X								
S131	↓	↓							X				X										
SD4	↓	↓	X	X		X	X		X		X		X										
[illegible]	↓	↓													X	X							
D2	↓	↓	X	X		X	X		X		X	X	X										

Relinquished By: [illegible]	Laboratory Staff -	Lab Notes	Turn around	Comments:	Method Of Shipment:
Date & Time : [illegible]	Received By: [illegible]		Time :		Courier
Signature:	Date & Time : [illegible]		24 Hrs		Hand Delivered
	Signature: [illegible]		5 Days		Postal
NOTES :	Report Number : [illegible]		48 Hrs		
			10 Days		

MGT ENVIRONMENTAL CONSULTING PTY LTD

MGT DOC : FORMS 011
Issue No:2
Date of update: 26/02/08
Updated by: J. Dedallage
Approved by: M.Wright
Sheet No 1 of 1

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Page 2 of 2

Company Name : [illegible]	Contact Name : [illegible]	Purchase Order: [illegible]
Office Address : [illegible]	Project Manager : [illegible]	PROJECT Number :
	e.mail for results :	Courier Consignment # :
		COC Number :
		mgt QUOTE ID :

Laboratory Address: mgt Environmental Consulting Pty Ltd
3 Kingston Town Close Oakleigh - Australia.
Phone : +613 9564 7055
Fax : +613 9564 7190
Contact : Michael Wright
e.mail : wrightm@mgtenv.com.au

Special Directions & Comments : 3 DAY TAT

Analytes

Sample ID	Date	Matrix	Analytes (marked)	Container: 1LP	250P	125P	1LA	VIAL	100mL A	OTHER
[illegible]	[illegible]	[illegible]	X, X							
[illegible]	↓	↓	X							

Relinquished By: [illegible]
Date & Time : [illegible]
Signature:

NOTES :

Laboratory Staff -
Received By: [illegible]
Date & Time : [illegible]
Signature: [illegible]
Report Number: [illegible]

Lab Notes :

Turn around Time :
24 Hrs ☐
5 Days ☐
48 Hrs ☐
10 Days ☐

Comments:

Method Of Shipment:
Courier ☐
Hand Delivered ☐
Postal ☐

Ryan Hamilton

From: Ben Pearce [bpearce@geo-logix.com.au]
Sent: Thursday, 22 July 2010 2:07 PM
To: Ryan Hamilton
Subject: Rouse Hill additional alanysis

Tomorrow (Fri)
24 hr TA.

Hi Ryan,

As discussed, could you please run samples S111 and S121 for asbestos.

Thanks,

Ben

Ben Pearce
Bsc (Hons) MEIANZ CEnvP#321
ENVIRONMENT MANAGER

GEO_LOGIX
Environmental Consultants

Geo-Logix Pty Ltd
Building Q2, Level 3
Unit 2309 / 4 Daydream Street
Warriewood NSW 2102

P: 02 9979 1722
F: 02 9979 1222
M: 0415 440 253

www.geo-logix.com.au

Report 271051

- JL 07770
- JL 07773
- JL 07775 ok.

22/07/2010

mgt Environmental

ABN – 50 005 085 521 e.mail : mgt@mgtenv.com.au web : www.mgtenv.com.au

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3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : 03 9564 7055
NATA Site # 1254

Sydney
1a Chilvers Rd
Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Sample Receipt Advice

Company name: **Geo-Logix Pty Ltd**

Contact name: Ben Pearce
Client job number: ROUSE HILL 1001046
COC number: Not provided
Turn around time: 3 Day
Date received: Jul 21, 2010
MGT lab reference: **271031**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☒ Organic samples had Teflon liners.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Andrew Thexton on Phone : (03) 9564 7055 or by e.mail: athexton@mgtenv.com.au

Results will be delivered electronically via e.mail to Ben Pearce - bpearce@geo-logix.com.au.

mgt Sample Receipt

mgt Environmental

ABN – 50 005 085 521 e.mail : mgt@mgtenv.com.au web : www.mgtenv.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : 03 9564 7055
NATA Site # 1254

Sydney
1a Chilvers Rd
Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

CERTIFICATE OF ANALYSIS

Geo-Logix Pty Ltd
Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD
NSW 2102
Site: ROUSE HILL 1001046

Report Number: 271649-V1 Page 1 of 10
Order Number: 379599
Date Received: Jul 28, 2010
Date Sampled: Jul 28, 2010
Date Reported: Jul 30, 2010
Contact: Ben Pearce

Methods

- USEPA 8082 Polychlorinated Biphenyls
- USEPA 8081A Organochlorine Pesticides
- USEPA 8270C Polycyclic Aromatic Hydrocarbons
- USEPA 8260B - MGT 350A Monocyclic Aromatic Hydrocarbons
- TRH C6-C36 - MGT 100A
- USEPA 6020 Heavy Metals & USEPA 7470/71 Mercury
- Method 102 - ANZECC - % Moisture

Comments

Notes

Authorised

Report Number: 271649-V1

Michael Wright
Senior Principal Chemist
NATA Signatory

Dan Thompson
Laboratory Manager NSW

Andrew Thexton
Client Manager
NATA Signatory

GLOSSARY OF TERMS

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

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 Environment Protection Authority
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

QC - ACCEPTANCE CRITERIA

RPD Duplicates	Results <10 times the LOR : No Limit Results between 10-20 times LOR : RPD must lie between 0-50% Results >20 times LOR : RPD must lie between 0-20%
LCS Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
CRM Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Method Blanks	Not to exceed LOR
SPIKE Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Surrogate Recoveries	Recoveries must lie between 50-150% - Phenols 20-130%

GENERAL COMMENTS

1. All results in this report supersede any previously corresponded results.
2. All soil results are reported on a dry basis.
3. Samples are analysed on an as received basis.

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, Toxaphene & Chlordane are not added to the LCS.
4. Orgaonchlorine Pesticide analysis - where reporting Spike data, Toxaphene 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. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
7. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
8. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
9. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two two sets of data below the LOR with a positive RPD - eg: LOR 0.1, Result A = <0.1 (raw data is 0.02) & Result B = <0.1 (raw data is 0.03) resulting in a RPD of 40% calculated from the raw data.

REPORT SPECIFIC NOTES

mgt Environmental

ABN – 50 005 085 521 e.mail : mgt@mgtenv.com.au web : www.mgtenv.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone : 03 9564 7055
NATA Site # 1254

Sydney
1a Chilvers Rd
Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Company Name: Geo-Logix Pty Ltd
Address: Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD
NSW 2102

Order No.:
Report #: 271649
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Jul 28, 2010 12:00
Due: Jul 29, 2010 01:13
Priority: 1 Day
Contact name: Ben Pearce

Client Job No.: ROUSE HILL 1001046

mgt Client Manager: Andrew Thexton

Sample Detail					% Moisture	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Monocyclic Aromatic Hydrocarbons	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site #1254						X	X	X	X	X	X	X	X			X	X	
Sydney Laboratory - NATA Site #18217					X									X	X			X
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
MTP2	Jul 28, 2010		Soil	T10-JL10837	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MTP8	Jul 28, 2010		Soil	T10-JL10838	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MTP10	Jul 28, 2010		Soil	T10-JL10839	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MTP14	Jul 28, 2010		Soil	T10-JL10840	X	X	X	X	X	X	X	X	X	X	X	X	X	X
S128A	Jul 28, 2010		Soil	T10-JL10841	X											X		
S128B	Jul 28, 2010		Soil	T10-JL10842	X											X		
S128D	Jul 28, 2010		Soil	T10-JL10843	X											X		
S128F	Jul 28, 2010		Soil	T10-JL10844	X											X		
S200	Jul 28, 2010		Soil	T10-JL10845	X											X		
S201	Jul 28, 2010		Soil	T10-JL10846	X											X		
S202	Jul 28, 2010		Soil	T10-JL10847	X											X		

Geo-Logix Pty Ltd	**Client Sample ID**		**MTP2**	**MTP8**	**MTP10**	**MTP14**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL10837**	**T10-JL10838**	**T10-JL10839**	**T10-JL10840**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**
Analysis Type	**LOR**	**Units**				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
o-Xylene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Total m+p-Xylenes	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Fluorobenzene (surr.)	1	%	98	84	92	88
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benz(a)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**MTP2**	**MTP8**	**MTP10**	**MTP14**
	Lab Number		**T10-JL10837**	**T10-JL10838**	**T10-JL10839**	**T10-JL10840**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**
Analysis Type	**LOR**	**Units**				
p-Terphenyl-d14 (surr.)	1	%	100	97	94	98
2-Fluorobiphenyl (surr.)	1	%	96	95	88	92
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	103	106	104	92
Tetrachloro-m-xylene (surr.)	1	%	89	95	83	102
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : 03 9564 7055
NATA Site # 1254

Sydney
1a Chilvers Rd
Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**		**MTP2**	**MTP8**	**MTP10**	**MTP14**
	Lab Number		**T10-JL10837**	**T10-JL10838**	**T10-JL10839**	**T10-JL10840**
	Matrix		**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date		**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**
Analysis Type	**LOR**	**Units**				
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	103	106	104	92
Tetrachloro-m-xylene (surr.)	1	%	89	95	83	102
% Moisture	0.1	%	14	15	19	20
Heavy Metals						
Arsenic	2	mg/kg	3.3	6.6	6.2	4.9
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	7.2	12	9.0	15
Copper	5	mg/kg	17	34	14	19
Lead	5	mg/kg	14	18	14	15
Nickel	5	mg/kg	15	9.2	< 5	8.3
Zinc	5	mg/kg	62	40	23	30
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Geo-Logix Pty Ltd	**Client Sample ID**		**S128A**	**S128B**	**S128D**	**S128F**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL10841**	**T10-JL10842**	**T10-JL10843**	**T10-JL10844**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**
Analysis Type	**LOR**	**Units**				
Organochlorine Pesticides						
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
Chlordane	0.1	mg/kg	0.4	2.8	0.2	< 0.1
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	0.12	0.40	0.06	< 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
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	88	94	79	81
Tetrachloro-m-xylene (surr.)	1	%	111	76	93	98
% Moisture	0.1	%	20	18	22	22

COMMENTS:

Geo-Logix Pty Ltd	**Client Sample ID**		**S200**	**S201**	**S202**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL10845**	**T10-JL10846**	**T10-JL10847**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**
Analysis Type	**LOR**	**Units**			
Organochlorine Pesticides					
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	86	84	93
Tetrachloro-m-xylene (surr.)	1	%	105	102	110
% Moisture	0.1	%	20	23	27

COMMENTS:

Geo-Logix Pty Ltd Bld Q2 Level 3, 2309/4 Daydream St WARRIEWOOD NSW 2102	Client Sample ID	MTP2	MTP2	RPD	SPIKE	CRM	Method blank
	Lab Number	10-JL10837	10-JL10837	10-JL10837	10-JL10837	Batch	Batch
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	% Recovery	
	Matrix	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	Jul 28, 2010	Jul 28, 2010	Jul 28, 2010	Jul 28, 2010	Jul 28, 2010	Jul 28, 2010
Analysis Type	**Units**			% RPD	% Recovery	% Recovery	mg/L
Total Recoverable Hydrocarbons							
TRH C6-C9 Fraction by GC		< 20	< 20	< 1	80	-	-
TRH C10-C14 Fraction by GC		< 50	< 50	< 1	90	-	< 50
TRH C15-C28 Fraction by GC		< 100	< 100	< 1	-	-	< 100
TRH C29-C36 Fraction by GC		< 100	< 100	< 1	-	-	< 100
Monocyclic Aromatic Hydrocarbons							
Benzene		< 0.05	< 0.05	< 1	78	-	-
o-Xylene		< 0.05	< 0.05	< 1	81	-	-
Total m+p-Xylenes		< 0.05	< 0.05	< 1	82	-	-
Toluene		< 0.05	< 0.05	< 1	78	-	-
Ethylbenzene		< 0.05	< 0.05	< 1	79	-	-
Xylenes(ortho.meta and para)		< 0.05	< 0.05	< 1	82	-	-
Polycyclic Aromatic Hydrocarbons							
Acenaphthene		< 0.1	< 0.1	< 1	99	-	< 0.1
Acenaphthylene		< 0.1	< 0.1	< 1	87	-	< 0.1
Anthracene		< 0.1	< 0.1	< 1	91	-	< 0.1
Benz(a)anthracene		< 0.1	< 0.1	< 1	74	-	< 0.1
Benzo(a)pyrene		< 0.1	< 0.1	< 1	80	-	< 0.1
Benzo(b)fluoranthene		< 0.1	< 0.1	< 1	87	-	< 0.1
Benzo(g.h.i)perylene		< 0.1	< 0.1	< 1	83	-	< 0.1
Benzo(k)fluoranthene		< 0.1	< 0.1	< 1	85	-	< 0.1
Chrysene		< 0.1	< 0.1	< 1	87	-	< 0.1
Dibenz(a.h)anthracene		< 0.1	< 0.1	< 1	88	-	< 0.1
Fluoranthene		< 0.1	< 0.1	< 1	86	-	< 0.1
Fluorene		< 0.1	< 0.1	< 1	95	-	< 0.1
Indeno(1.2.3-cd)pyrene		< 0.1	< 0.1	< 1	84	-	< 0.1
Naphthalene		< 0.1	< 0.1	< 1	97	-	< 0.1
Phenanthrene		< 0.1	< 0.1	< 1	101	-	< 0.1
Pyrene		< 0.1	< 0.1	< 1	91	-	< 0.1

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**	**S202**	**S202**	**RPD**	**SPIKE**	**CRM**
	Lab Number	**10-JL10847**	**10-JL10847**	**10-JL10847**	**10-JL10847**	**Batch**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**	**% Recovery**
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**	**Jul 28, 2010**
Analysis Type	**Units**			% RPD	% Recovery	% Recovery
Aroclor-1016		-	-	< 1	-	-
Aroclor-1221		-	-	< 1	-	-
Aroclor-1242		-	-	< 1	-	-
Aroclor-1248		-	-	< 1	-	-
Aroclor-1254		-	-	< 1	-	-
Aroclor-1260		-	-	< 1	-	-
Total PCB		-	-	< 1	-	-
Organochlorine Pesticides						
4.4'-DDD		< 0.05	< 0.05	< 1	80	-
4.4'-DDE		< 0.05	< 0.05	< 1	82	-
4.4'-DDT		< 0.05	< 0.05	< 1	75	-
a-BHC		< 0.05	< 0.05	< 1	78	-
Aldrin		< 0.05	< 0.05	< 1	85	-
b-BHC		< 0.05	< 0.05	< 1	72	-
Chlordane		< 0.1	< 0.1	< 1	-	-
d-BHC		< 0.05	< 0.05	< 1	85	-
Dieldrin		< 0.05	< 0.05	< 1	86	-
Endosulfan I		< 0.05	< 0.05	< 1	72	-
Endosulfan II		< 0.05	< 0.05	< 1	81	-
Endosulfan sulphate		< 0.05	< 0.05	< 1	102	-
Endrin		< 0.05	< 0.05	< 1	74	-
Endrin aldehyde		< 0.05	< 0.05	< 1	85	-
Endrin ketone		< 0.05	< 0.05	< 1	93	-
g-BHC (Lindane)		< 0.05	< 0.05	< 1	83	-
Heptachlor		< 0.05	< 0.05	< 1	76	-
Heptachlor epoxide		< 0.05	< 0.05	< 1	94	-
Hexachlorobenzene		< 0.05	< 0.05	< 1	85	-
Methoxychlor		< 0.05	< 0.05	< 1	83	-
Toxophene		< 0.1	< 0.1	< 1	-	-

COMMENTS:

CHAIN OF CUSTODY

Geo-Logix Pty Ltd
Building Q2, Level 3
2309/4 Daydream St
Warriewood, NSW 2102
ABN: 86 115 852 936
P: (02) 9979 1722
F: (02) 9979 1222

Project Manager: Ben Peera / Grant Russell
Project Name: Rouse Hill
Project Number: 160146
Date Submitted: 28.7.10

Purchase Order No: 379599
Quote Reference:
Send Invoice to: accounts@geo-logix.com.au
TAT required: 24 hours

ANALYSIS REQUIRED

Lab ID	Sample ID	Date	Matrix: soil	water	air	paint, filters	other	Comments	COMPOSITE	TPH - C6 - C9	TPH - C10 - C36	VOCs	BTEX	PAHs	PCBs	OCPs	OPPs	PCBs	Phenols	Metals - Lead	Metals - Specify	Metals - MB	TCLP	Other 1	Other 2	Other 3	Incld
	MTP1	28.7.10	✓							✓	✓		✓	✓	✓	✓						✓					✓
	MTP2		✓							✓	✓		✓	✓	✓	✓						✓					✓
	MTP3		✓																								✓
	MTP4		✓																								✓
	MTP5		✓																								✓
	MTP6		✓							✓	✓		✓	✓	✓	✓						✓					✓
	MTP7		✓																								✓
	MTP8		✓							✓	✓		✓	✓	✓	✓						✓					✓
	MTP9		✓																								✓
	MTP10		✓							✓	✓		✓	✓	✓	✓						✓					✓
	MTP11		✓																								✓
	MTP12		✓																								✓
	MTP13		✓																								✓
	MTP14		✓							✓	✓		✓	✓	✓	✓						✓					
	S128A		✓													✓											
	S128B		✓													✓											
	S128C	↓	✓																								✓

Metals** (circle) As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+}, Cr^{3+}, Fe^{2+}, Fe^{3+}, Be, B, Al, V, Mn, Fe, Co, Se, Sr, Sn, Mo, Ag, Ba, Tl, Bi, Sb

Chain of Custody

Relinquished by: Grant Russell Date/Time: 28.7.10 Signature:
Received by: Kaylie Hunsley Date/Time: 28/7/10 1.13pm Signature:

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Building Q2, Level 3
23894 Daydream St
Warriewood NSW 2102
ABN: 86 116 892 936
P: (02) 9979 1722
F: (02) 9979 1222

CHAIN OF CUSTODY

Project Manager: Ben Pearce / Grant Rosati
Project Name: Rouse Hill
Project Number: 1001046
Date Submitted: 28.7.2010

Purchase Order No: 379599
Quote Reference:
Send Invoice to: accounts@geo-logix.com.au
TAT required: 24 hours

ANALYSIS REQUIRED

Lab ID	Sample ID	Date	Matrix: soil	water	air	paint, filters	other	Comments	COMPOSITE	TPH - C6 - C9	TPH - C10 - C36	VOCs	BTEX	PAHs	PCBs	OCPs	OPPs	PCBs	Phenols	Metals - Lead	Metals - Specify	Metals - MB	TCLP	Other 1	Other 2	Other 3		Cold
	S128D	28.7.10	✓													✓												
	S128E	↓	↓													✓												✓
	S128F															✓												✓
	S128G															✓												✓
	S200															✓												
	S201															✓												
	S202															✓												
	DS																											✓
	D6	↓	↓																									✓

Metals**(circle) As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+}, Cr^{3+}, Fe^{2+}, Fe^{3+}, Be, B, Al, V, Mn, Fe, Co, Se, Sr, Sn, Mo, Ag, Ba, Tl, Bi, Sb

Chain of Custody

Relinquished by: Grant Rosati Date/Time 28.7.10 Signature: [signature]
Received by: Kylie Hinsley Date/Time 28/7/10 1:13pm Signature: [signature]

mgt Environmental

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Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Sample Receipt Advice

Company name: **Geo-Logix Pty Ltd**

Contact name: Ben Pearce
Client job number: ROUSE HILL 1001046
COC number: Not provided
Turn around time: 1 Day
Date received: Jul 28, 2010
MGT lab reference: **271649**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Organic samples had Teflon liners.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Andrew Thexton on Phone : (03) 9564 7055 or by e.mail: athexton@mgtenv.com.au

Results will be delivered electronically via e.mail to Ben Pearce - bpearce@geo-logix.com.au.

mgt Sample Receipt

mgt Environmental

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CERTIFICATE OF ANALYSIS

Geo-Logix Pty Ltd
Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD
NSW 2102
Site: ROUSE HILL 1001046

Order Number:
Date Received: Jul 28, 2010
Date Sampled: Jul 20, 2010
Date Reported: Jul 30, 2010
Contact: Ben Pearce

Methods

- USEPA 8081A Organochlorine Pesticides
- Method 102 - ANZECC - % Moisture
- APHA 2510 Conductivity by Direct Measurement

Comments

Notes

Authorised


Michael Wright
Senior Principal Chemist
NATA Signatory

Dan Thompson
Laboratory Manager NSW

Andrew Thexton
Client Manager
NATA Signatory

GLOSSARY OF TERMS

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

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 Environment Protection Authority
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

QC - ACCEPTANCE CRITERIA

RPD Duplicates	Results <10 times the LOR : No Limit Results between 10-20 times LOR : RPD must lie between 0-50% Results >20 times LOR : RPD must lie between 0-20%
LCS Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
CRM Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Method Blanks	Not to exceed LOR
SPIKE Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Surrogate Recoveries	Recoveries must lie between 50-150% - Phenols 20-130%

GENERAL COMMENTS

1. All results in this report supersede any previously corresponded results.
2. All soil results are reported on a dry basis.
3. Samples are analysed on an as received basis.

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, Toxaphene & Chlordane are not added to the LCS.
4. Orgaonchlorine Pesticide analysis - where reporting Spike data, Toxaphene 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. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
7. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
8. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
9. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two two sets of data below the LOR with a positive RPD - eg: LOR 0.1, Result A = <0.1 (raw data is 0.02) & Result B = <0.1 (raw data is 0.03) resulting in a RPD of 40% calculated from the raw data.

REPORT SPECIFIC NOTES

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Phone : 08 8443 4430

Company Name: Geo-Logix Pty Ltd
Address: Bld Q2 Level 3, 2309/4 Daydream St
WARRIEWOOD
NSW 2102

Order No.:
Report #: 271668
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Jul 28, 2010 12:00
Due: Jul 29, 2010 02:55
Priority: 1 Day
Contact name: Ben Pearce

Client Job No.: ROUSE HILL 1001046

mgt Client Manager: Andrew Thexton

Sample Detail					% Moisture	Conductivity (1:5 aqueous extract)	Organochlorine Pesticides
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site #1254					X	X	X
Sydney Laboratory - NATA Site #18217							
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
S127	Jul 20, 2010		Soil	T10-JL10932	X		X
S130	Jul 20, 2010		Soil	T10-JL10933	X		X
S22/0.3	Jul 20, 2010		Soil	T10-JL10934	X	X	
S112	Jul 20, 2010		Soil	T10-JL10935	X	X	
S6/0.3	Jul 20, 2010		Soil	T10-JL10936	X	X	
S105	Jul 20, 2010		Soil	T10-JL10937	X	X	

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Geo-Logix Pty Ltd	**Client Sample ID**		**S127**	**S130**	**S22/0.3**	**S112**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL10932**	**T10-JL10933**	**T10-JL10934**	**T10-JL10935**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**	**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**				
Organochlorine Pesticides						
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	-	-
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Chlordane	0.1	mg/kg	< 0.1	< 0.1	-	-
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
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	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	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	-	-
Toxophene	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	61	96	-	-
Tetrachloro-m-xylene (surr.)	1	%	63	107	-	-
% Moisture	0.1	%	9.6	18	11	17
Salinity (calculated from 1:5 aqueous extract EC)	50	mg/kg	-	-	< 50	300

COMMENTS:

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Geo-Logix Pty Ltd	**Client Sample ID**		**S6/0.3**	**S105**
Bld Q2 Level 3, 2309/4 Daydream St	**Lab Number**		**T10-JL10936**	**T10-JL10937**
WARRIEWOOD	**Matrix**		**Soil**	**Soil**
NSW 2102	**Sample Date**		**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**LOR**	**Units**		
% Moisture	0.1	%	23	8.8
Salinity (calculated from 1:5 aqueous extract EC)	50	mg/kg	85	95

COMMENTS:

Geo-Logix Pty Ltd **Bld Q2 Level 3, 2309/4 Daydream St** **WARRIEWOOD** **NSW 2102**	**Client Sample ID**	**S127**	**S127**	**RPD**	**SPIKE**	**LCS**	**Method blank**
	Lab Number	**10-JL10932**	**10-JL10932**	**10-JL10932**	**10-JL10932**	**Batch**	**Batch**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**	**% Recovery**	
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**	**Jul 20, 2010**
Analysis Type	**Units**			% RPD	% Recovery	% Recovery	mg/L
Organochlorine Pesticides		Batch	Batch	Batch	Batch		
4.4'-DDD		-	-	< 1	80	111	< 0.05
4.4'-DDE		-	-	< 1	82	108	< 0.05
4.4'-DDT		-	-	< 1	75	122	< 0.05
a-BHC		-	-	< 1	78	105	< 0.05
Aldrin		-	-	< 1	85	107	< 0.05
b-BHC		-	-	< 1	72	99	< 0.05
Chlordane		-	-	< 1	-	-	< 0.1
d-BHC		-	-	< 1	85	119	< 0.05
Dieldrin		-	-	< 1	86	116	< 0.05
Endosulfan I		-	-	< 1	72	95	< 0.05
Endosulfan II		-	-	< 1	81	104	< 0.05
Endosulfan sulphate		-	-	< 1	102	126	< 0.05
Endrin		-	-	< 1	74	72	< 0.05
Endrin aldehyde		-	-	< 1	85	117	< 0.05
Endrin ketone		-	-	< 1	93	126	< 0.05
g-BHC (Lindane)		-	-	< 1	83	110	< 0.05
Heptachlor		-	-	< 1	76	77	< 0.05
Heptachlor epoxide		-	-	< 1	94	117	< 0.05
Hexachlorobenzene		-	-	< 1	85	103	< 0.05
Methoxychlor		-	-	< 1	83	118	< 0.05
Toxophene		-	-	< 1	-	-	< 0.1

COMMENTS:

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