

2 & 10-22 Kent Road and 685 Gardeners Road, Mascot NSW

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Remedial Action Plan





Document Information

Remedial Action Plan

2 & 10-22 Kent Road and 685 Gardeners Road, Mascot NSW

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Senversa acknowledges the traditional custodians of the land on which this work was created and pay our respect to Elders past and present.



Executive Summary

Introduction

Senversa Pty Ltd (Senversa) was engaged by Goodman Property Services (Aust) Pty Ltd (GPSA) to prepare a remedial action plan (RAP) to manage identified contamination at 2 & 10-22 Kent Road and 685 Gardeners Road, Mascot NSW (the site). The site location is indicated on **Figure 1**.

Context

Senversa conducted a detailed site investigation (DSI) which revealed that the southern portions of the site (10-22 Kent Road) were used as a metal foundry from the 1970s to the early 1990s. Subsequently, this portion was utilized for an excavation and earth moving business during the 1990s to early 2000s. It is currently occupied by Eaton Electrical, a manufacturer and distributor of electrical goods.

For the northeastern portion of the site (2 Kent Road), business records prior to 2010 were unavailable. However, it was recorded as being occupied by a surgical equipment supplier until 2015, after which it was taken over by a printing group.

The northwestern portion of the site (685 Gardeners Road) remained undeveloped until 1970, when it was developed into a printing workshop. This area was then used for textile manufacturing from 1982 until 1991. It is understood that since around the 2000s, the warehouse has been utilized for poultry processing.

Senversa understands that GPSA are proposing to redevelop the site into a 120-megavolt ampere (MVA) (n-1) Data Centre, as per proposed in the development designs in **Appendix A**. The redevelopment project is designated State Significant Development (SSD-71368959).

Previous investigations at the site identified contamination, the DSI recommended that an RAP be prepared to address data gaps and manage identified contamination issues to make the site suitable for the proposed development.

The required extent of remediation or management comprises:

- Fill material across the site: while not all fill material is contaminated, for the purposes of planning the remediation all fill material should be considered potentially impacted by asbestos. This is a conservative precautionary approach adopted as the occurrence and concentrations of asbestos in fill have not been delineated laterally or vertically. Fill materials should also be assumed not suitable for use as growing media in landscaping areas unless assessed otherwise.
- Remnant primary chemical storage infrastructure: available information indicates that there is uncertainty in the occurrence of disused underground storage tanks (USTs) within the northern portion of the site (2 Kent Road).
- Hydrocarbon impacted soils: soils local to UST areas impacted by petroleum hydrocarbons, that represent a potential elevated risk if exposed.
- Groundwater: was assessed to represent a low risk provided that it is not extracted and used.

Objective

The remedial objectives are:

- To derive a plan to make the site suitable for ongoing commercial/industrial land use.
- This will be achieved by mitigating potential risks to human health and managing potential environmental impacts during the remedial works, including meeting SSD conditions of approval.



Remedial Strategy

A remedial options assessment was undertaken, and the preferred strategy developed that comprised the following key components:

1. Removal to the extent practicable of remaining disused USTs, or decommissioning if otherwise, as required under *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019* (the UPSS Regulation).
2. *In-situ* containment of contaminated soils. This includes leaving undisturbed materials under existing building slabs and pavement to be retained, and capping other contaminated soils via new building slabs, pavement or clean soils and a marker layer.
3. Use of suitable site soils or imported media in open space landscaping areas.
4. Passive management under a long-term environmental management plan (LTEMP) to restrict use of groundwater and control exposure to residual contamination at depth during deep intrusive works.

The aim is that no actions would be needed for normal site use by workers, visitors and landscaping maintenance workers.

Conclusion

Subject to the suitable implementation of the measures described in this RAP, it is concluded that the site can be made suitable for the intended commercial/industrial use and that the risks to the environment can be appropriately protected during the remediation works. Ongoing passive management of certain intrusive works into residual contaminated soils and impacted groundwater under building slabs, pavement and a marker layer will be required via appropriate implementation of a passive LTEMP.



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List of Acronyms

Acronym	Definition
ABC	Ambient Background Concentration
ACL	Added Contaminant Limit
ACM	Asbestos Containing Material
ANZG	Australian and New Zealand Guidelines
AS	Australian Standard
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure
ASS	Acid Sulfate Soil
ANZECC	Australian and New Zealand Environment and Conservation Council
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CEC	Cation Exchange Capacity
COC	Chain of Custody
CoPC	Contaminant of Potential Concern
CSM	Conceptual Site Model
DGV	Default Guideline Values
DP	Deposited Plan
DQIs	Data Quality Indicators
DQOs	Data Quality Objectives
DSI	Detailed Site Investigation
EC	Environmental Consultant
EIL	Ecological Investigation Level
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
ENM	Excavated Natural Material
EPA	Environment Protection Authority (NSW)

Acronym	Definition
ESL	Ecological Screening Level
GPR	Ground-Penetrating Radar
GPSA	Goodman Property Services (Aust) Pty Ltd
ha	Hectare
HEPA	Heads of EPA Australia and New Zealand
HIL	Health Investigation Level
HSL	Health Screening Level
km	Kilometre
L	Litre
LAA	Licensed Asbestos Assessor
LOR	Limit of Reporting
m	Metre
m3	Cubic Metres
m bgl	Metres Below Ground Level
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Litre
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
OCP	Organochlorine Pesticides
OPP	Organophosphate Pesticides
PAH	Polycyclic Aromatic Hydrocarbons



Acronym	Definition
PASS	Potential Acid Sulfate Soil
PCB	Polychlorinated Biphenyl
PFAS	Per- and Polyfluoroalkyl Substances
PFOS	Perfluorooctane Sulfonate
PID	Photo-Ionisation Detector
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
QA	Quality Assurance
QC	Quality Control
RAP	Remedial Action Plan
RC	Remediation Contractor
RPD	Relative Percentage Difference
RRE	Resource Recovery Exemption
RRO	Resource Recovery Order
SEAR	Secretary's Environmental Assessment Requirements
spp	Species Protection
SPR	Source-Pathway-Receptor
SSD	State Significant Development
TRH	Total Recoverable Hydrocarbons
UST	Underground Storage Tank
µg/kg	Micrograms Per Kilogram
µg/L	Micrograms Per Litre
VENM	Virgin Excavated Natural Material
VOC	Volatile Organic Compound



1.0 Introduction

Senversa Pty Ltd (Senversa) was engaged by Goodman Property Services (Aust) Pty Ltd (GPSA) to prepare a remedial action plan (RAP) to manage identified contamination at 2 & 10-22 Kent Road and 685 Gardeners Road, Mascot NSW (the site). The site location is indicated on **Figure 1**.

Northwestern (685 Gardeners Road) is currently operating as a poultry processing factory; the northeastern (2 Kent Road) and southern portions of the site are currently operating as commercial storage and distribution warehouses. Senversa understands that GPSA is proposing to redevelop the site into a 120-megavolt ampere (MVA) (n-1) Data Centre, as per the development designs in **Appendix A**. The redevelopment project is designated State Significant Development (SSD-71368959). The Planning Secretary's Environmental Assessment Requirements (SEAR) require an Environmental Impact Statement (EIS) to be prepared that must address certain requirements, including investigation of contamination and preparation of a RAP, if required.

A preliminary site investigation (PSI)¹ consolidated the understanding of previous works and contamination conditions. A detailed site investigation (DSI)² was then conducted that collected data and presented a conceptual site model (CSM). The DSI recommended that an RAP be prepared to manage identified contamination issues so that the site could be made suitable for the proposed development.

1.1 Background

Senversa prepared a DSI (Senversa, 2025b) that concluded that an RAP is required to manage identified contamination issues to make the site suitable for the proposed development. These key contamination issues relate to risks associated with:

- Managing exposure to and disturbance of soils during intrusive works due to the occurrence of asbestos in fill and potential localised aesthetic and hydrocarbon impacts.
- Removal of point source of contamination, via decommissioning and removal of underground storage tanks (USTs) at the site.
- Controlling use of site soils, which may not be ecologically suitable for use as exposed soils or growing media in landscaping areas.
- Controlling use of groundwater that may not be suitable for extraction and use.
- Appropriate environmental management of site soils and water during development construction works. This includes management of acid sulfate soils that may be disturbed via implementation of an acid sulfate soil management plan.

1.2 Proposed Development

The proposed development (SSD-71368959) will seek approval for the construction of an 120MVA Data Centre. The proposal seeks to demolish existing structures on the site, construct, fit out and the 24/7 operation of a Data Centre, with associated works.

The works subject to SSD-71368959 include the following:

- Site preparation works including demolition, bulk excavation, and removal of existing structures on the site, tree and vegetation clearing, and bulk earthworks.

¹ Senversa (2025a). *Preliminary Site Investigation*. S21569_002_RPT_Rev2, 26 May 2025.

² Senversa (2025b). *Detailed Site Investigation*. S21569_003_RPT_Rev3, 6 May 2025.



- Construction, fit out and 24/7 operation of a 120 MVA data centre with a maximum building height of 40 m (from natural ground level) and total gross floor area of approximately 26,052 m² comprising:
 - At-grade parking for thirty-four (34) car parking spaces and one (1) accessible car parking spaces.
 - Two (2) 12.5 m loading dock spaces.
 - Four (4) levels of technical data hall floor space with one data hall on ground level, three (3) data halls on levels one and two (2) data halls on level three.
 - Secure entrance lobby on ground level and ancillary office space on each level and mezzanine level.
- Provision of required plant and utilities, including:
 - Six (6) 33 kV switch rooms on ground level.
 - 1,172,000 L above ground diesel storage tanks.
 - 5,125 kL above ground water storage tanks.
 - 72 diesel generators.
- Acoustic screen parapet.
- Vehicle access provided via Gardeners Road and Ricketty Street.

Development plans considered in this RAP are presented in **Appendix A**.

1.3 SEAR Conditions

The SSD application needs to comply with the NSW Planning Secretary's Environmental Assessment Requirements (SEARs), details of how this report complies with SEARs is summarised in **Table 1.1** below.

Table 1.1: SEARs Requirement

SEARs Requirement	Response
<p><i>"17. Contamination and Remediation.</i></p> <ul style="list-style-type: none"> • <i>In accordance with Chapter 4 of SEPP (Resilience and Hazards) 2021, assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable (or will be suitable, after remediation) for the development."</i> <p>A prerequisite of this is that a preliminary site investigation (PSI) be completed. Pending assessments within the PSI, a DSI may be required. These investigations are required to assess and quantify any contamination on-site and demonstrate that the site is suitable (or can be made suitable) for the proposed land use, that being commercial/industrial. Should contamination be identified on-site during the PSI and DSI, a remedial action plan (RAP) and/or an environmental management plan (EMP) may be required for the proposed development.</p>	<p>This document has been prepared to meet the requirement to prepare a RAP as recommended in the DSI (Senversa, 2025b).</p>

1.4 Objective

The primary objective of this RAP is to describe the remedial processes and procedures required to be implemented during site development works to make the site is suitable for the proposed development. Specific remedial objectives are presented within **Section 6.1**.



1.5 Key Stakeholders

The stakeholders likely involved in the remediation project are listed in **Table 1.2** below.

Table 1.2: Roles and Responsibilities

Role	Organisation	Qualification / Experience Requirement for Remediation
Owner/Developer	GPSA.	-
Consent Authority	Department of Planning, Housing and Infrastructure.	-
Principal Contractor (PC)	TBC.	-
Remediation Contractor (RC)	TBC.	-
Environmental Consultant (EC)	TBC.	<p>Suitable trained and experienced. All reports to be prepared under direction of and approved by a person with an EPA-recognised consultant certification scheme:</p> <ul style="list-style-type: none"> • Environment Institute of Australia and New Zealand - Certified Environmental Practitioner (Site Contamination) (CEnvP (SC)). • Soil Science Australia - Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM).

TBC = to be confirmed.

1.6 Regulatory and Guidance Requirements

This RAP has been developed with reference to the following guidelines and standards:

- Acid Sulfate Soils Management Advisory Committee, 1998. Acid Sulfate Soil Manual.
- CBC (2017). *Contaminated Land Policy*, City of Canterbury-Bankstown.
- DUAP & EPA (1998) Managing Land Contamination Planning Guidelines, SEPP 55 – Remediation of Land.
- HEPA (2020). *PFAS National Environmental Management Plan (NEMP)*. Version 2.0. National Chemicals Working Group of the Heads of EPAs Australia and New Zealand (PFAS NEMP).
- National Environment Protection Council (2013). National Environment Protection (Assessment of Site Contamination) Amendment Measure (No.1). This is hereafter referred to as 'ASC NEPM'.
- DEC (2007). *Guidelines for the Assessment and Management of Groundwater Contamination*.
- NSW EPA (2014). *Waste Classification Guidelines. Part 1: Classifying Waste*.
- NSW EPA (2015). *Technical Note: Light Non-Aqueous Phase Liquid Assessment and Remediation*.
- NSW EPA (2017). *Guidelines for the NSW Site Auditor Scheme (3rd edition)*.
- NSW EPA (2020a). *Contaminated Land Guidelines: Consultants Reporting on Contaminated Land*.
- NSW EPA (2020b). *Assessment and Management of Hazardous Ground Gases, Contaminated Land Guidelines*.
- NSW EPA (2020c). *Guidelines for implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019*.
- NSW EPA (2022). *Sampling Design part 1 – application, Contaminated Land Guidelines*.
- WA Department of Health (DOH) (2021) *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*.

This list may be updated with reference to SSD approval conditions where relevant.



2.0 Site Information

2.1 Site Identification

The project is located on land known as 2 and 10-22 Kent Road, and 685 Gardeners Road, Mascot, legally referred to as Lot 1 DP529177, Lot 1 DP1009083 and Lot 2 DP529177. The site is located on Country of the Gadigal people within the local government area of Bayside Council.

It has a land area of approximately 23,470 m² with frontages to Ricketty Street, Kent Road and Gardeners Road, all of which are classified roads.

The site forms part of the Mascot West Employment lands which comprises a mix of land zoned for industrial, commercial and business park uses. To the east of the site is Mascot Station Town Centre which comprises a mix of retail, commercial, residential and recreational open space land uses.

The site is zoned E3 Productivity Support under the Bayside Local Environmental Plan 2012 (**BLEP 2021**). The proposal is permissible with development consent in the E3 zone and meets the zone objectives.

In its existing state, the site itself contains two large warehouse buildings which are currently leased out to multiple tenants. Large extents of the site consist of hardstand for vehicle circulation and parking with a number of mature trees are located along the site's boundaries.

A summary of the property and site identification is presented in **Table 2.1** below:

Table 2.1: Site Identification

Item	Description
Property Address	2 & 10-22 Kent Road and 685 Gardeners Road, Mascot NSW.
Site Area	Approximately 23,470 m ² .
Site Legal Description	Lots 1 and 2 in DP529177 and Lot 1 in DP1009083.
Geographic Coordinates (Approximate Centre of Site) (GDA2020/MGA56)	Northwest corner: 332052 easting; 6245260 northing. Southwest corner: 332027 easting; 6245092 northing. Southeast corner: 332147 easting; 6245083 northing. Northeast corner: 332180 easting; 6245237 northing.
Current Site Owner	Goodman.
Local Government Area	Bayside City Council.
Site Zoning	E3 – Productivity Support.
Property Use	Commercial warehouses (commercial/industrial premises).
Surrounding Land Use	<p>Surrounding land uses in the immediate vicinity of the include:</p> <ul style="list-style-type: none"> • North: Gardeners Road, which is the LGA boundary with the City of Sydney. Further to the north is existing industrial development with Alexandra Canal beyond. • South: Ricketty Street is immediately south, with predominantly one (1) to four (4) storey commercial and industrial development beyond. • East: Kent Road is immediately to the east, with four (4) to 14 storey high-density residential development beyond. • West: to the west is light industrial development typically one (1) to two (2) storeys in height. <p>The surrounding area generally slopes downwards from north to south.</p>
Site Location and Features	Figure 1.



2.2 Previous Investigations

The following investigations have been undertaken to date:

- Epic Environmental Pty Ltd (Epic Environmental) (2023). *Due Diligence Environmental Site Assessment*. SCL230035.01, 28 July 2023.
- Senversa (2025a). *Preliminary Site Investigation*. S21569_002_RPT_Rev2, 6 May 2025.
- Senversa (2025b). *Detailed Site Investigation*. S21569_003_RPT_Rev3, 6 May 2025.

The findings of these are summarised in the following sections.

2.3 Site Setting

The property's environmental setting was described in the DSI (Senversa, 2025b), with a summary for the site presented in **Table 2.2**.

Table 2.2: Property Environmental Setting

Item	Description
Geology and Soil	The site is located in an area extensively disturbed by human activity with soil comprising of fill from unknown origin. Deeper natural soils/sediments are comprised of Botany Sands ranging from the Quaternary period in the Cainozoic era.
Hydrology	<p>The site is located within Area 2 of the Botany Sands groundwater restriction zone, where extraction of groundwater by residents for domestic purposes is prohibited and industrial users must have a licence and comply with conditions.</p> <p>Groundwater was reported to have been encountered at approximately 2 metres below ground level (m bgl) by Epic Environmental (2023) within the 4 existing groundwater monitoring wells on the southern portion of the site. Groundwater was reported by Epic Environmental (2023) to flow to the west/northwest towards Alexandra Canal (approximately 300 m away), which flows into Botany Bay, approximately 3 km to the south of the site.</p>
Acid Sulphate Soil (ASS)	<p>The Botany Bay 1:25,000 Acid Sulfate Soils (ASS) Risk Map and NSW eSPADE database indicated that the site is located in an area of disturbed terrain and thus could not give an accurate probability for ASS occurrence. Senversa's experience of working on projects in the close vicinity of the site suggest that potential acid sulfate soil (PASS) may be present in natural and potentially dredged sediment fill below the groundwater table in the area.</p> <p>The DSI (Senversa, 2025b) reported visual indicators and chromium reducible sulfur and net acidity above relevant action criteria in fill and natural soils that comprise potential acid sulfate soils (PASS). Based on the results, an acid sulfate soil management plan is required if there will be ground disturbance as part of the redevelopment works.</p>
Sensitive Receptors	Alexandra Canal (300 m west) was identified as a sensitive environmental receptor.

2.4 Contamination Setting

2.4.1 Summary of Site History

Site was predominantly farmland with what appeared to be inferred sheds and possible residential buildings up until the late 1930s to early 1940s.

Business records were unavailable pre-1970s; however, multiple large sheds could be seen on aerials of the site from 1940s to 1970s. The development and apparent demolition of sheds on-site was observed on historical aerials during this time.

The southern portions of the site (10-22 Kent Road) were reported as used as a metal foundry between the 1970s to early 1990s. This portion of the site was reported as then being used for an excavation and earth moving business in the 1990s to early 2000s. This was followed by occupation by its current tenant (Eaton Electrical) a manufacturer and distributor of electrical goods.



The northwestern portion of the site (685 Gardeners Road) was reported to remain undeveloped until 1970 when it was developed for use as a printing workshop. The site was used for textile manufacturing from 1982 until 1991. It is understood the warehouse has been used for poultry process since circa 2000s.

Business records for the northern portion of the site (2 Kent Road) were not available before 2010, where it was recorded as being occupied by a surgical equipment supplier until 2015, after which it was reported as being occupied by a printing group.

2.4.2 Contamination Summary

Contamination at the site is considered related to:

- On-site historical use (manufacturing of electrical goods, farmland, ferrous foundry, printing activities and associated chemical storage).
- Filling material from unknown origin and quality across the site.
- Presence of USTs.
- Potential use and storage of per and polyfluoroalkyl substances (PFAS).

Key results are summarised below. Copies of soil vapour, groundwater and soil sampling analytical data from the DSI (Senversa 2025b) are provided in **Appendix B**.

2.4.2.1 Remnant Primary Sources

There were up to six (6) USTs present within the 2 Kent Road portion of the site. These structures were confirmed via ground penetrating radar (GPR). The condition of the USTs are unknown. It is unknown if they were decommissioned *in-situ* or abandoned.

2.4.2.2 Soil

Concentrations of the contaminants of potential concern (CoPCs) in soil were below the adopted human health guidelines, with the exception of those at BH105 that were reported significantly higher for lead and petroleum hydrocarbons.

While asbestos was not observed during field work it was reported to be present in fill at three locations. As such, it should be assumed that bonded asbestos may be present in fill at the site. However, 10 L quantification analysis has not been undertaken to assess the concentration of asbestos in fill on-site due to the soil sampling methodology and size of boreholes limiting sample volumes. Friable asbestos was not detected by laboratory analysis.

A limited number of samples exceeded the conservative soil ecological investigation level (EILs) for heavy metals, total recoverable hydrocarbons (TRH) and benzo(a)pyrene, with the exception of concentrations at BH105 that were reported significantly higher than the rest of the site. These exceedances are not considered significant since most of the site is covered with concrete or asphalt hardstand (and will remain so under the proposed development design) and the assessment criteria are conservative.

2.4.2.3 Groundwater

Groundwater was encountered between approximately 1.1 to 1.8 metres below ground level (m bgl) and generally flowed in a northwest direction. The depth to water (<2 m bgl) and high permeability strata (Botany Sand) indicated groundwater could be encountered during shallow excavations.

A limited number of groundwater samples exceeded the groundwater maintenance of ecosystems criteria for cadmium, copper, zinc, and the PFAS compound perfluorooctance sulphonic acid (PFOS). Senversa considers that the nature of metals in groundwater reported are broadly consistent with site background conditions.



Low-level PFOS concentrations exceeding the adopted ecological assessment criteria in groundwater were observed across most of the site. These low-level concentrations are potentially at background concentrations, with the site located in a heavily industrial area, or may be from potential historical use of the site. No clear source of current or historical PFAS site use has been identified.

There is uncertainty in the nature of groundwater in the northwestern portion of the site at the 685 Gardeners Road (Lot 2 in DP 529177).

2.4.2.4 Soil Vapour

All reported soil vapour analytical results were reported below the adopted human health assessment criteria indicating there is a low risk of vapour intrusion into the existing buildings on-site.

2.4.3 Data Gaps

The DSI (Senvorsa 2025b) identified uncertainties in the characterisation of contamination at the site. Key data gaps that warrant addressing to inform ongoing management requirements include:

- Uncertainty in contamination conditions in soil and groundwater where there has been limited sampling, including the 685 Gardeners Road portion of the site.
- Condition of remnant USTs in the 2 Kent Road portion of the site.



3.0 Conceptual Site Model

An assessment of source-pathway-receptors (SPR) linkages was compiled for the site (Senversa, 2025b) as presented in **Table 3.1** below. It includes an indication of whether SPR linkages require further investigation or management. The SPR linkages have been classified as follows:

- **Incomplete** – linkage likely to be incomplete with negligible exposure to contamination likely to occur via this pathway.
- **Potentially complete** – linkage potentially complete. Further data collection required to close data gaps and confirm whether pathway is complete or potentially significant in terms of risk.
- **Complete** – linkage likely to be complete. Based on available information, a complete exposure pathway has been identified and/or there is significant uncertainty and these linkages require more detailed investigation or risk assessment/management.

**Table 3.1: Source-Pathway-Receptor Linkages**

Source	Exposure Pathway	Receptor(s)	Status	Assessment of complete linkages
On-Site Sources: <ul style="list-style-type: none"> Fill material of unknown origin and quality across the site. Potential USTs. Potential use and storage of PFAS. On-site historical use (manufacturing of electrical goods, farmland, ferrous foundry, printing activities and associated chemical storage). 	Dermal contact or incidental ingestion (sub-surface soils).	Site commercial/industrial workers and visitors.	☒	Most of the site is currently and will be sealed so no complete exposure pathways in most areas. The exposure pathway incomplete for most workers on-site as they would not come into contact with soils during day-to-day activities.
		Current and future intrusive workers (including utility and landscape workers and grounds keepers). Construction workers during redevelopment.	☑	<p>Generally, CoPC concentrations were reported below the adopted human health assessment criteria. BH105 however reported significantly elevated concentrations of lead and total recoverable hydrocarbons (TRH). As such management of fill in this area should be considered during intrusive works. Additionally,</p> <p>The extent of these impacts is localised and will be covered by buildings or pavement in the future, limiting exposure.</p> <p>It is expected that exposure to construction workers would be managed by standard occupational health and safety measures (e.g. wearing gloves during soil or groundwater handling, etc) implemented as part of a construction environmental management plan for the project.</p> <p>There has been no sampling undertaken within the northwestern portion of the site at 685 Gardeners Road, which reduces the level of certainty in risk. This should be considered during construction.</p>
	Dermal contact or incidental ingestion (sub-surface water).	Site commercial/industrial workers and visitors.	☒	<p>Extraction and beneficial use of groundwater is considered unlikely on the basis of the high salinity of groundwater, site location within the Botany Sands groundwater restriction zone, and presence of a reticulated water supply.</p> <p>The exposure pathway incomplete for most workers on-site as they would not come into contact with groundwater during day-to-day activities.</p>
		Current and future intrusive workers (including utility and landscape workers and grounds keepers). Construction workers during redevelopment.	☑	<p>There is potential for incidental direct contact to groundwater during shallow excavations. Concentrations of COPC were reported to be generally less than health criteria. However, there is potential for exposure to localised solvent and hydrocarbon impacts near former USTs.</p> <p>Most services would be expected in the top metre and above the water table. However, it is possible deep excavations are required during construction that could intersect the water table in areas of residual contamination.</p> <p>There could be localised pockets of shallower perched water that is impacted by hydrocarbons near former UST areas.</p>



Source	Exposure Pathway	Receptor(s)	Status	Assessment of complete linkages
		Off-site recreational users of Alexandra Canal. Off-site intrusive workers.	☒	Groundwater flows west and may eventually discharge to Alexandra Canal. However, there is no evidence of migration of site-related contaminants at concentrations exceeding recreation health criteria (which are also conservatively protective of intrusive workers) off the property via groundwater.
Inhalation of vapours (from soil and/or groundwater).	All site users (recreational, commercial workers, construction workers prior to and during construction). Off-site recreational users. Off-site commercial workers.	☒ ☑		Soil and groundwater sample analysis results identified no concentrations of TRH, benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN) or volatile organic compound (VOC) that would indicate a potential vapour intrusion risk to date. Off-site migration of hazardous ground gas has not been identified and is not a likely pathway. There remain some uncertainties in soil vapour conditions in the northwestern portion of the site at 685 Gardeners Road, which reduces the level of certainty in risk.
Inhalation of contaminated soil dust (from exposed soils).	All site users (commercial workers, intrusive workers, construction workers prior to and during construction).	☑		Negligible opportunity for site users to be exposed to contaminated dust/soil during normal site conditions as surfaces are or will be sealed. Asbestos as bonded asbestos containing material (ACM) was identified in fill at three locations; BH104, BH106 and BH114. Concentrations of AF/FA and >7 mm ACM were reported below the adopted human health assessment criteria for commercial industrial sites. There has been limited sampling in some areas and reliance on boreholes, which have limitations, and asbestos may be more widespread than identified. Potential exposure during construction or intrusive works to contaminated dust/soils would need to be managed during excavation of materials. This could be managed by the implementation of an asbestos management plan to prevent generation of airborne asbestos fibres.
Direct uptake from soil.	On-site terrestrial flora and fauna (minor landscaping areas).	☑		Site soils reported variable exceedances of ecological criteria. Due to the heterogenous nature of the soils and these results, site soils should be assumed to be not suitable for use as growing media in landscaping areas unless assessed otherwise.
Migration and discharge of groundwater or surface water to Alexandra Canal.	Off-site: aquatic ecosystem of Alexandra Canal.	☑		Exceedances of the adopted ecological assessment criteria were observed for PFOS. This pathway is potentially complete for adjacent sensitive receptors downgradient of site including Alexandra Canal. The ecological criteria, however, apply to the receiving waters of Alexandra Canal and are not necessarily representative of an actual risk. Leaching of potential contaminants from exposed soils to surface water runoff was not assessed directly but should be managed during construction.



4.0 Remediation Strategy

4.1 Remedial Objectives

Based on results of previous investigations outlined within **Section 2.2** and the CSM in **Section 3.0**, the remedial objectives are as follows:

- To derive a plan to make the site suitable for ongoing commercial/industrial land use.
- This will be achieved by mitigating potential risks to human health and managing potential environmental impacts during the remedial works, including meeting SSD conditions of approval.

4.2 Extent of Required Remediation

On the basis of Senversa's understanding of the contamination and proposed development outlined in this document, the required remediation comprises the following:

- Fill material across the site: while not all fill material is contaminated, for the purposes of remediation planning all fill material should be considered potentially impacted by asbestos. This is a conservative, precautionary approach adopted as the occurrence and concentrations of asbestos in fill have not been delineated laterally or vertically. Fill materials should also be assumed not suitable for use as growing media in landscaping areas unless assessed otherwise.
- Hydrocarbon impacted soils: soils local to former UST areas potentially impacted by petroleum hydrocarbons, that represent a potential elevated risk if exposed.
- Remnant primary chemical storage infrastructure: there is uncertainty in the condition and occurrence of disused USTs in the northeastern portion of the site at 2 Kent Road. GPR indicated the presence of six (6) USTs of varying size within this part of the site.
- Groundwater: was assessed to represent a low risk provided it is not extracted and used. However, potential impacts local to former primary sources (USTs) warrant control to protect workers during deep intrusive construction or maintenance works.

4.3 Constraints and Limitations

The RAP has been developed with consideration of the following key drivers and constraints:

- There is no change in land use proposed, i.e. continued commercial industrial land use.
- Some form of passive long-term EMP (LTEMP) to manage residual soil contamination underlying future building slabs and pavement, and restrict use of groundwater, is a 'presumed remedy'.
- Senversa's understanding of key features of the development works that act to limit exposure to potentially contaminated soils and water:
 - There will be minimal unpaved open space areas – being limited to minor landscaping.
 - The earthworks plan is yet to be finalised. There is expected to be minimal net cut or fill to achieve design ground levels.



4.4 Remediation Policies

4.4.1 Soil

The NSW EPA preferred hierarchy on the selection of remediation options for soil in order of preference, based on the schedule A of ASC NEPM is:

- *'on-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and,*
- *off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which soil is returned to the site; or,*
- *if the above are not practicable,*
 - *Consolidation and isolation of the soil on site by containment with a properly designed barrier; and*
 - *Removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material, or,*
 - *Where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.'*

4.4.2 Groundwater

DEC (2007) groundwater guidelines set out management objectives when contamination is identified, which is to protect human and ecological health and to ultimately restore the groundwater to its natural background quality. To achieve these objectives, the following management responses must be considered:

- Control short-term threats arising from the contamination.
- Restrict groundwater use.
- Prevent or minimise further migration of contaminants from source materials to groundwater.
- Prevent or minimise further migration of the contaminant plume.
- Clean up groundwater to protect human and ecological health, restore the capacity of the groundwater to support the relevant environmental values and, as far as practicable, return groundwater quality to its natural background quality.

NSW EPA (2015) provides guidance that LNAPL needs to be cleaned up:

- To such an extent that further removal or treatment of LNAPL no longer reduces the level of risk; and
- Continue if the LNAPL is still spreading.

4.4.3 Ecological Sustainable Development

In addition, it is also a requirement under the *Contaminated Land Management Act 1997* and contaminated land management policies to consider sustainability (environmental, economic and social), in terms of achieving an appropriate balance between the benefits and effects of undertaking the option. The remediation should not proceed if it is likely to cause a greater adverse effect than leaving the site undisturbed. And, where there are large quantities of soil with low levels of contamination, alternative strategies are required to be considered or developed.



Key considerations in this RAP include:

- That there is current and ongoing industrial land use.
- Avoidance of unnecessary generation of waste soil under the *Waste Avoidance and Resource Recovery Act 2001*.
- The occurrence of soils that report generally acceptable levels of health risk from chemical contaminants, but are heterogenous with fill potentially impacted by asbestos and aesthetics that could be of a large volume.

4.4.4 UPSS Regulation

While there are no known in use underground petroleum storage systems at the site, the *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019* (the UPSS Regulation) requires removal of disused UPSS unless it is not practicable to do so.

4.5 Remediation Options Evaluation

A remedial options assessment was conducted as presented in **Table 4.1**, and focused on management of contaminated or impacted soils.

There is a presumptive remedy for:

- Removal to the extent practicable of remaining disused USTs as required by UPSS regulations.
- Passive management under an LTEMP to restrict use of groundwater and control exposure to residual contamination at depth during deep intrusive works.

Available information and evaluation of risks supports that active remediation of groundwater or soil vapour is not warranted. However, this will be re-evaluated as an outcome of the data gaps assessment (Section 5.2).

Table 4.1: Soil Remedial Options Assessment

Option	Discussion	Conclusion
1. On-Site or Off-Site Treatment	<p>Treatment of hydrocarbon impacted soils on-site is feasible; however, the occurrence of co-contaminants (potentially asbestos, metals and B(a)P) precludes effectiveness and environmental benefit as the soil would still likely require passive management under pavement/buildings. On-site or off-site treatment of contaminated fill material to remove asbestos is not considered legal, appropriate or feasible due to the nature of the asbestos (bonded) and waste laws in NSW.</p> <p>Due to the potential presence of asbestos within the contaminated fill material, it is not suitable for off-site re-use in NSW. Once leaving the site, asbestos contaminated material would become waste and would need to be disposed of at a suitably licensed landfill.</p>	Not feasible.
2. Removal of Contaminated Soils	<p>Excavation and off-site disposal to a suitably licenced landfill facility is technically and logistically feasible but is not considered a viable option given the large volume of fill at the site and the lack of sustainability of this option. However, this approach could remove all contamination, negating the need for ongoing management required for other approaches.</p> <p>This option would incur a significant cost that is not proportionate to the reduction in environmental risk that could be achieved through other methods.</p>	<p>Not cost-effective or sustainable.</p> <p>Targeted removal and disposal of contaminated soils associated with unexpected finds is retained as a contingency.</p>



Option	Discussion	Conclusion
3. On-Site Containment with Ongoing Management	<p>There are several options for on-site containment of the contaminated soils. There is a balance between the degree of conservatism in containment design and ongoing management requirements – i.e. a less conservative design (e.g. minimal capping thickness) will require more onerous ongoing management requirements.</p> <p>All options require ongoing passive management via implementation of a LTEMP. The LTEMP would need to be publicly notified and legally enforceable.</p> <p><u>Below ground, partial enclosure</u> - remediation would involve excavation of contaminated fill materials and placement within a location identified to require filling for construction purposes. Placement location(s) should be selected within areas that would undergo minor future disturbance such as under warehouse buildings or pavement, with a cover comprising a constructed capping layer and marker placed over impacted fill. A base liner is not considered necessary due to the complexity of construction.</p> <p>Where contaminated soil remains <i>in-situ</i> upon reaching construction RLs, it should be covered with a capping layer as per placed materials. This method is viewed as suitable due to proposed construction methodology and low likelihood of contact with contaminated materials following placement and capping within the site.</p> <p><u>Above ground containment</u> - remediation would involve construction of an above ground mound with HDPE cap and soil/clay cover, no base liner. This method is viewed as unsuitable due to restrictions on available space and the potential for creating increased surface water runoff to low lying areas within the site.</p> <p><u>In-situ capping (physical separation)</u> – imported material may be used as a capping layer to provide physical separation between contaminated fill and site receptors. The capping layer may include one or more of a combination of environmentally and geotechnically suitable soil material, building slabs and subgrade or pavement and subgrade, with a marker. This option is viewed as being suitable due to the proposed site levelling and construction methodology, site layout mostly comprising buildings/pavement and subsequent low likelihood of contact with contaminated materials.</p> <p>These options are capable of mitigating risks to low levels, while minimising waste generation and impacts to the surrounding environment/community from truck movements etc. The <i>in-situ</i> capping option is preferred as it does not require bulk movement of asbestos-impacted material within the site, which has a greater risk of impact to workers and surrounding environment during remediation works.</p>	<p>Capping of fill material <i>in-situ</i> under existing building slabs and as part of site paving and levelling works is the preferred option.</p> <p>Implementation of an LTEMP is required.</p>
4. Do Nothing and Ongoing Management	<p>Implementation of an LTEMP is capable of managing residual contamination under the existing site condition and use. However, this is not considered suitable for the developed site where there is the opportunity to reduce risks to more acceptable levels while minimising ongoing management requirements.</p>	Not appropriate.

4.6 Preferred Remediation Approach

The preferred remediation approach is:

1. Removal to the extent practicable of remaining disused USTs as required under UPSS Regulation.
2. *In-situ* containment of contaminated soils (*Option 3*). This includes capping contaminated soil via new building slabs, pavement or clean soils and a marker layer.
3. Use of suitable imported media in open space landscaping areas.
4. Passive management under an LTEMP to restrict use of groundwater and control exposure to residual contamination at depth during deep intrusive works. The aim is that no actions would be needed for normal site use by workers, visitors and landscaping maintenance workers.

While the occurrence of PFAS in groundwater is considered to represent a low risk, consideration should be given in development detailed design so that deep services that intersect the water table do not act as a preferential migration pathway.



The preferred strategy is considered consistent with NSW remediation policy and guidance based on:

- The approach is sympathetic to the construction method and will allow ongoing management under the passive LTEMP with low likelihood for human contact with practicable and minimal control measures – normal site use and typical intrusive works should not require any actions.
- While hydrocarbon impacts can feasibly be treated, potential asbestos and metals impacts cannot be destroyed or treated, with soils likely to still require passive management.
- Removal of contaminated soil is possible; however, this is not with the principles of economically sustainable development, and the large volume (and relatively low level of contamination based on relatively few investigation locations reporting health criteria exceedances) of materials warrants on-site management.
- Excavation and off-site disposal of materials is considered prohibitively expensive and will involve increased potential for dust generation and significant truck movements of contaminated waste materials.
- While groundwater reported some site-related CoPC at concentrations exceeding conservative assessment criteria, risks are low if groundwater is not extracted and used, and average levels are low and metals levels are likely to reflect site background conditions. The capping approach will somewhat reduce exposure of fill to further leaching and control risks to low levels. Senversa considers that clean-up of groundwater to protect human and ecological health, and relevant environmental values are appropriate goals. It is not considered feasible nor warranted to reduce levels of contaminants to natural background given the site's current and ongoing industrial setting, site location within the Botany Sands groundwater restriction zone, and lack of a recognised groundwater resource.

4.7 Approvals, Permits and Notifications

The works will be subject to approval under the *Environmental Planning & Assessment Act 1974* via the SSD planning pathway.

The *State Environmental Planning Policy (Resilience and Hazards) 2021* (SEPP 2021) specifies when remediation work will require development consent from the planning authority (Category 1 remediation work). Any remediation works that do not require development consent are Category 2. There are notification requirements for both Category 1 and 2 remediation works.

The proposed works could potentially comprise designated development under *Environmental Planning and Assessment Regulation 2000* and be Category 1 works if it comprises treatment of contaminated soil originating exclusively from the site on which the development is located and involves more than 30,000 m³ of contaminated soil or disturbance of more than an aggregate area of 3 ha of contaminated soil. Senversa does not consider these are triggered on the basis that the fill materials are being largely left undisturbed (i.e. the capping is constructed overlying the fill) and that only a portion of fill materials are contaminated such that the aggregate area would be less than 3 ha (site size 2.29 ha) and 30,000 m³.

While the works may otherwise comprise Category 2 remediation work, Senversa understands that the SSD includes provision for implementation of this RAP, and consent for remediation works will be via the SSD approval pathway.

Due to the presence of asbestos in some fill materials, consideration should be given to SafeWork NSW notification requirements prior to the commencement of site works. This is the responsibility of the 'person conducting a business or undertaking' (PCBU) as per the *SafeWork NSW Code of Practice – How to manage and control asbestos in the workplace* (December 2022).

If disposal of water to sewer or stormwater is required during construction, approval from Council and/or the water authority will be required prior to this, and is the responsibility of the contractor.



5.0 Remediation Work Plan

The proposed remediation works will broadly comprise the following steps:

1. Enabling works including engagement of an environmental consultant (EC), develop of site management plans and establishment of environmental controls.
2. Address remaining data gaps (refer **Section 5.2**).
3. As part of demolition, contingency to remove remnant USTs and associated infrastructure to the extent practicable (refer **Section 8.0**).
4. Capping contaminated soils, including in new paved areas, unpaved areas and in-ground services (refer **Section 5.3**).
5. Management of material imported and exported as waste from the site as part of the remediation works (refer **Section 5.4**).
6. Validation of the remediation above (refer **Section 5.5**).
7. Ongoing implementation of a passive LTEMP during development operation phase (refer **Section 5.6**).

These steps are described in more detail below.

The SSD conditions of approval have not yet been issued – on receipt, the EC should review these to assess whether there are any changes to the RAP required.

5.1 Design Review

The development design should avoid to the extent practicable deep services that may intersect contaminated groundwater (e.g. more than 2 m bgl) and could act as a preferential migration pathway. If this must occur, then mitigations (e.g. sealing, use of low-permeability 'plugs' in backfilled trenches) should be developed and installed, subject to review and approval by the EC.

5.2 Address Data Gaps

As discussed in **Section 2.4.3**, there are data gaps in the understanding of contamination conditions to be addressed via the remediation and validation process. Senversa proposes the approach described in the table below to close these data gaps. It is envisaged the works are staged prior to and following demolition, with interim reporting of the results and conclusions by the EC.

If the additional inspections and sampling indicates there is potential additional contamination or a change in the site's risk profile, then the EC should evaluate whether further assessment or additional management actions are warranted.

**Table 5.1 Sampling Strategy to Address Data Gaps**

Data Gap	Description	Mitigation Approach	Suggested Staging	Sampling Design
1. Further Assess Accessible Soils	Despite extensive soil sampling, access restrictions have limited testing in the northwestern 685 Gardeners Road area, creating uncertainty about soil contamination there.	<p>Remedial approach to cap soils across most of the site mitigates the risk.</p> <p>Validation of accessible soils used in landscaping areas.</p> <p>Additional sampling to adequately characterise residual contamination to inform ongoing management requirements.</p>	<p>Additional sampling prior to or following demolition.</p> <p>Validation of capping and sampling of landscaping media during construction.</p>	<p>A stratified sampling design using an approximate 30 m grid in hardstand capped areas targeting discrete areas. With minimum additional locations:</p> <ul style="list-style-type: none"> 685 Gardeners Road (0.2 ha): The number of sampling locations required will depend on the fill heterogeneity and sampling results themselves. The EC should evaluate whether a modified sampling density and pattern is warranted to characterise the contamination conditions within the footprint with consideration of the end land use and pavement cover. Test pits are to be undertaken if practicable with a target depth of termination on 0.5 m into natural material or 3 m bgl. If slab conditions or access preclude pits, then soil bores advanced via hand augur or drilling may be considered by the EC. Samples collected at surface of soil, 0.5 m, 1.0 m and every 1 m thereafter. Test pits or bores are to be logged in accordance with the Unified Soil Classification System and AS 1726:2017 Australian Standard. Field screening of vapour headspace of material is to be undertaken for VOCs using a calibrated photo-Ionisation Detector (PID) equipped with a 10.6 eV lamp and recorded on test pit logs. A minimum of two samples to be analysed per location for: <ul style="list-style-type: none"> Metals, TRH, BTEXN, PAHs. Fill only - asbestos (NEPM 500 mL). Selected samples for: VOC's, polychlorinated biphenyls (PCBs) and organochlorine pesticides (OCPs).



Data Gap	Description	Mitigation Approach	Suggested Staging	Sampling Design
2. Verify the Nature of Groundwater Quality at 685 Gardeners Road	The nature of groundwater quality at 685 Gardeners Road.	Additional sampling to adequately characterise residual contamination to inform ongoing management requirements.	Preferably during detailed design, and prior to demolition if practicable.	<ul style="list-style-type: none">• Install and sample a groundwater monitoring well targeting fill/alluvium. Design should be consistent with existing wells at the site.• Gauge, purge and sample the new well using low flow sampling methods consistent with methods adopted in the 2025b DSI with analysis for: heavy metals, TRH, VOCs, and PFAS (trace level).



5.3 Capping Contaminated Soils

Contaminated fill material shall be capped during development earthworks. While natural soils may also be contaminated, the extent is inferred to be limited to areas local to USTs (2 Kent Road) and fill material. The goal is to provide physical separation between potential contaminated materials and receptors to minimise the likelihood of exposure and ongoing management controls during future intrusive works.

The capping shall be via:

- Cover with a marker layer and cover by:
 - new building slabs and sub-grade; or
 - pavement and sub-grade; or
 - clean suitable soils in landscaping areas.
- Install new in-ground surfaces in the cover layer (above) or in trenches lined with a marker geotextile and backfilled with suitable backfill.

There is various guidance on the minimum capping thickness required to manage contaminated soils, including:

- WA DoH (2021) *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*, Western Australia Department of Health – a depth of at least 0.5 m is recommended for commercial/industrial land uses.
- *Guidelines for the assessment of on-site containment of contaminated soil* (ANZECC, 1999) – The separation layer needs to be of an appropriate thickness that is unlikely to be penetrated by future users of the site. ANZECC (1999) states that a minimum thickness of 0.5 m is commonly adopted.

However, there is a balance between depth of the capping layer (more conservative), sustainability objectives (e.g. generation of waste due to the potential need to over-excavate to construct the cover layer) and ongoing management controls. Thus, the appropriate depth of the “capping material” above the marker layer will depend on the overlying land use and structures of the developed site – there should be general goals that:

- Contaminated fill materials are preferentially retained underlying buildings or pavement to the extent practicable within design constraints.
- While minimum cover thicknesses are nominated below, the thickness should be maximised to more than 0.5 m where possible and sympathetic with the development construction.

Details and schematics of the different types of capping and minimum thickness are specified in the table below.

**Table 5.2: Capping Design**

Type	Design	Schematic
A. New Pavement	<p>A marker layer should be installed underlying new pavement to the extent practicable. The sub-grade and pavement will act as the cover. The minimum thickness provided is a typical minimum depth of an asphalt roadway, and a deeper cover layer is preferable where able to be accommodated within the earthworks plan.</p>	
B. In-Ground Services	<p>There should be a preference to install in-ground services above the marker layer.</p> <p>For deeper services where this is not possible:</p> <ul style="list-style-type: none"> The perimeter of deep service trenches shall be lined with a marker layer. This should connect to surrounding marker layer. Trench backfill materials must be imported material validated as environmentally suitable. There may also be engineering requirements specific to the service or service provider which should be adhered to. <p>This recognises that existing in-ground services could remain in contaminated fill – exposure during maintenance works will be managed via the LTEMP.</p>	
C. Unpaved Areas	<p>In open space unpaved areas (e.g. grassed and landscaping areas), there is a greater likelihood of inadvertent exposure of contaminated soils. Thus, the general cover layer should be of sufficient width and depth to ensure the plant root zone or depth of normal site maintenance activities (e.g. mowing grass) are within suitable material. The minimum capping thickness is 0.3 m, though a deeper layer is warranted where shrubs or trees will be grown. If existing trees are maintained, a thinner layer may be appropriate that would not damage the health of the tree – the requirements for this should be assessed by the EC once the detailed landscaping design is complete.</p>	



5.3.1 Marker Layer

The purpose of the marker is to provide a visual demarcation between potentially contaminated soils and overlying cover materials that comprise slabs/pavement or have been validated as acceptable for use.

The preference is to use a brightly coloured, geofabric placed over contaminated fill material. Specialised or improvised geotextile fabrics may be used, meeting the following conditions:

- Water permeable.
- High visibility.
- Rot-proof and chemically inert.
- High tensile strength.
- Coverage of the contaminated area and at least 0.5 m beyond boundary, if practical.
- Parallel sheets and adjoining sheets to be fixed together or overlap by at least 0.2 m.
- It is also expected that the marker layer will be placed to not significantly inhibit the growth of shrubs and trees to be used for landscaping.

5.3.2 Cover Layer

The overlying cover aims to provide physical separation between contaminated soils below the marker and site users. The cover layer material shall comprise imported material validated as environmentally suitable; and/or

The material should also be geotechnically suitable for the development and so that there is sufficient stability of the cover layer.

5.3.3 Deviations

Potential minor deviations required by the development design include:

- There will be some localised areas where the capping thickness is expected to be less than the design minimum requirement. If there are other areas of thinner capping then the adequacy of the proposed capping layer design shall be assessed by the EC and approved by GPSA prior to construction.
- If existing trees are maintained, surface soil validation samples should be collected (**Section 6.2**), and a thinner capping layer design may be appropriate that would not damage the health of the tree as assessed by the EC and approved by GPSA prior to construction.

There may be other deviations from the conceptual approach and minimum requirements outlined above – if these occur, they should be assessed by the EC and approved by GPSA.

5.4 Materials Management

5.4.1 Material Tracking

Tracking of excavated materials, imported materials and waste must be conducted by the RC and checked by the EC as part of validation.

A Material Tracking Register must be maintained on-site which will provide information regarding the source, characteristics, destination and quantities of material beneficially reused on-site, temporarily stockpiled and disposed off-site or imported to the site for capping / backfilling purposes.

The Material Tracking Register is to include the following information within a summary spreadsheet associated with material stockpiling on the site.

**Table 5.3: Stockpile Details Required in the Material Tracking Register**

Material Source Information	Material Classification	Stockpile ID	Quantity (m ³)	Dates Stockpiles	Final Destination/Placement
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The Material Tracking Register is to include the following information within a summary spreadsheet associated with material imported to the site.

Table 5.4: Importation Details Required in the Material Tracking Register

Supplier	Supplier Address	Supplier Material ID	Classification	Quantity (m ³)	Dates Imported	Placement On-Site	Details of Sampling and compliance with RAP
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The Material Tracking Register is to include the following information within a summary spreadsheet associated with material On-site Reuse to the site.

Table 5.5: On-Site Reuse Details Required in the Material Tracking Register

Material Source Information	Classification	Quantity (m ³)	Dates Excavated	Stockpile ID (where relevant)	Placement On-Site	Details of Sampling and compliance with RAP
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The Material Tracking Register is to include the following information within a summary spreadsheet associated with material exported from site.

Table 5.6: Exportation Details Required in the Material Tracking Register

Source ID	Date Disposed	Classification	Quantity (T)	Docket no.	NSW EPA Integrated Waste Tracking Solution (IWTS) System Reference	Waste Classification Report Reference
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5.4.2 Excavated Fill/Soils

Excavated fill (if any) shall be stockpiled in a designated area and must be managed as potentially contaminated unless its contamination status is assessed otherwise by sampling and analysis by the EC.

Excavated fill shall be preferentially retained on-site under the marker layer. No sampling of this material is required unless visual or olfactory indicators of contamination are identified, then the unexpected finds protocol should be followed (see **Section 8.2**).

Excavated materials stockpiles and stockpiling area should be designed and managed to control potential impacts to the environment (e.g. dust, erosion and leaching). This includes placement of stockpiles on hardstand, a site area that will subsequently be capped, or high-density polyethylene (HDPE) sheeting, with sediment erosion controls and covering stockpiles to minimise the potential for dust generation.

5.4.3 Waste (Off-Site Disposal)

If off-site disposal of excavated materials is required:

- The EC shall classify the waste in accordance with NSW EPA (2014) *Waste Classification Guidelines* and prepare a waste classification.
- Comply with notification and transport requirements under NSW waste regulations.
- The Material Tracking Register should be maintained to ensure an audit trail for the movement of materials around the site and off-site. This includes retaining copies of waste transport and disposal dockets from the landfill facility to provide evidence of appropriate disposal.

The specific sampling and analysis requirements are documented in **Table 6.3**.



5.4.4 Imported Materials

Where imported fill is required at the site for reinstatement of excavations, to achieve final development levels or for landscaping purposes, the material must be validated as suitable for commercial/industrial use and able to be legally imported. Imported materials must only be any of the following:

- Commercial quarried rock or sand products.
- Virgin Excavated Natural Material (VENM) as defined in EPA (2014) *Waste Classification Guidelines* and POEO Act 1997.
- Excavated Natural Material (ENM) defined in the Resource Recovery Order (RRO) and Exemption issued under *Protection of the Environment Operations (Waste) Regulation 2014*. VENM should be used in preference to ENM.
- Other material approved in writing by EPA under a resource recovery order or exemption (RRO/RRE) and subject to agreement by GPSA and EC. VENM should be used in preference to these materials which have a greater risk of not being environmentally suitable (e.g. unexpected finds).
- Commercial landscaping products (e.g. mulch).

Imported material may be turned away from site if there is not appropriate supporting documentation for that load or there are visual or olfactory indicators of contamination. Recycled material (inter alia crushed concrete and bricks aggregate or 'DGB') imported as sub-base material represents a higher likelihood of unexpected impacts, and must therefore be supplied by a reputable supplier and validated as required in **Table 6.3**.

The preference is to identify (and validate) suitable material proposed to be imported prior to importation to site.

5.5 Remediation Validation

The EC shall conduct validation of the remediation works. The specific validation strategy is documented in **Section 6.2**.

5.6 Ongoing Management

On completion of the remediation works and development, ongoing passive management of residual contaminated soils and groundwater under the capping system will be required via implementation of an ongoing LTEMP.

The LTEMP shall be prepared by the EC.

Requirements for ongoing environmental management plans in EPA (2020) *Site Auditor Guidelines* are applicable, including:

- The LTEMP can reasonably be made to be legally enforceable. This may be via compliance with development consent conditions issued, or as it is a legal requirement to manage asbestos under NSW Work Health and Safety Regulation 2017.
- There should be appropriate public notification of any restrictions applying to the land to ensure that potential purchasers or other interested individuals are aware of the restrictions, for example appropriate notations on a planning certificate issued under the *Environmental Planning and Assessment Act* or a covenant registered on the title to land under the *Conveyancing Act 1919*.

Liaison with Council may be required at some point on the presence of the LTEMP.



6.0 Validation Plan

The remediation validation sampling, analytical and quality requirements are described in the following sections.

6.1 Data Quality Objectives

Based on the results of previous investigations and with reference to the CSM outlined above Senversa developed the following data quality objectives (DQOs) for validation of remediation requirements in this RAP. The DQOs have been developed in accordance with the ASC NEPM.

6.1.1 Step 1 – State the Problem

Contamination at 2 & 10-22 Kent Road and 685 Gardeners Road has been subject to extensive investigation. The Senversa 2025b DSI concluded that the key contamination issues that require management relate to managing exposure to and disturbance of soils during intrusive works due to the occurrence of asbestos in fill and potential localised aesthetic and hydrocarbon impacts, presence of disused USTs, and issue of suitable soils for minor landscaping areas.

This RAP sets out the remediation steps to make the site suitable. The remediation works will be conducted ancillary to development works, mostly as part of initial earthworks. The remediation required to make the site suitable for the proposed development broadly comprises capping contaminated fill and ongoing passive management of residual contamination under an LTEMP. There remain some data gaps to be addressed in the characterisation of soil and groundwater within the 685 Gardeners Road portion of the site.

Validation is required to verify the effectiveness of the remedial works undertaken, assess long-term management requirements and document the final site condition.

6.1.2 Step 2 – Identify the Decisions

Based on the objectives of this RAP, the decisions required to meet the objectives are listed below:

1. Have data gaps been adequately addressed and are there any changes to the remediation requirements?
2. Have remaining primary contamination source structures been removed to the extent practicable?
3. Have the capping requirements in the RAP been achieved?
4. Was imported material suitable for the proposed land use?
5. Was waste material appropriately classified and transported and disposed to a suitably licensed facility?
6. Were any unexpected finds encountered during the ground disturbance works appropriately managed?
7. Are the validation data suitably reliable and complete?



6.1.3 Step 3 – Identify Information Inputs

The inputs to make the above decisions include:

- Results from previous investigations.
- Additional environmental data collected as part of data gap assessments – this includes field observations, field screening measurements, and laboratory analyses of soil samples for CoPC.
- Field observations in relation to removal of subsurface source structures or unexpected finds. Field observations may include odours, sheens, discolouration, asbestos and other indicators of potential contamination.
- Survey data of marker layer and capping thickness to confirm that these comply with RAP requirements.
- Environmental data collected as part of validation of excavated materials if re-used on-site above the marker layer – this includes field observations, field screening measurements, and laboratory analyses of soil samples for CoPC.
- Assessment criteria from guidelines made or approved by NSW EPA.
- Material tracking information of excavated, imported and waste materials.
- Waste classification data for surplus materials prior to off-site disposal – this includes field observations, field screening measurements, volume data, and laboratory analyses of soil samples for CoPC.
- Waste tracking and disposal records (including landfill dockets, trade waste disposal).
- Material characterisation data for material proposed to be imported to site – this includes literature information on source site, field observations, field screening measurements and laboratory analyses of soil samples for CoPC.
- Data quality assurance / quality control (QA/QC) assessment by comparison against data quality indicators (DQIs).

6.1.4 Step 4 – Define the Study Boundaries

The study population principally comprises fill material and the capping system.

The boundaries of the investigation are identified as follows:

- **Spatial boundaries** – the remediation validation extent is limited to the site boundaries as illustrated within **Figure 1** and soils to a depth of 3 m bgl or construction earthworks (whichever is deeper).
- **Temporal boundaries** – the temporal boundary is limited to the data collected during the remediation validation programme of work. Ongoing management will be required under the LTEMP.



6.1.5 Step 5 – Develop the Decision Rules

The decision rules adopted for this investigation are described within the table below.

Table 6.1: Decision Rules

Decision Required to be Made	Decision Basis
1. Have Data Gaps been Adequately Addressed and are there any Changes to the Remediation Requirements?	<p>If the inspection and sampling required in this RAP has been completed, and the findings do not indicate contamination other than asbestos impacts in fill. Fill/soil analytical data shall be compared against adopted assessment criteria:</p> <ul style="list-style-type: none"> • If all concentrations of contaminants are reported to be equal to or below the adopted assessment criteria, then no additional management is required. • Statistical analysis of data sets of chemical CoPC analyte concentrations (i.e. excluding asbestos) will be used as inputs, consistent with guidance in the NEPM (NEPC, 2013). The analysis shall include: <ul style="list-style-type: none"> ▪ 95% upper confidence limit (UCL) of the arithmetic mean concentration of each analyte shall be less than or equal to the criterion. ▪ The maximum concentration of each analyte shall be less than or equal to 250% of the criterion. ▪ The standard deviation of each analyte shall be less than or equal to the criterion. <p>If any of these are exceeded, then additional management needs to be assessed.</p>
2. Have Remaining Contamination Source Structures been Removed?	<p>This will be assessed via inspection by EC and that visual verification that structures have been removed or are not present.</p>
3. Have the Capping Requirements in the RAP been Achieved?	<p>Is there evidence of the following:</p> <ul style="list-style-type: none"> • Survey data and inspection of marker layer placement across the site, including service trenches. • Survey data and inspection of top of cover confirming compliant thickness and extent, including service trenches. • Fill/soils underlying areas not capped shall have been appropriately inspected and sampled as required in this RAP, with an asbestos clearance by an appropriately qualified occupational hygienist.
4. Was Imported Material Suitable for the Proposed Land Use?	<ul style="list-style-type: none"> • Imported quarried products and exempt waste material should meet the definition of the material in the relevant order/exemption or definition of VENM. • Imported material should also contain concentrations of CoPC less than assessment criteria for commercial/industrial land use in this RAP.
5. Was Waste Material Appropriately Classified and Transported and Disposed of to a Suitably Licensed Facility?	<p>Waste should be sampled and classified as per requirements in this RAP. Appropriate material tracking with satisfactory review by EC and retainment of transport and disposal records.</p> <p>If off-site waste disposal has potentially not been appropriately managed and documented further documentation on the management of waste materials will be required. In the event that insufficient or incorrect information is available in support of waste disposal activities, notification to the NSW EPA Waste Unit may be required where it is believed that waste has been disposed of incorrectly or unlawfully.</p>
6. Are there any Unexpected Finds or Aesthetic Concerns in Fill/Soils Encountered During the Ground Disturbance Works?	<p>This should be evaluated as per assessment of data gaps above.</p>



6.1.6 Step 6 – Specify Limits of Decision Error

This step establishes the decision maker's tolerable limits on decision errors, which provide performance goals for limiting uncertainty in the data. Data generated during this project must be appropriate to allow decisions to be made with confidence.

To assess the usability of the data prior to making decisions, the data will be assessed against pre-determined DQIs for precision, accuracy, representativeness, comparability, completeness and sensitivity. These are defined below, but should broadly include:

- Guidance in ASC NEPM.
- Soil validation sampling design based on acceptable decision errors:
 - Type A error (i.e. deciding that the site is acceptable when it is not) – 5% probability.
 - Type B error (i.e. deciding that the site is unacceptable when it is) – 20% probability.
- An overall 95% compliance with pre-determined DQIs.

The pre-determined DQIs established for the project are discussed below in relation to precision, accuracy, representativeness, comparability, completeness and sensitivity.

- **Precision** – measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples.
- **Accuracy** – measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this project is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards.
- **Representativeness** – expresses the degree with which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by collecting samples on a representative basis across the site, and by using an adequate number of sample locations to characterise the site to the required accuracy.
- **Comparability** – expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in sampling techniques, analytical techniques and reporting methods.
- **Completeness** – is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.
- **Sensitivity** – expresses the appropriateness of the chosen laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted assessment criteria.

If any of the DQIs are not met, further assessment will be necessary to assess whether the non-conformance will significantly affect the usefulness of the data. Corrective actions may include requesting further information from samplers and/or analytical laboratories, downgrading of the quality of the data or alternatively, re-collection of the data. DQIs are detailed within the table below.

**Table 6.2: Data Quality Indicators**

Data Quality Objectives	Frequency	Data Quality Indicator
Precision		
Blind duplicates (intra laboratory)	1/20 samples (or 1/10 for PFAS).	<30% RPD where result is >10 times limit of reporting (LOR).
Blind duplicates (inter laboratory)	1/20 samples (or 1/10 for PFAS).	<30% RPD where result is >10 times LOR.
Accuracy		
Surrogate spikes	All organic samples.	70-130%.
Laboratory control samples	1 per lab batch.	70-130%.
Matrix spikes	1 per lab batch.	70-130%. Lower recoveries may be acceptable for OCPs, OPPs, PCBs and phenols and will be assessed according to United States Environmental Protection Agency protocols.
Representativeness		
Sampling appropriate for media and analytes	Sample density as detailed within Section 6.2.	All samples.
Samples extracted and analysed within holding times.	NA.	Organics (14 days), inorganics (6 months).
Rinsate blank	1 per day where non-dedicated equipment is used. Samples are to be analysed for all CoPCs other than asbestos.	<LOR.
Trip Blank	1 per lab batch (PFAS only).	<LOR.
Trip spike	1 per lab batch (BTEX only).	70-130%.
Method blank / field blank	1 per lab batch.	<LOR.
Comparability		
Senversa standard operating procedures for sample collection & handling	All samples.	All samples.
NATA* accredited analytical methods used for all analyses	All samples.	All samples.
Consistent field conditions, sampling staff and laboratory analysis	All samples.	All samples.
Completeness		
Sample description and Chain of Custodies completed and appropriate	All samples.	All samples.
Appropriate documentation	All samples	All samples.
Satisfactory frequency and result for QC samples	All QA / QC samples.	-
Data from critical samples is considered valid	NA.	Critical samples valid.
Sensitivity		
Limits of reporting appropriate and consistent	All samples.	All samples.

*National Association of Testing Authorities



6.1.7 Step 7 - Optimise the Design for Obtaining Data

Based on the validation methodology presented within the RAP the design for obtaining data has been developed based on a combination of:

- Systematic inspection or survey of capping layer components.
- Systematic inspection and sampling of waste and imported materials.
- Judgemental inspection and sampling of remaining sources, their removal and unexpected finds.

The sampling rationale and methodology is described in **Section 6.2**.

6.2 Validation Design and Methodology

As outlined in **Section 5.0**, the general remedial approach will involve the:

- Capping of contaminated fill and soils.
- Classification and validation of excavated site material and imported materials for on-site re-use or disposal.
- Management of unexpected finds.

The strategy and methodology to be adopted for the validation of each of the remediation elements is summarised in **Table 6.3** below.

Validation associated with the data gaps or potential point sources of contamination as identified in **Section 5.2**.

**Table 6.3: Validation Strategy and Design**

Area/Material	Remedial Approach	Validation Approach	Sampling Design
Capping of Contaminated Fill/Soils			
1. Capping of Contaminated Fill Material	Marker layer and capping using suitable material is to be installed as specified in this RAP (Section 5.3).	<p>Approval by EC of geofabric marker layer or retained concrete slab proposed to be used.</p> <p>Inspection of top of fill prior to marker layer installation.</p> <p>Survey and inspection of:</p> <ul style="list-style-type: none"> • Marker layer (installed prior to cover). • Top of capping. <p>The extent and thickness of the capping layer should be calculated and presented on a marked plan by the surveyor.</p> <p>Validation that cover material are environmentally suitable (the RC should also verify the materials are geotechnically suitable for the development).</p>	<p>Inspections by walking along geofabric joins or alignments on a systematic basis (e.g. 50 m alignments and overlaps).</p> <p>Survey points as judged by a suitably qualified surveyor.</p>
2. Characterisation of Soil and Groundwater at 685 Gardeners Road	<p>Address data gaps per Section 5.2.</p> <p>Unexpected finds management under LTEMP.</p>	Address data gaps per Section 5.2 . EC to evaluate whether further sampling is required.	<p>Minimum of 5 locations in a 30 m grid.</p> <p>Field screening using a PID and logging. Selected soil samples analysed for:</p> <ul style="list-style-type: none"> • TRH, BTEXN, PAHs, metals. • OCP, VOCs, PCBs & PFAS. • Fill samples for asbestos (500 mL NEPM). <p>Installation, survey, development, gauging and sampling of a groundwater monitoring well for heavy metals, TRH, VOCs, and PFAS (trace level).</p>
3. Removal of USTs	<p>Remove USTs and validate remnant soil around this infrastructure.</p> <p>There were up to six (6) USTs identified within the 2 Kent Road portion of the site. All of these USTs are to be removed as part of the redevelopment works.</p>	<p>As per the <i>NSW EPA UPSS Regulation</i>), USTs on-site are to be removed as part of the proposed redevelopment. Remnant soil is to be validated to confirm that there is no residual contamination around USTs.</p> <p>Should any additional USTs be identified during redevelopment works they should be removed and validated with the same approach.</p>	<p>Environmental oversight of the RC by the EC during active works.</p> <p>Collection of validation samples on the walls and floor of the UST pit, with samples collected by hand from the bucket of the excavator. Samples along the wall and floor should be undertaken at a rate of 1/5 m of floor or wall space.</p> <p>Collection of validation samples targeting lines and other tank infrastructure at a rate of 1/5 m.</p> <p>Collection of validation samples to characterise stockpiled material proposed for re-use within the tank pit at a rate of 1/25 m³, with a minimum of 3 samples per stockpile.</p> <p>On-site measurement of VOC concentrations in soil using a PID to screen for potential hydrocarbon impacts.</p> <p>Soil samples will be submitted for laboratory analysis for heavy metals, TRH, BTEXN and VOCs.</p>



Area/Material	Remedial Approach	Validation Approach	Sampling Design
4. Residual Boundary Landscaping Areas	If existing trees are maintained within the existing landscaping boundary areas and fill is remaining and not capped, surface fill should be characterised to verify whether a thinner capping layer (e.g. mulch) may be appropriate and that would not damage the health of the tree.	Visible assessment to confirm free from visible asbestos and / or other visual or olfactory indicators of contamination. Collection of characterisation samples by EC in accordance with sampling densities prescribed herein.	Near surface soil samples (<0.1 m and 0.5 m bgl) are to be undertaken within residual fill every 30 m. Field screening using a PID and logging. Analysis of samples for: heavy metals, PAH, TRH, BTEX, asbestos (500 mL NEPM) and selected samples of PCBs and OCPs.
Materials Management – Reuse of Excavated Site Materials			
5. Reuse of Excavated Site Soils or Concrete/ Asphalt <u>Below</u> the Marker Layer	Retention below the marker layer for passive management under the LTEMP.	Inspection by EC for unexpected finds. Consideration and management of acid sulfate soils as per the acid sulfate soil management plan need to be undertaken.	-
6. Reuse of Existing Concrete Slabs and Asphalt <u>Above</u> the Arker Layer	-	Concrete and asphalt slabs are to be inspected and asbestos clearance certificate to be issued by licenced asbestos assessor (LAA)/occupational hygienist prior to crushing for reuse. Slabs need to be cleaned and not impacted with residual sub-slab soil prior to crushing (where relevant). Details of cleaning are to be provided in the clearance letter. Verification of this via sampling crushed concrete stockpiles by EC prior to reuse above marker layer.	Inspection and clearance by LAA of slabs prior to crushing. Sampling of crushed material stockpiles for Asbestos NEPM (500 ml) at rates identified in Table 3 and Table 4 of the NSW EPA (2022) <i>Sampling Design part 1 – application, Contaminated Land Guidelines</i> .
Materials Management – Imported Materials and Waste			
7. Imported Materials – Commercial Products - Quarried Natural Material (e.g. rock)	-	Quarried natural material is to be accompanied by an appropriate supplier certificate. The material should meet the general definition of VENM, except that it may have been processed as part of making the product. Sampling will not be required – inspection is required. The EC will inspect imported quarried material to confirm visual consistency with material reported at the source and absence of anthropogenic material.	-



Area/Material	Remedial Approach	Validation Approach	Sampling Design
8. Imported Materials – VENM or Tunnel Spoil Classified under a Resource Recovery Order.	-	<p>VENM shall meet the definition of VENM under the <i>Protection of the Environment Operations (POEO) Act 1997</i>. It is recommended that sampling of this material is undertaken at source sites where possible. Imported Tunnel Spoil shall meet the definition under a resource recovery order/exemption under the <i>Protection of the Environment Operations (POEO) (Waste) Regulations 2014</i>.</p> <p>The EC may conduct validation sampling or the RC must source and ensure the commercial supplier of the material provides a characterisation letter/report stating that the material meets the definition of VENM or the resource recovery order/exemption. The EC will observe imported material to confirm consistency with material reported at the source.</p> <p>One characterisation letter per material type will be required, which shall be reviewed by the EC.</p> <p>The characterisation letter should include a summary of the site history of the source site, the findings of any environmental site investigations undertaken at that site and the results of any soil analysis undertaken.</p> <p>Minimum sampling requirements should conform with this table.</p>	<p>1 sample per 100 m³ imported, with a minimum of 5 samples collected per source site. A lower sampling density than indicated for stockpiles in NSW EPA (2022). <i>Sampling Design Guideline</i> is considered suitable given the low likelihood of contamination of the material.</p> <p>Field screening using a PID and logging. Material samples analysed for asbestos (500 mL NEPM), heavy metals, PAH, TRH, BTEXN and other relevant CoPCs based on source site land use.</p>



Area/Material	Remedial Approach	Validation Approach	Sampling Design
9. Imported Materials – other Resource Recovery Materials (e.g. ENM, Reused/Recycled Materials, Mulch).	-	<p>Imported exempt waste shall meet the definition of ENM in <i>Excavated Natural Material (ENM) Order 2014</i> or under a resource recovery order/exemption under the <i>Protection of the Environment Operations (POEO) (Waste) Regulations 2014</i>.</p> <p>The EC will observe imported material to confirm consistency with material reported at the source. It is recommended that sampling of this material is undertaken at source sites where possible.</p> <p>The EC may conduct validation sampling or the RC must source the following information for any ENM imported to the site for review by the EC:</p> <ul style="list-style-type: none"> The commercial supplier of the material must provide a letter stating that the material is ENM or other exempt waste. One letter per material type will be required. The commercial supplier must provide copies of test results, confirming contaminant concentrations meet the concentration criteria in the RRO. 	<p>Sampling and analysis as per ENM Order or other relevant RRO.</p> <p>In addition to assess suitability:</p> <ul style="list-style-type: none"> ENM - a minimum of 1 sample per 75 m³ imported, with a minimum of 5 samples collected per source site. A lower sampling density than indicated for stockpiles in NSW EPA (2022). <i>Sampling Design Guideline</i> is considered suitable given the low likelihood of contamination of the material. Other exempt waste - as per Table 3 and Table 4 of the NSW EPA (2022). <i>Sampling Design part 1 – application, Contaminated Land Guidelines</i>. <p>Field screening using a PID and logging. As a minimum, there should be analysis of asbestos (500 mL NEPM), heavy metals, PAH, TRH, BTEXN, OCP and PCBs and other relevant CoPCs based on source site land use.</p>
10. Waste	-	<p>If off-site disposal of excavated materials is required, this will be undertaken in accordance with the NSW EPA (2014) <i>Waste Classification Guidelines</i>.</p> <p>Consideration and management of acid sulfate soils as NSW EPA (2014) <i>Waste Classification Guidelines – Part 4</i>.</p> <p>Site won concrete (e.g. slabs) and inground structures (e.g. redundant services) requiring off-site disposal require a visual inspection and an asbestos clearance certificate from an LAA or competent person to confirm they are not impacted with asbestos prior to off-site disposal at a licenced waste facility.</p>	<p>For soils, as per Table 3 and Table 4 of the NSW EPA (2022). <i>Sampling Design part 1 – application, Contaminated Land Guidelines</i>.</p> <p>As a minimum, there should be analysis of asbestos (absence/presence), heavy metals, PAH, TRH, BTEXN, OCP, PCBs and PFAS.</p> <p>Additional analysis for Toxicity Characteristic Leaching Procedure (TCLP) and acid sulfate soil indicators if required.</p>
11. All Excavated and Placed Contaminated Materials, Imported Materials, and Waste	-	Material Tracking Register as specified in Section 5.4.1.	-



6.3 Environmental Consultant Presence

A suitably qualified and experienced EC is to be engaged to advise, provide oversight and undertake all validation requirements specified within this RAP. The EC may be one or more entities (i.e. different companies or skillsets). The EC is to undertake the following:

- Oversight of all remediation requirements specified within this RAP. This includes physical site presence as required to conduct inspections, sampling and monitoring.
- Conduct the data gap assessments (refer **Section 5.2**) and assess unexpected finds (if any).
- Conduct remediation validation, including:
 - Observations of the materials encountered.
 - Undertake sampling and analysis of site materials as deemed necessary.
 - Inspect and review survey records of capping and marker layers.
 - Classify waste fill/soils.
 - Characterise imported materials.
 - Review materials tracking register maintained by the RC for accurate documentation of locations of excavations, materials beneficially reused on-site, materials taken off-site and imported materials.
- Provide guidance to assist with the appropriate on-site re-use and/or disposal of material (if required).
- Make an evaluation of potential risks to human health and the environment posed by the materials remaining on-site (inclusive of imported materials) and ensure the risk to health and the environment are acceptable (if required).

When the EC is not present the RC will be required to have a suitably trained and qualified person to identify unexpected finds; in particular, in imported materials and during bulk earthworks.

6.4 Quality Assurance and Quality Control

The field and laboratory quality assurance and quality control (QA/QC) plan to be adopted for the investigation has been designed to achieve pre-determined DQI that will demonstrate that the precision, accuracy, representativeness, completeness, comparability and sensitivity of the dataset meet the objectives of the investigation.

The specific QA/QC for the field and laboratory components of the investigation have been developed based on ASC NEPC.



6.4.1 Field QA/QC

The field quality assurance procedures to be adopted and the field quality control samples to be collected during the investigation and the corresponding acceptable control limits are presented below.

Data Type	Comments and Acceptable Control Limits
Field Personnel	<ul style="list-style-type: none"> Use appropriately trained field personnel.
Field Data Collection	<ul style="list-style-type: none"> Site conditions and sample locations properly described. Information to be recorded in field notes. Field notes are appropriately completed and summarised in the report on the investigation.
Sample Handling (Storage And Transport)	<ul style="list-style-type: none"> Soil samples will be collected into the sample jars and bags supplied by the selected analytical laboratory. The filled jars will be stored on ice in a chilled, insulated container until received by the analysing laboratory. Sample numbers, dates, preservation and analytical requirements will be recorded on Chain of Custody (COC) documentation, which will also be delivered to the analytical laboratory. All samples are required to be documented as received by the laboratory chilled and intact.
Calibration of Field Equipment	<ul style="list-style-type: none"> The Photo-ionisation detector (PID) will be calibrated with isobutylene gas at 100 ppm at the commencement of each day of sampling and if necessary, during the day in accordance with the procedure provided by the supplier. Calibration records will be kept for inclusion in the validation report.
Field Duplicates (Intra-Laboratory and Inter-Laboratory)	<ul style="list-style-type: none"> Intra-laboratory duplicates will be collected and analysed at a rate of 1 in every 20 (or 1/10 for PFAS primary samples), with a minimum of 1 sample. Inter-laboratory duplicates will be collected and analysed at a rate of 1 in every 20 (or 1/10 for PFAS primary samples), with a minimum of 1 sample. The duplicate samples will be obtained from locations suspected of being contaminated and analysed for the key CoPCs (soil: asbestos, TRH, BTEX, M8, PAHs). Duplicated samples will be labelled so as to conceal, from the laboratory, the relationship of the primary sample to the secondary sample. RPDs to be less than 30% for inorganic and organic analyses where the results of one or both values are greater than 10 times the limit of reporting. Where both values are less than 10 times the LOR RPDs of less than 100% are acceptable.
Rinsate Blanks	<ul style="list-style-type: none"> Rinsate blank samples (from an item of sampling equipment) will be collected and analysed at a rate of one per day of sampling. Concentrations of analytes to be less than the laboratory limits of reporting.
Trip Spikes	<ul style="list-style-type: none"> Laboratory prepared trip spikes will be used and analysed at a rate of one per batch for the soil investigation for BTEX analysis. Recovery to be greater than 70%.



6.4.2 Laboratory QA / QC

The laboratory quality assurance procedures to be adopted and the internal laboratory QC samples to be analysed and the corresponding acceptable control limits are presented below.

Item	Comments and Acceptable Control Limits
Sample Analysis	<ul style="list-style-type: none"> All sample analyses to be conducted using NATA certified laboratories which will implement a quality control plan in accordance with NEPC (2013).
Holding Times	<ul style="list-style-type: none"> All samples are to be submitted to the laboratory within the required laboratory holding times. Maximum acceptable sample holding times for soil are 14 days for organic analyses and 6 months for inorganic analyses (28 days for mercury).
Laboratory Detection Limits	<ul style="list-style-type: none"> All laboratory detection limits to be less than the adopted assessment criteria.
Laboratory Blanks	<ul style="list-style-type: none"> Laboratory blanks to be analysed at a rate of 1 in 20, with a minimum of one analysed per batch. Concentration of analytes to be less than the laboratory detection limits.
Laboratory Duplicates	<ul style="list-style-type: none"> Laboratory duplicates to be analysed at a rate of 1 in 20, with a minimum of one analysed per batch. RPDs to be less than 30%.
Laboratory Control Samples (Lcs)	<ul style="list-style-type: none"> LCSs to be analysed at a rate of 1 in 20, with a minimum of one analysed per analytical batch. Control limits: 70 to 130 % Acceptable Recovery.
Surrogates	<ul style="list-style-type: none"> Surrogate compound concentrations will be required to be spiked at a similar concentration to sample results, at a rate of 1 in 20. Control limits: 70% to 130% Acceptable recovery.
Matrix Spikes	<ul style="list-style-type: none"> A matrix spike is an aliquot of a sample spiked with a known concentration of target analyte. A matrix spike documents the effect(s) of bias of matrix on method performance. Matrix spike control limits: 70 to 130 % Acceptable recovery.

6.5 Remediation Acceptance Criteria

To assess whether the remediation goal has been achieved, validation criteria are adopted for the works:

- Capping extent and depth per the concept design in **Section 5.3**.
- Sourced from ASC NEPM and other NSW EPA made or approved guidelines for the purpose of validating soil samples and screening concentrations of contaminants. Criteria set out in ASC NEPM for a commercial/industrial setting, where available, are adopted based on the proposed re-development, the land use zoning of General Industrial (IN1) under the *Canterbury-Bankstown Local Environmental Plan 2023*, the surrounding environmental conditions, and the neighbouring receptors.

The following assessment criteria listed in **Table 6.4** below shall be adopted for the purpose of screening concentrations of contaminants.

**Table 6.4: Adopted Assessment Criteria**

Media	Receptor	Adopted Assessment Criteria
Soil	Human Health	<ul style="list-style-type: none"> Health investigation level D (HIL D), applicable for commercial/industrial in ASC NEPM and PFAS NEMP. Health screening level D (HSL D) for vapour intrusion, clay, 0-<1 and 1 - <2m in ASC NEPM. Health screening level D (HSL D) for asbestos contamination in ASC NEPM. HSL direct contact applicable for commercial/industrial (HSL D) in CRC CARE (protective of intrusive maintenance workers).
	Ecological	<p>There are expected to be limited exposure of site soils to ecological receptors – the developed site will be used for industrial purposes and mostly covered by hard stand and buildings. However, to inform evaluation of management requirements, screening shall be conducted adopting for soils in landscaping and unpaved areas:</p> <ul style="list-style-type: none"> Ecological investigation level (EIL) for commercial/industrial sites for soil is applicable to shallow soil to 2 m bgl. Site-specific EILs were calculated consistent with NEPC (2013) using the average of laboratory results; pH, total organic carbon, clay % and CEC. The ASC NEPM (2013) methodology for derivation of site-specific EILs for lead, nickel, chromium III, copper and zinc was used to determine site specific screening criteria. The derivation process requires determination of ambient background concentrations (ABC) and added contaminant limits (ACLs) for these chemicals, and the EIL is then calculated as the ABC plus the ACL. The ACL is calculated using site-specific soil properties such as soil pH, organic carbon content and cation exchange capacity (CEC). Further details are provided in Section 8.1. Ecological screening level (ESL) for fine soils in commercial/industrial sites. PFAS NEMP interim soil ecological criteria (all land uses) for direct exposure (EDE).
	Infrastructure	Management Limits shall be used to assess the potential impacts of petroleum hydrocarbons which consider potential fire and explosive hazards and the effects of petroleum hydrocarbons on buried infrastructure.
	Aesthetics	<p>The ASC NEPM does not provide assessment criteria but states that site assessment requires balanced consideration of the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity. Aesthetic issues generally relate to the presence of low-concern inert foreign material in soil or fill resulting from human activity. Issues that require further assessment could include:</p> <ul style="list-style-type: none"> Highly malodorous soil or extracted groundwater. Hydrocarbon sheen on surface water. Discoloured chemical deposits or soil staining with chemical waste. Presence of putrescible waste that may generate hazardous levels of methane. <p>Aesthetics considerations are of a lesser concern for areas of the site which will have a sealed surface.</p>
	Waste	Thresholds and limits in NSW EPA (2014) <i>Waste Classification Guidelines</i> .
VENM	VENM	<p>VENM (and quarried natural products) should meet the definition of VENM in POEO Act and the following will apply:</p> <ul style="list-style-type: none"> Analysis results for organics (i.e. TRH, BTEX, PAH, OCP, OPP and PCB) must be below the LOR. Any results above the LOR should be assessed on a case by case basis before allowing any material on-site. Analysis results for metals should be consistent with the range of expected background concentrations. Analysis results should not exceed HIL-D or HSL-D. If asbestos is identified, the material will not be acceptable for use at site.
	ENM, other exempt waste under an RRO	<p>As per the ENM or other RRO/exemption and the following will apply:</p> <ul style="list-style-type: none"> Analysis results for metals should be consistent with the range of expected background concentrations. Analysis results should not exceed HIL-D or HSL-D. If asbestos is identified, the material will not be acceptable for use at site.



Media	Receptor	Adopted Assessment Criteria
Groundwater	Human Health	<ul style="list-style-type: none"> HSL for vapour intrusion, clay aquifer, 2-4 m for commercial/industrial (HSL D) in ASC NEPM. Incidental contact under recreational or during drain maintenance work settings will be assessed via Australian Drinking Water Guidelines (ADWG) (2022) drinking water values x 10 consistent with evaluation for recreational contact and recreational water quality guideline values in PFAS NEMP. <p>Drinking water guidelines have not been considered, given that there is no groundwater extraction for drinking purposes and provision of a reticulated water supply.</p>
	Ecological	<ul style="list-style-type: none"> The Default Guidelines Values (DGV) provided by ANZG (2018) will be used to assess aquatic exposure. DGVs apply to receiving waters rather than groundwater under the site. Salt Pan Creek is identified as the closest surface water receptor and is considered a slightly to moderately disturbed environment. As such the 95% spp level is relevant for the assessment. DGVs for freshwater are adopted, which are relevant to Salt Pan Creek. ANZG (2018) states that for chemicals that that bioaccumulate the higher 99% spp level is relevant. ECHA (European Chemicals Agency) value for fresh and marine water for formaldehyde. Interim water quality guidelines presented in the PFAS NEMP have been adopted for PFAS. The 95% spp DGVs shall be used to assess direct toxicity.
Soil Vapour	Human Health	<ul style="list-style-type: none"> HSLs for vapour intrusion (sand, depth based) for commercial/industrial (HSL D) in ASC NEPM. Interim soil vapour health investigation levels for volatile organic chlorinated compounds for commercial/industrial (HSL D) in ASC NEPM. <p>Where VOCs that do not have a HSL/HIL value are detected, additional screening levels have been sought from:</p> <ul style="list-style-type: none"> Reference concentrations in <i>Vapour Intrusion: Technical Practice Note</i> (NSW EPA, 2010); or US EPA Regional Screening Levels (RSLs) for Commercial Air adjusted as follows: <ul style="list-style-type: none"> The RSLs are indoor air values and so have been adjusted to soil vapour screening levels using an attenuation factor of 0.03 consistent with the recent enHealth 2023 guidance. Where the RSLs are based on carcinogenic evaluation the value has also been adjusted by a factor of 10 consistent with the acceptable risk level of 1×10^{-5} identified in the ASC NEPM. If a compound is not considered to be genotoxic or mutagenic then the threshold RSL value have been selected consistent with evaluation of threshold/ non threshold evaluation in the ASC NEPM.



6.6 Validation Reporting

A validation report shall be prepared by the EC on completion of the in-ground and at-grade development works. This report shall comply with requirements in NSW EPA (2020a) *Contaminated Land Guidelines: Consultants Reporting on Contaminated Land*, including the following:

- Incorporate findings of data gap assessments in **Section 5.2**.
- Survey data confirming the location and depth of marker layer and capping thickness.
- A summary of material tracking records, including receiving facilities, landfill disposal dockets and NSW EPA IWTS data to be summarised within a table as described in **Section 5.4**.
- Imported material certificates/classifications.
- Plans of sampling locations (as applicable) including historical and validation sampling.
- Inspection records and photographs.
- Tables of sample inspection, field screening and analysis results.
- NATA approved laboratory reports.
- Validation of field and laboratory data quality.
- Unexpected finds documentation.
- A summary of environmental monitoring activities (e.g. air monitoring records and asbestos clearance certificates) undertaken by the RC during remediation works.
- Identify ongoing management requirements.

The report will include an assessment of all results and data and re-evaluation of the CSM, and then draw a conclusion on the suitability of the site for ongoing commercial/industrial land use contingent upon appropriate implementation of the LTEMP.



7.0 Site Management Provisions

Prior to the commencement of remediation works the following environmental management procedures and controls are to be implemented. These should include, but are not limited to, the following:

- Asbestos works notification and management controls, including dust and fugitive fibre emission controls and monitoring.
- Sediment/erosion management.
- Stockpile management including identification of temporary stockpiling locations.
- Reference to health and safety management, including provisions for personal protective equipment.
- Excavation water (groundwater and stormwater runoff) management.
- Material tracking and disposal.
- Site access.
- Noise, odour and vibration controls.
- Monitoring requirements.

It is envisaged that these are developed and documented in:

- Site-Specific Health and Safety Plan (HASP).
- Construction Environmental Management Plan (CEMP).
- Construction Asbestos Management Plan (AMP), which could form part of the CEMP.

These may be prepared specifically for remediation works or for development construction works generally.

The following summarises the site management requirements. There may be additional requirements in DA conditions of approval or from GPSA – the SSD conditions of approval should take preference where there are any conflicts.

7.1 Asbestos Management

Asbestos has been detected in some fill material and will require management during remediation works. As such, remediation works involving asbestos impacted fill material must be conducted in accordance with regulations and SafeWork NSW (2022a/b) codes of practice for managing asbestos in workplaces.

The management controls and procedures shall be documented in the AMP. It is expected that the PC or RC will prepare and implement a construction AMP, including details on the personal protective equipment (PPE) and monitoring. The AMP must be provided to the EC prior to the initiation of the remediation works.

The AMP should be developed in accordance with SafeWork NSW (2022a/b) in consideration of site-specific risks and proposed development works but should consider at a minimum, the following:

- The location and extent of asbestos within the site.
- Notification requirements, including to SafeWork NSW.
- Roles and responsibilities, including appropriate supervision, monitoring and clearance for friable asbestos. E.g., all works that expose and/or penetrate asbestos impacted fill material must be supervised by a Class A licensed asbestos removalist contractor.
- Air monitoring requirements, which should include boundary monitoring for asbestos fibres.
- Demarcation and signage of the works area.
- Training and induction requirements.
- PPE and decontamination procedures.
- Reference to related environmental management controls in the CEMP.



7.2 Construction Environmental Management

The CEMP should outline authority approvals, regulatory requirements, team contacts, pre-construction planning, site management strategy, project administration, project specific requirements, site layout and logistics, construction methodology and construction risks and mitigation measures.

The CEMP should also discuss safety and environmental management and, inclusive of RAP requirements, discuss hazardous materials and unexpected discovery protocol.

7.2.1 Site Access

All remediation-related heavy vehicle access and egress from the site should follow a designated heavy vehicle route specified by the RC. As a minimum, the following traffic control measures will be implemented:

- All streets along the designated heavy vehicle route will be kept free from detritus material sourced from the site during the course of the project. A representative of the contractor will, on a daily basis, monitor the roadways leading to and from the site, and take steps to clean any adversely impacted pavements.
- Materials such as soil, mud, earth or similar tracked onto the driveways will be removed by means such as sweeping and shovelling, but not washing.
- Vehicles travelling along the designated heavy vehicle route shall have covered loads and adhere to the relevant speed limits.

7.2.2 Vehicle Cleaning

The following controls will be placed on operation and movement of vehicles that have been in contact with contaminated material:

- The surface of internal access roads carrying vehicular traffic will be kept clean.
- Vehicles carrying fill material shall be covered at all times with an “enviro-tarp” or similar impervious material to prevent the escape of dust or other material.
- A record of all trucks removing fill or natural materials from the site will be kept in a logbook and tracked to its final destination, NSW EPA IWTS information and tip dockets shall be retained on-site.
- The wheels and wheel arches of all vehicles having had access to the fill material will be inspected and if required, cleaned by the use of a broom or water spray to prevent mud and sediment from being deposited on Council roadways.

7.2.3 Dust Control

All practicable measures will be taken to ensure that dust emanating from the site is minimised. Measures to minimise the potential for dust generation may include:

- Where practicable minimising the excavation area and total number of stockpiles of impacted materials present within the site.
- Any asbestos material which may be encountered during the excavation works will be kept wetted at all times or otherwise covered.
- Use of water sprays over unsealed or bare surfaces, which are generating unacceptable amounts of dust.
- Covering of excavation faces and stockpiles, where necessary (if unacceptable amounts of dust are generated or if weather forecasts predict strong winds).
- Establishing dust screens consisting of a minimum of 2 m high shade cloth or similar material secured to a chain wire fence where dust is noted to be escaping the site boundary.
- Maintenance of all dust control measures to ensure good operating condition.
- All vehicles having had access to unpaved areas of the site shall exit via a wheel wash facility to prevent mud and sediment from being deposited on public roadways.



7.2.4 Odour Control

While odour is not considered to be a significant risk, all activities conducted at the site will be controlled such that all equipment used is designed and operated to control the emission of smoke, fumes and vapour into the atmosphere and any possible odours arising from the excavation or stockpiled material is controlled.

Control measures may include:

- Maintenance of construction equipment so that exhaust emissions comply with the relevant NSW legislation.
- Use of covers (if required, e.g. HDPE).

7.2.5 Soil Erosion and Surface Water Runoff

During remediation works, sediment and surface water controls in accordance with the Southern Sydney Regional Organisation of Council's brochure "*Soil and Water Management for Urban Development*" should be implemented. While the specific controls to be implemented will be documented within contractor site management plans the following should be considered:

- Sediment control.
- Clean water diversions.
- Stormwater drain protection.

Sediment and clean water diversion control measures (i.e., silt fencing, hay bales, gravel bags etc.) should be strategically placed at the following locations:

- Down-gradient of temporary stockpiles.
- Up-gradient of temporary stockpiles to redirect water.
- Down-gradient of any surrounding stormwater channels that flow within / through the site as a contingency against overflow into bunded stockpile locations.

Stormwater runoff should be diverted around open excavations.

Stormwater drain protection may comprise:

- Installation of sediment controls in any identified stormwater drains located down-gradient of any temporary stockpile areas.

During remediation works all sediment and surface water controls will be routinely inspected. Should any control measure be damaged or defective, the issue will be reported to the site superintendent to arrange for repair or modification.

7.2.6 Site Security and Signage

The site shall be secured by means of an appropriate fence to guard against unauthorised access if required.

A sign displaying the contact details of the RC will be displayed on the site adjacent to the works area.

The sign/s will be displayed throughout the duration of the remediation works in accordance with NSW regulatory requirements.



7.3 Worker Health and Safety

Remediation works shall be conducted compliant with requirements under relevant NSW or National worker health and safety regulations and guidance.

A worker health and safety plan (HASP) shall be prepared by the RC prior to commencement of remedial works. The HASP shall contain procedures and controls that are to be implemented to mitigate potential risks to site workers and surrounding residents/workers during remediation works. The approved HASP shall be implemented during remediation works.

All personnel undertaking work on the site will have undergone training relevant to the handling and management of contaminated materials including asbestos.

The HASP shall include or address:

- Roles and responsibilities.
- An assessment of hazards, risks and mitigations.
- Establishment of worker protection standards, safety practices and procedures.
- Monitoring requirements, instruments and trigger values (which may prompt a higher level of management).
- Provision for contingencies and emergency response.
- Any other requirements by the site owner or DA consent conditions.

The HASP shall consider normal construction related hazards and controls, and those specific to the proposed remediation works, including:

- Potential exposure to contaminated soil and asbestos.
- Excavations safety.
- Contingency procedures, controls and asbestos air monitoring.
- Personal Protective Equipment (PPE).
- Under/aboveground services, including USTs (if encountered), trade waste drains and sewerage.
- Excavation safety and operation of machinery in restricted spaces like excavations.

7.4 Reporting

7.4.1 Non-conformance and Corrective Action Reports

Non-conformances will be recorded within the Remediation Contractor's Non-Conformance and Corrective Action Report (or equivalent).

Details of the non-conformance, including any immediate corrective actions undertaken, are to be recorded by the on-site project team.

It is the responsibility of the project team to immediately initiate corrective actions, if required. Once completed, the project team will provide details of the actions undertaken on the Non-Conformance Report and sign, date and file the report.

7.4.2 Incident Management Reports

Reporting of environmental incidents will be undertaken in accordance with the EC's incident reporting procedures and timelines.

Records will be kept of any environmental incidents, accidents, hazardous situations, unusual events and unsafe health exposures and the corrective action taken.

The project team will investigate the cause of any emergency so that necessary changes in work practices can be made to prevent the incident recurring.



7.4.3 Complaint Reporting

The project team will maintain a register of complaints, which will include a record of any action taken with respect to the complaints.

If a complaint identifies a non-conformance, a Non-Conformance & Corrective Action report is to be initiated as per requirements of the CEMP.

Nature of the complaint is to be documented in the site's Complaints and Environmental Incidences Register (or equivalent).

7.5 Remediation Schedule

The PC or RC is to prepare a detailed program of remediation works, outlining key activities, milestones and completion dates. It is anticipated that most remediation works will be undertaken following demolition during initial site levelling and civil earthworks associated with site development.

7.6 Hours of Operation

Hours of operation are expected to be consistent with the SSD conditions of approval.



8.0 Contingency Plan

8.1 Remedial Contingencies

The purpose of the contingency plan is to identify unexpected situations that could occur, to specify procedures that can be implemented to manage such situations and to prevent adverse impacts to the environment and human health should these situations occur.

The conditions that may be encountered when undertaking works are uncertain. As unknown and variable sub-surface conditions impose a degree of uncertainty for the project, a set of anticipated conditions has been assumed in developing the RAP. However, because field conditions may vary, flexibility has been built into the RAP to adapt to differing conditions.

The conditions that can reasonably be expected, the resulting problems they may cause, and how these problems may be resolved within the context of the program have been summarised below.

Table 8.1: Contingencies

Potential Scenario	Action
Other Types of Contamination	The capping approach and broad analytical suite adopted in previous investigations mitigates this risk. Further evaluation of associated risks and incorporation into the LTEMP may be required.
Soil Contamination Underlying Existing Trees to Be Retained	<p>If soil contamination is identified underlying existing trees to be retained, contingency management will be required to either:</p> <ul style="list-style-type: none"> • Remove the tree with permission from Council and remediate the soil; or • Install a cover and marker layer overlying contamination to the extent that a horticulturalist indicates will not impact tree health, and ongoing management; and • Ongoing passive management under the LTEMP.
Contamination of Groundwater	The remedial approach assumes that groundwater is not suitable for extraction and use. There is a low likelihood of active groundwater remediation being required. If required, a risk assessment could be undertaken to quantify risks and a dewatering management plan should be prepared.
Unacceptable Vapour Inhalation Risk	<p>Previous investigation indicate a low and acceptable level of risk from vapour inhalation. However, there are data gaps to verify this, which will be assessed as part of the RAP. If residual soil vapour impacts represent an unacceptable risk via intrusion into future buildings as evaluated as part of the data gaps assessment, then adaptive measures include:</p> <ul style="list-style-type: none"> • Conduct a risk assessment to quantify risks for the specific development design and construction quality. • Consolidation or relocation of source contaminated materials, if practicable, in open space areas. • Requirement for vapour mitigation in buildings. This potential requirement would be assessed in the data gap assessment and be included in a RAP Addendum. For the purposes of the RAP, the following 'core' requirements for vapour intrusion mitigation are identified: <ul style="list-style-type: none"> ▪ An independent passive vapour management system for each building footprint will be designed and installed. The design shall be documented by a suitably qualified engineer and provided for review and approval by the EC. ▪ A construction quality assurance (CQA) plan shall be prepared by a suitably qualified installer and provided for review and approval by the EC. ▪ Validation, including CQA, will be documented in a report for review and approval by the EC.



8.2 Unexpected Finds

In addition to the above listed contingencies, the following steps may need to be undertaken should unexpected finds such as stained or odorous materials, buried drums or tanks, or suspect contaminated materials (other than identified impacts) be discovered during the works:

In the event that unexpected finds are encountered, the following protocol will be adopted:

- All works in the affected area will cease, the project manager, RC and GPSA will be contacted.
- The area of concern will be suitably barricaded / suitably fenced.
- Notify the EC and site auditor as soon as practicable.
- The nature of the contamination will be characterised visually and, if required, appropriate sampling and analysis will be completed by the EC.
- The requirement for any additional remediation and or sampling will then be assessed.
- Records will be kept in relation to the nature, location and management of the particular material.

Additional environmental and occupational safety controls may include:

- Upgrade of PPE, for workers within the active work zone, in accordance with the HASP.
- Segregation and bunding of discovered material.
- Use of odour suppressants (where appropriate).
- Cover the discovered material with plastic sheeting (where appropriate/possible).
- Appropriate sampling and analysis to assess potential contaminants; and
- Appropriate treatment and/or disposal of the materials following receipt of analytical results and any associated regulatory approvals required.



9.0 Conclusion

This RAP was developed to provide a framework describing the requirements for remediation, validation, and worker health and safety and environment management strategies associated with the identified contamination at the site.

Subject to the suitable implementation of the measures described in this RAP, it is concluded that the site can be made suitable for the intended commercial/industrial use and that the risks to the environment can be appropriately protected during the remediation works. Ongoing passive management of certain intrusive works into residual contaminated soils and impacted groundwater under building slabs, pavement and a marker layer will be required via appropriate implementation of a passive LTEMP.



10.0 Principles and Limitations

The following principles are an integral part of site contamination assessment practices and are intended to be referred to in resolving any ambiguity or exercising such discretion as is accorded the user or site assessor.

Table 10.1: Principal and Limitation of Investigation

Area	Field Observation and Analytical Results
Elimination of Uncertainty	Some uncertainty is inherent in all site investigations. Furthermore, any sample, either surface or subsurface, taken for chemical testing may or may not be representative of a larger population or area. Professional judgment and interpretation are inherent in the process, and even when exercised in accordance with objective scientific principles, uncertainty is inevitable. Additional assessment beyond that which was reasonably undertaken may reduce the uncertainty.
Failure to Detect	Even when site investigation work is executed competently and in accordance with the appropriate Australian guidance, such as the National Environmental Protection (Assessment of site Contamination) Amendment Measure ('the NEPM'), it must be recognised that certain conditions present especially difficult target analyte detection problems. Such conditions may include, but are not limited to, complex geological settings, unusual or generally poorly understood behaviour and fate characteristics of certain substances, complex, discontinuous, random, or heterogeneous distributions of existing target analytes, physical impediments to investigation imposed by the location of services, structures and other man-made objects, and the inherent limitations of assessment technologies.
Limitations of Information	The effectiveness of any site investigation may be compromised by limitations or defects in the information used to define the objectives and scope of the investigation, including inability to obtain information concerning historic site uses or prior site assessment activities despite the efforts of the user and assessor to obtain such information.
Chemical Analysis Error	Chemical testing methods have inherent uncertainties and limitations. Senversa routinely seeks to require the laboratory to report any potential or actual problems experienced, or non-routine events which may have occurred during the testing, so that such problems can be considered in evaluating the data.
Level of Assessment	The investigation herein should not be considered to be an exhaustive assessment of environmental conditions on a property. There is a point at which the effort of information obtained and the time required to obtain it outweigh the benefit of the information gained and, in the context of private transactions and contractual responsibilities, may become a material detriment to the orderly conduct of business. If the presence of target analytes is confirmed on a property, the extent of further assessment is a function of the degree of confidence required and the degree of uncertainty acceptable in relation to the objectives of the assessment.
Comparison with Subsequent Inquiry	The justification and adequacy of the investigation findings in light of the findings of a subsequent inquiry should be evaluated based on the reasonableness of judgments made at the time and under the circumstances in which they were made.
Data Useability	Investigation data generally only represent the site conditions at the time the data were generated. Therefore, the usability of data collected as part of this investigation may have a finite lifetime depending on the application and use being made of the data. In all respects, a future reader of this report should evaluate whether previously generated data are appropriate for any subsequent use beyond the original purpose for which they were collected or are otherwise subject to lifetime limits imposed by other laws, regulations or regulatory policies.
Nature of Advice	The investigation works herein are intended to develop and present sound, scientifically valid data concerning actual site conditions. Senversa does not seek or purport to provide legal or business advice.



11.0 References

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Figures

Figure 1: Site Location and Key Features

Figure 2: Historic Investigation Locations





Path: S:\01_Jobs\1 NSW_Jobs\S21569_GPSA_KENT ROAD_DSIA\PRX\S21569_005.aprx

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Legend

- Potential UST Identified by SafeWork NSW Hazardous Chemicals Search
- Potential USTs Identified During Site Inspection
- Lot Boundary
- Site Boundary

Created:	E. Marha	Date:	7/05/2025
Reviewed:	A. Dibley	Revision:	1
Approved:	Z. Smith	Scale:	1:1,000 (A3)
File:	S21569_005_F001 Site Location and Layout		

051020304050

Metres

Coordinate System: GDA2020 MGA Zone 56

Figure No:

Title:

1

Site Location and Layout

Project:

Location:


Client:

Remediation Action Plan

2-22 Kent Rd and 685 Gardener Rd, Mascot, NSW 2020

Goodman Property Services Australia





Path: S:\01_Jobs\1 NSW_Jobs\S21569_GPSA_KENT ROAD_DSIA\PRX\S21569_005.aprx

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Legend

Historical Investigation Locations	Potential UST Identified by SafeWork NSW Hazardous Chemicals Search
Groundwater Monitoring Well	Potential USTs Identified During Site Inspection
Soil Bore	Lot Boundary
Sub-slab Vapour Pin	Site Boundary
Vapour Well	

Created:	E. Marha	Date:	7/05/2025
Reviewed:	A. Dibley	Revision:	1
Approved:	Z. Smith	Scale:	1:1,000 (A3)
File:	S21569_005_F002 Sampling Locations		

0 5 10 20 30 40 50

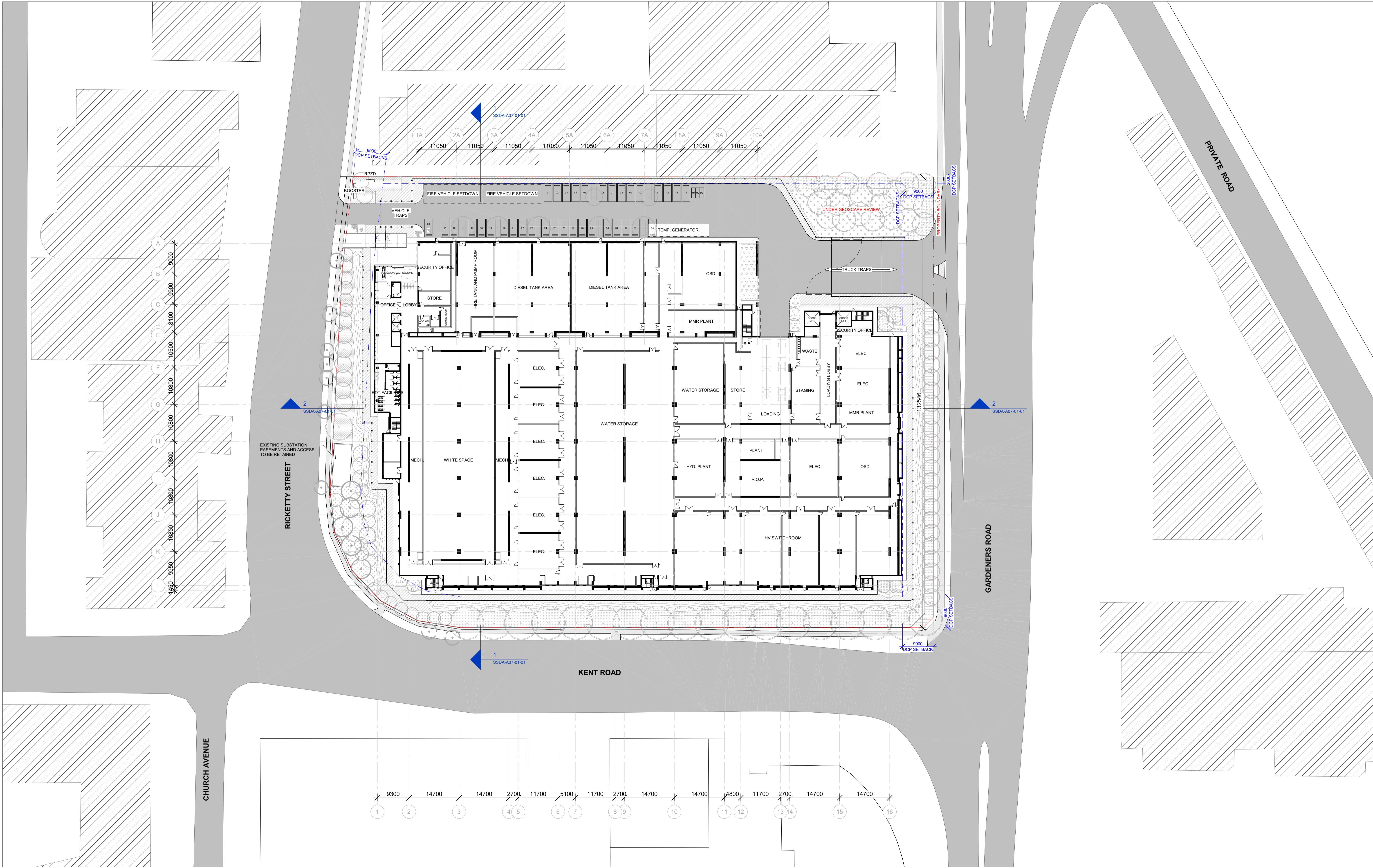
Metres

Coordinate System: GDA2020 MGA Zone 56

Figure No:	2
Title:	Historical Investigation Locations
Project:	Remediation Action Plan
Location:	2-22 Kent Rd and 685 Gardener Rd, Mascot, NSW 2020
Client:	Goodman Property Services Australia



Appendix A: Proposed Development Plans



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DRAWING NOTICES

Do not scale - all dimensions to be checked on site. Grimshaw drawings to be read in conjunction with Grimshaw and specialist specifications. Drawings to be read in conjunction with m&e, structural, fire and acoustic information.

CLIENT
GOODMAN



CONSULTANTS

PROJECT NAME
PROJECT DUKE DATA CENTRE

120MVA PROPOSAL

PROJECT NO.
23187

ADDRESS
**2 & 10-22 KENT RD,
MASCOT NSW 2020**

REV	BY	DATE	DESCRIPTION
1	EE	23.09.24	SSDA SUBMISSION
2	EE	08.05.25	SSDA AMENDMENT

KEY PLAN



DRAWING TITLE
GROUND FLOOR PLAN

SCALE
1 : 500 @A1

DRW	CH	APPR	DRW DATE	REV
DV	NJ	EE	08.05.25	2

DRAWING NO.
SSDA-A03-00-01



Appendix B: Contamination Data Tables

Table 1: Soil Analytical Results
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



						Metals								BTEx						Total Petroleum Hydrocarbons				
						Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Total Xylene	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
Unit						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR						4	0.4	1	1	1	0.1	1	1	0.2	0.5	0.5	0.5	0.5	0.5	10	50	100	100	50
Human Health - NEPM Setting 'D' - Commercial / Industrial						3,000 ^{#1}	900 ^{#1}	3,600 ^{#2}	240,000 ^{#1}	1,500 ^{#3}	730 ^{#1}	6,000 ^{#1}	400,000 ^{#1}	3 ^{#4}	99,000 ^{#4}	27,000 ^{#4}			230 ^{#4}	260 ^{#5}	20,000 ^{#6}			
TPH Management Limits - NEPM Setting D - Commercial / Industrial																								
Maintenance of Ecosystems - Commercial / Industrial						160 ^{#15}		320 ^{#16}	95 ^{#17}	1,830 ^{#18}		60 ^{#17}	150 ^{#17}	75 ^{#19}	135 ^{#19}	165 ^{#19}			95 ^{#20}	215 ^{#21}	170 ^{#22}			
Location	Field ID	Date	Depth	Type	Lab Report																			
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	10	<0.4	14	33	280	0.2	35	170	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH01	BH01	19/06/2023	0.9 - 1	Normal	325916	10	<0.4	16	67	140	<0.1	12	94	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH02	BH02	16/06/2023	1 - 1.1	Normal	325916	5	<0.4	8	32	92	<0.1	10	94	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH02	BH02	16/06/2023	2.9 - 3	Normal	325916	<4	<0.4	4	7	18	<0.1	4	24	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH03	BH03	19/06/2023	0.2 - 0.3	Normal	325916	11	<0.4	43	100	65	<0.1	33	120	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	110	110
BH03	BH03	19/06/2023	0.9 - 1	Normal	325916	17	<0.4	8	100	69	0.1	8	130	<0.2	<0.5	<1	<2	<1	<1	<25	<50	1,300	790	2,100
BH04	BH04	19/06/2023	0.2 - 0.3	Normal	325916	9	<0.4	18	330	62	<0.1	24	110	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH04	BH04	19/06/2023	3 - 3.1	Normal	325916	4	<0.4	2	900	87	0.2	3	21	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH05	BH05	19/06/2023	0.2 - 0.3	Normal	325916	20	<0.4	14	44	120	0.1	10	130	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH05	BH05	19/06/2023	2.9 - 3	Normal	325916	8	<0.4	4	29	52	0.2	2	40	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH06	BH06	19/06/2023	0.5 - 0.6	Normal	325916	5	<0.4	11	25	48	<0.1	8	63	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH06	BH06	19/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06	BH06	19/06/2023	2.9 - 3	Normal	325916	<4	0.6	9	20	36	<0.1	6	72	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH07	BH07	16/06/2023	0.2 - 0.3	Normal	325916	5	<0.4	27	160	72	<0.1	15	83	<0.2	<0.5	<1	<2	<1	<1	<25	<50	220	180	400
BH07	BH07	16/06/2023	1 - 1.1	Normal	325916	<4	0.5	36	210	79	<0.1	16	100	<0.2	<0.5	<1	<2	<1	<1	<25	<50	300	270	560
BH08	BH08	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08	BH08	19/06/2023	2 - 2.1	Normal	325916	<4	<0.4	73	35	120	0.3	18	67	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH08	BH08	19/06/2023	2.9 - 3	Normal	325916	8	<0.4	57	100	94	0.2	30	58	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH09	BH09	16/06/2023	0.2 - 0.3	Normal	325916	13	<0.4	35	150	89	0.1	23	85	<0.2	<0.5	<1	<2	<1	<1	<25	<50	170	180	350
BH09	BH09	16/06/2023	0.5 - 0.6	Normal	325916	10	<0.4	20	58	91	<0.1	13	100	<0.2	<0.5	<1	<2	<1	<1	<25	<50	220	200	420
BH09	QC04	16/06/2023	0.5 - 0.6	Field_D	325916	9	<0.4	25	62	80	0.1	14	97	<0.2	<0.5	<1	<2	<1	<1	<25	<50	200	180	380
BH09	BH09	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	QC03	16/06/2023	1 - 1.1	Field_D	325916	8	<0.4	13	17	38	<0.1	4	43	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH10	BH10	16/06/2023	1 - 1.1	Normal	325916	9	<0.4	11	26	53	<0.1	6	61	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH10	BH10	16/06/2023	3 - 3.1	Normal	325916	4	3	20	18	43	0.3	14	75	<0.2	<0.5	<1	<2	<1	<1	<25	<50	150	<100	150
BH11	BH11	16/06/2023	0.2 - 0.3	Normal	325916	<4	<0.4	13	440	53	<0.1	8	65	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH11	BH11	16/06/2023	2 - 2.1	Normal	325916	<4	<0.4	3	30	11	<0.1	1	93	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH12	BH12	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	0.5 - 0.6	Normal	325916	9	<0.4	13	290	90	0.2	12	86	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH12	BH12	16/06/2023	2 - 2.1	Normal	325916	<4	<0.4	2	1	6	<0.1	1	18	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH13	BH13	19/06/2023	1 - 1.1	Normal	325916	7	<0.4	15	54	590	<0.1	12	100	<0.2	<0.5	<1	<2	<1	<1	<25	<50	120	130	250
BH13	BH13	19/06/2023	2.9 - 3	Normal	325916	8	<0.4	2	<1	2	<0.1	<1	3	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH14	BH14	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	QC02	16/06/2023	0.5 - 0.6	Field_D	325916	9	<0.4	21	60	520	0.4	6	390	<0.2	<0.5	<1	<2	<1	<1	<25	<50	150	<100	150
BH14	BH14	16/06/2023	0.5 - 0.6	Normal	325916	9	<0.4	19	22	160	0.2	3												

Table 1: Soil Analytical Results
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



						Metals								BTEX						Total Petroleum Hydrocarbons				
						Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Total Xylene	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
Unit						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						4	0.4	1	1	1	0.1	1	1	0.2	0.5	0.5	0.5	0.5	0.5	10	50	100	100	50
Human Health - NEPM Setting 'D' - Commercial / Industrial						3,000 ^{#1}	900 ^{#1}	3,600 ^{#2}	240,000 ^{#1}	1,500 ^{#3}	730 ^{#1}	6,000 ^{#1}	400,000 ^{#1}	3 ^{#4}	99,000 ^{#4}	27,000 ^{#4}			230 ^{#4}	260 ^{#5}	20,000 ^{#6}			
TPH Management Limits - NEPM Setting D - Commercial / Industrial																								
Maintenance of Ecosystems - Commercial / Industrial						160 ^{#15}		320 ^{#16}	95 ^{#17}	1,830 ^{#18}		60 ^{#17}	150 ^{#17}	75 ^{#19}	135 ^{#19}	165 ^{#19}			95 ^{#20}	215 ^{#21}	170 ^{#22}			

Location	Field ID	Date	Depth	Type	Lab Report																			
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	470	9.8	430	350	38,000	6.3	14	39,000	<2	<5	10	120	<10	120	480	16,000	3,000	560	19,000
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	11	1	13	17	520	0.2	<1	560	<2	<5	<10	40	<10	40	180	3,000	170	<100	3,200
BH105	BH105_0.8-1.0 - [TRIPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	4	1	6	8	460	<0.1	<1	400	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	<4	<0.4	<1	1	9	<0.1	<1	10	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	<4	<0.4	<1	<1	<1	<0.1	<1	4	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH107	BH107_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	6	<0.4	33	24	170	0.9	18	220	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158	<4	<0.4	5	18	110	<0.1	12	350	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158	6	<0.4	17	30	220	<0.1	16	190	<0.2	<0.5	<1	<2	<1	<1	<25	<50	310	250	560
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	<4	<0.4	2	<1	1	<0.1	<1	31	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	<4	<0.4	20	74	1	<0.1	110	44	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<4	<0.4	3	2	79	<0.1	2	8	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	10	<0.4	23	52	91	<0.1	13	94	<0.2	<0.5	<1	<2	<1	<1	<25	<50	250	190	440
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	12	<0.4	35	32	61	<0.1	12	83	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	14	<0.4	20	26	64	<0.1	9	79	<0.2	<0.5	<1	<2	<1	<1	<25	<50	280	240	520
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	9	<0.4	16	31	63	<0.1	9	83	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	<4	<0.4	2	2	3	<0.1	<1	5	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<4	<0.4	12	10	30	<0.1	5	42	<0.2	<0.5	<1	<2	<1	<1	<25	<50	210	130	340
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	8	<0.4	5	14	26	<0.1	4	31	<0.2	<0.5	<1	<2	<1	<1	42	3,100	6,100	<100	9,200
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	11	<0.4	15	49	92	<0.1	16	170	<0.2	<0.5	<1	<2	<1	<1	<25	<50	480	350	820
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	<4	<0.4	2	1	2	<0.1	<1	4	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	<4	<0.4	3	17	67	<0.1	3	46	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	<4	<0.4	11	23	91	<0.1	6	80	<0.2	<0.5	<1	<2	<1	<1	<25	<50	140	160	300
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	8	<1	14	29	153	0.1	10	102	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<50	140	140	280
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	8	<0.4	12	57	83	<0.1	15	130	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	120	120
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	<5	<1	18	32	61	<0.1	24	141	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<50	<100	<100	<50
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	5	<0.4	8	28	96	<0.1	16	440	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	120	120
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	<4	<0.4	<1	<1	<1	<0.1	<1	5	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	7	<0.4	14	91	81	<0.1	10	120	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	9	<0.4	13	44	110	0.1	12	130	<0.2	<0.5	<1	<2	<1	<1	<25	<50	140	210	360
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	<4	<0.4	1	5	12	<0.1	6	89	<0.2	<0.5	<1	<2	<1	<1	<25	<50	<100	<100	<50



						Total Recoverable Hydrocarbons							PAHs																
						C6-C10 Fraction	C6-C10 Fraction minus BTEX (F1)	>C10-C16 Fraction	>C10-C16 Fraction minus naphthalene (F2)	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Sum)	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b+i) & Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(b+i+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	
Unit						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
LOR						10	10	50	50	100	100	50	0.1	0.1	0.1	0.1	0.05	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1			
Human Health - NEPM Setting 'D' - Commercial / Industrial							260 ^{#7}		20,000 ^{#8}	27,000 ^{#9}	38,000 ^{#9}												NL ^{#4}						
TPH Management Limits - NEPM Setting D - Commercial / Industrial						700 ^{#14}		1,000 ^{#14}		3,500 ^{#14}	10,000 ^{#14}																		
Maintenance of Ecosystems - Commercial / Industrial							215		170	1,700 ^{#23}	3,300 ^{#23}					1.4 ^{#24}								370 ^{#25}					
Location	Field ID	Date	Depth	Type	Lab Report																								
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	0.5	0.6	0.9	0.4	-	0.5	<0.1	0.7	<0.1	0.5	<0.1	0.2	0.8	
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	0.3	0.3	0.5	0.2	-	0.3	<0.1	0.4	<0.1	0.2	<0.1	0.2	0.4	
BH02	BH02	16/06/2023	1 - 1.1	Normal	325916	<25	<25	<50	<50	130	<100	130	<0.1	<0.1	<0.1	0.4	0.73	1	0.5	-	0.6	<0.1	0.7	<0.1	0.4	<0.1	0.2	0.8	
BH02	BH02	16/06/2023	2.9 - 3	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	0.1	<0.2	<0.1	-	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	
BH03	BH03	19/06/2023	0.2 - 0.3	Normal	325916	<25	<25	<50	<50	170	<100	170	<0.1	0.2	0.2	0.5	0.68	1	0.5	-	0.5	0.1	0.7	<0.1	0.4	<0.1	0.3	0.8	
BH03	BH03	19/06/2023	0.9 - 1	Normal	325916	<25	<25	75	75	1,800	380	2,300	3.1	6.2	12	32	28	42	9.1	-	25	2.7	63	3.6	8.4	1.2	51	56	
BH04	BH04	19/06/2023	0.2 - 0.3	Normal	325916	<25	<25	<50	<50	130	<100	130	<0.1	0.2	0.2	0.6	0.57	1	0.3	-	0.6	<0.1	0.9	<0.1	0.3	0.2	0.7	0.8	
BH04	BH04	19/06/2023	3 - 3.1	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	0.2	0.3	0.4	0.2	-	0.2	<0.1	0.4	<0.1	0.1	<0.1	0.2	0.4	
BH05	BH05	19/06/2023	0.2 - 0.3	Normal	325916	<25	<25	<50	<50	100	<100	100	<0.1	0.1	<0.1	0.5	0.6	0.9	0.4	-	0.4	<0.1	0.8	<0.1	0.5	<0.1	0.3	0.9	
BH05	BH05	19/06/2023	2.9 - 3	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	0.3	0.4	0.5	0.2	-	0.3	<0.1	0.5	<0.1	0.2	<0.1	0.2	0.5	
BH06	BH06	19/06/2023	0.5 - 0.6	Normal	325916	<25	<25	<50	<50	160	<100	160	<0.1	0.1	0.1	0.4	0.5	0.7	0.3	-	0.4	<0.1	0.6	<0.1	0.3	<0.1	0.3	0.7	
BH06	BH06	19/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH06	BH06	19/06/2023	2.9 - 3	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	0.1	<0.2	<0.1	-	0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1	0.2	
BH07	BH07	16/06/2023	0.2 - 0.3	Normal	325916	<25	<25	<50	<50	350	100	450	<0.1	0.2	0.4	1	1	2	0.6	-	0.9	0.1	1.9	0.1	0.5	<0.1	1.1	1.9	
BH07	BH07	16/06/2023	1 - 1.1	Normal	325916	<25	<25	<50	<50	490	160	650	<0.1	0.1	0.4	1	0.98	1	0.6	-	0.8	0.1	2	0.1	0.5	<0.1	1.1	2	
BH08	BH08	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH08	BH08	19/06/2023	2 - 2.1	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	0.2	0.2	0.4	0.1	-	0.2	<0.1	0.3	<0.1	0.2	<0.1	0.2	0.3	
BH08	BH08	19/06/2023	2.9 - 3	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	0.1	0.1	0.2	0.3	0.5	0.2	-	0.2	<0.1	0.4	<0.1	0.2	<0.1	0.2	0.4	
BH09	BH09	16/06/2023	0.2 - 0.3	Normal	325916	<25	<25	<50	<50	290	160	450	0.1	0.3	0.5	1.4	1.5	2.2	0.8	-	1.2	0.2	2.6	0.2	0.7	0.1	1.4	2.6	
BH09	BH09	16/06/2023	0.5 - 0.6	Normal	325916	<25	<25	<50	<50	360	150	510	0.1	0.5	0.8	1.6	1.6	2.4	0.9	-	1.4	0.2	3.2	0.3	0.8	0.2	2.4	3.2	
BH09	QC04	16/06/2023	0.5 - 0.6	Field_D	325916	<25	<25	<50	<50	320	130	460	0.2	0.6	1.2	2.8	2.5	3.8	1.3	-	2.3	0.3	5.5	0.4	1.1	0.2	4.4	5.4	
BH09	BH09	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH10	QC03	16/06/2023	1 - 1.1	Field_D	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	0.2	0.2	0.4	0.2	-	0.2	<0.1	0.3	<0.1	0.1	<0.1	0.2	0.4	
BH10	BH10	16/06/2023	1 - 1.1	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	0.1	0.3	0.4	0.6	0.3	-	0.3	<0.1	0.6	<0.1	0.2	<0.1	0.3	0.6	
BH10	BH10	16/06/2023	3 - 3.1	Normal	325916	<25	<25	<50	<50	170	<100	170	<0.1	<0.1	<0.1	0.2	0.2	0.3	0.1	-	0.2	<0.1	0.3	<0.1	<0.1	<0.1	0.1	0.3	
BH11	BH11	16/06/2023	0.2 - 0.3	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	0.4	0.5	0.7	0.4	-	0.4	<0.1	0.7	<0.1	0.4	<0.1	0.2	0.7	
BH11	BH11	16/06/2023	2 - 2.1	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH12	BH12	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH12	BH12	16/06/2023	0.5 - 0.6	Normal	325916	<25	<25	<50	<50	150	<100	150	<0.1	0.2	0.2	0.7	0.85	1	0.6	-	0.7	0.1	1.4	<0.1	0.5	<0.1	0.7	1.4	
BH12	BH12	16/06/2023	2 - 2.1	Normal	325916	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1														

Table 1: Soil Analytical Results
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



						Total Recoverable Hydrocarbons							PAHs																
						C6-C10 Fraction	C6-C10 Fraction minus BTEX (F1)	>C10-C16 Fraction	>C10-C16 Fraction minus naphthalene (F2)	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Sum)	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b+i) & Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(b+i+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	
Unit						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR						10	10	50	50	100	100	50	0.1	0.1	0.1	0.1	0.05	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Human Health - NEPM Setting 'D' - Commercial / Industrial							260 ^{#7}		20,000 ^{#8}	27,000 ^{#9}	38,000 ^{#9}															NL ^{#4}			
TPH Management Limits - NEPM Setting D - Commercial / Industrial						700 ^{#14}		1,000 ^{#14}		3,500 ^{#14}	10,000 ^{#14}																		
Maintenance of Ecosystems - Commercial / Industrial							215		170	1,700 ^{#23}	3,300 ^{#23}						1.4 ^{#24}									370 ^{#25}			
Location	Field ID	Date	Depth	Type	Lab Report																								
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	3,500	3,400	9,900	9,800	2,200	370	12,000	0.5	<0.1	<0.1	0.4	0.3	-	<0.1	0.7	0.4	<0.1	0.8	0.6	0.2	71	0.7	0.7	
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	1,600	1,600	1,900	1,900	<100	<100	1,900	<0.1	<0.1	<0.1	0.1	0.1	-	<0.1	0.2	0.1	<0.1	0.3	0.1	<0.1	29	0.2	0.2	
BH105	BH105_0.8-1.0 - [TRIPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH107	BH107_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	0.1	0.1	-	0.1	0.2	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158	<25	<25	<50	<50	480	170	660	0.1	1.7	1.2	4.0	4.0	-	2.1	6.0	2.8	0.5	8.0	0.1	1.6	0.5	3.1	8.1	
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<25	<25	<50	<50	<100	<100	<50	<0.1	0.2	<0.1	0.3	0.3	-	0.3	0.6	0.2	<0.1	0.4	<0.1	0.2	<0.1	0.1	0.4	
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	<25	<25	<50	<50	370	170	540	<0.1	0.5	0.7	1.4	1.2	-	0.7	2.0	1	0.2	3.0	0.4	0.9	<0.1	2.2	2.8	
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<25	<25	<50	<50	440	220	660	<0.1	0.2	0.2	0.8	0.63	-	0.5	1	0.6	0.1	1.6	<0.1	0.3	<0.1	0.7	1.6	
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	<25	<25	<50	<50	<100	<100	<50	0.2	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<25	<25	<50	<50	290	140	420	0.3	0.4	0.8	1.2	0.79	-	0.4	1	0.8	0.1	3.2	0.4	0.3	0.1	4.3	2.9	
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	150	150	5,500	5,500	3,200	<100	8,700	<2.0	<2.0	1.6	1.9	1.1	-	0.6	2	1.1	0.2	5.0	3.2	0.7	7	10	4.2	
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	<25	<25	54	51	710	280	1,000	1.4	1.6	3.4	13	15	-	6.0	26	17	1.4	32	2.5	4.1	4.7	19	30	
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	0.1	0.3	0.3	-	0.2	0.4	0.2	<0.1	0.5	<0.1	0.2	<0.1	0.3	0.5	
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	<25	<25	<50	<50	250	180	430	<0.1	0.3	0.6	1.7	1.3	-	0.8	2	1.2	0.2	2.8	0.3	0.5	0.2	2.3	2.8	
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	<10	<10	<50	<50	230	120	350	<0.5	<0.5	<0.5	0.9	1.1	-	0.6	-	0.9	<0.5	2.4	<0.5	<0.5	<0.5	1.3	2.4	
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	<25	<25	<50	<50	150	140	300	<0.1	0.1	0.2	0.5	0.66	-	0.4	1	0.5	0.1	0.9	<0.1	0.4	<0.1	0.4	0.9	
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	<10	<10	<50	<50	130	<100	130	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.8	
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	<25	<25	<50	<50	160	140	300	<0.1	<0.1	<0.1	0.4	0.3	-	0.2	0.5	0.2	<0.1	0.6	<0.1	0.1	<0.1	0.3	0.6	
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	<25	<25	<50	<50	<100	<100	<50	<0.1	0.2	0.2	0.6	0.68	-	0.6	1	0.4	0.1	0.7	<0.1	0.6	<0.1	0.3	0.8	
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	<25	<25	<50	<50	300	200	500	<0.1	0.2	0.2	1	0.86	-	0.6	1	0.6	0.2	1.0	<0.1	0.4	<0.1	0.3	1.1	
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	<25	<25	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	



						PAHs				MAH								Halogenated Benzenes											
						Benzo(a)pyrene TEQ (Zero)	Benzo(a)pyrene TEQ (Half LOR)	Benzo(a)pyrene TEQ (LOR)	Sum of Polycyclic aromatic hydrocarbons (PAH)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Styrene	1,2,3-Trichlorobenzene	1,2-Dichlorobenzene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	2-Chlorotoluene	1,4-Dichlorobenzene	4-Chlorotoluene	Bromobenzene	Chlorobenzene		
Unit						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
LOR						0.5	0.5	0.5	0.05	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Human Health - NEPM Setting 'D' - Commercial / Industrial						40 ^{#1}	40 ^{#1}	40 ^{#1}	4,000 ^{#1}	1,800 ^{#10}	1,500 ^{#10}	9,900 ^{#10}	58,000 ^{#10}	24,000 ^{#10}		120,000 ^{#10}	120,000 ^{#10}	35,000 ^{#10}	930 ^{#10}	9,300 ^{#10}	110 ^{#10}		23,000 ^{#10}	11 ^{#10}	23,000 ^{#10}	1,800 ^{#10}	1,300 ^{#10}		
TPH Management Limits - NEPM Setting D - Commercial / Industrial																													
Maintenance of Ecosystems - Commercial / Industrial																													
Location	Field ID	Date	Depth	Type	Lab Report																								
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	0.8	0.9	0.9	5.2	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BH01	BH01	19/06/2023	0.9 - 1	Normal	325916	<0.5	<0.5	<0.5	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH02	BH02	16/06/2023	1 - 1.1	Normal	325916	0.9	0.99	1	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH02	BH02	16/06/2023	2.9 - 3	Normal	325916	<0.5	<0.5	<0.5	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH03	BH03	19/06/2023	0.2 - 0.3	Normal	325916	1	1	1	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH03	BH03	19/06/2023	0.9 - 1	Normal	325916	39	39	39	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH04	BH04	19/06/2023	0.2 - 0.3	Normal	325916	0.8	0.8	0.9	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH04	BH04	19/06/2023	3 - 3.1	Normal	325916	<0.5	<0.5	<0.5	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH05	BH05	19/06/2023	0.2 - 0.3	Normal	325916	0.8	0.9	0.9	5.5	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BH05	BH05	19/06/2023	2.9 - 3	Normal	325916	<0.5	0.5	0.6	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH06	BH06	19/06/2023	0.5 - 0.6	Normal	325916	0.6	0.7	0.7	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH06	BH06	19/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH06	BH06	19/06/2023	2.9 - 3	Normal	325916	<0.5	<0.5	<0.5	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH07	BH07	16/06/2023	0.2 - 0.3	Normal	325916	1.5	1.5	1.5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH07	BH07	16/06/2023	1 - 1.1	Normal	325916	1.4	1.4	1.4	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH08	BH08	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH08	BH08	19/06/2023	2 - 2.1	Normal	325916	<0.5	<0.5	<0.5	2.1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BH08	BH08	19/06/2023	2.9 - 3	Normal	325916	<0.5	<0.5	0.5	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH09	BH09	16/06/2023	0.2 - 0.3	Normal	325916	2.1	2.1	2.1	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH09	BH09	16/06/2023	0.5 - 0.6	Normal	325916	2.3	2.3	2.3	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH09	QC04	16/06/2023	0.5 - 0.6	Field_D	325916	3.6	3.6	3.6	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH09	BH09	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH10	QC03	16/06/2023	1 - 1.1	Field_D	325916	<0.5	<0.5	<0.5	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH10	BH10	16/06/2023	1 - 1.1	Normal	325916	0.5	0.6	0.6	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH10	BH10	16/06/2023	3 - 3.1	Normal	325916	<0.5	<0.5	<0.5	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH11	BH11	16/06/2023	0.2 - 0.3	Normal	325916	0.6	0.7	0.7	4.2	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BH11	BH11	16/06/2023	2 - 2.1	Normal	325916	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH12	BH12	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH12	BH12	16/06/2023	0.5 - 0.6	Normal	325916	1.2	1.2	1.2	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH12	BH12	16/06/2023	2 - 2.1	Normal	325916	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH13	BH13	19/06/2023	1 - 1.1	Normal	325916	0.8	0.8	0.9	6.3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BH13	BH13	19/06/2023	2.9 - 3	Normal	325916	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH14	BH14	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH14	QC02	16/06/2023	0.5 - 0.6	Field_D	325916	4.3	4.3	4.3	34	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BH14	BH14	16/06/2023	0.5 - 0.6	Normal	325916	6.6	6.6	6.6	69	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BH14	BH14	16/06/2023	2.9 - 3	Normal	325916	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH15	BH15 (triplicate)	19/06/2023	0.2 - 0.3	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
BH15	BH15	19/06/2023	0.2 - 0.3	Normal	325916	1.9	2	2	13	-	<1	<																	



						PAHs				MAH								Halogenated Benzenes									
						Benzo(a)pyrene TEQ (Zero)	Benzo(a)pyrene TEQ (Half LOR)	Benzo(a)pyrene TEQ (LOR)	Sum of Polycyclic aromatic hydrocarbons (PAH)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Styrene	1,2,3-Trichlorobenzene	1,2-Dichlorobenzene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	2-Chlorotoluene	1,4-Dichlorobenzene	4-Chlorotoluene	Bromobenzene	Chlorobenzene
Unit						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR						0.5	0.5	0.5	0.05	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Human Health - NEPM Setting 'D' - Commercial / Industrial						40 ^{#1}	40 ^{#1}	40 ^{#1}	4,000 ^{#1}	1,800 ^{#10}	1,500 ^{#10}	9,900 ^{#10}	58,000 ^{#10}	24,000 ^{#10}		120,000 ^{#10}	120,000 ^{#10}	35,000 ^{#10}	930 ^{#10}	9,300 ^{#10}	110 ^{#10}		23,000 ^{#10}	11 ^{#10}	23,000 ^{#10}	1,800 ^{#10}	1,300 ^{#10}
TPH Management Limits - NEPM Setting D - Commercial / Industrial																											
Maintenance of Ecosystems - Commercial / Industrial																											

Location	Field ID	Date	Depth	Type	Lab Report																					
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	<0.5	0.5	0.6	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	<0.5	<0.5	<0.5	21	390	160	9	<1	27	29	14	<10	<10	<10	<10	<10	<10	<10	<1	<10	<10
BH105	BH105_0.8-1.0 - [TRIPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	<0.5	<0.5	<0.5	<0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH107	BH107_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<0.5	<0.5	<0.5	0.92	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158	5.7	5.7	5.7	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	<0.5	<0.5	<0.5	<0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<0.5	<0.5	0.5	3.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	1.9	1.9	1.9	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	1	1	1	8.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	<0.5	<0.5	<0.5	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	1.2	1.2	1.2	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	1.8	1.8	1.8	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	21	21	21	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	<0.5	<0.5	<0.5	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	1.9	1.9	1.9	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	1.4	1.7	1.9	11.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	1	1	1	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	<0.5	0.6	1.2	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	<0.5	<0.5	0.5	3.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	1.0	1.0	1.0	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	1.3	1.3	1.3	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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		Halogenated Hydrocarbons				Chlorinated Hydrocarbons																
		1,2-Dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	1,1-Dichloropropene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,2-Dibromo-3-chloropropane	1,1,2-Trichloroethane	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	1,2-Dichloroethane	1,3-Dichloropropane	1,2-Dichloropropane	2,2-Dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon Tetrachloride
	Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	LOR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Human Health - NEPM Setting 'D' - Commercial / Industrial		0.16 ^{#10}	30 ^{#10}	370 ^{#10}	350,000 ^{#10}		16 ^{#10}	1,000 ^{#10}	8.8 ^{#10}	36,000 ^{#10}	0.064 ^{#10}	5 ^{#10}	2.7 ^{#10}	0.11 ^{#10}	2 ^{#10}	23,000 ^{#10}	11 ^{#10}		630 ^{#10}	1.3 ^{#10}	86 ^{#10}	2.9 ^{#10}
TPH Management Limits - NEPM Setting D - Commercial / Industrial																						
Maintenance of Ecosystems - Commercial / Industrial																						

Location	Field ID	Date	Depth	Type	Lab Report																					
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
BH105	BH105_0.8-1.0 - [TRIPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH107	BH107_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



						Chlorinated Hydrocarbons															Solvents		Pesticides
						Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Dibromomethane	cis-1,3-Dichloropropene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Vinyl Chloride	Cyclohexane	Isophorone	Mirex
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Unit LOR						1	1	1	1	1	1	1	0.5	2	0.5	1	1	1	1	1	1	1	0.1
Human Health - NEPM Setting 'D' - Commercial / Industrial						39 ^{#10}	23,000 ^{#10}	1.4 ^{#10}	460 ^{#10}	370 ^{#10}	99 ^{#10}		5.3 ^{#10}	7.5 ^{#10}	8 ^{#10}	100 ^{#10}	300 ^{#10}		6 ^{#10}	1.7 ^{#10}	27,000 ^{#10}	2,400 ^{#10}	100 ^{#1}
TPH Management Limits - NEPM Setting D - Commercial / Industrial																							
Maintenance of Ecosystems - Commercial / Industrial																							
Location	Field ID	Date	Depth	Type	Lab Report																		
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH01	BH01	19/06/2023	0.9 - 1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02	BH02	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02	BH02	16/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03	BH03	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03	BH03	19/06/2023	0.9 - 1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04	BH04	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04	BH04	19/06/2023	3 - 3.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05	BH05	19/06/2023	0.2 - 0.3	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH05	BH05	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06	BH06	19/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06	BH06	19/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06	BH06	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07	BH07	16/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07	BH07	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08	BH08	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08	BH08	19/06/2023	2 - 2.1	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH08	BH08	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09	BH09	16/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09	BH09	16/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09	QC04	16/06/2023	0.5 - 0.6	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09	BH09	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	QC03	16/06/2023	1 - 1.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	BH10	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	BH10	16/06/2023	3 - 3.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	BH11	16/06/2023	0.2 - 0.3	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH11	BH11	16/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	BH13	19/06/2023	1 - 1.1	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH13	BH13	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	BH14	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	QC02	16/06/2023	0.5 - 0.6	Field_D	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH14	BH14	16/06/2023	0.5 - 0.6	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH14	BH14	16/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	BH15 (triplicate)	19/06/2023	0.2 - 0.3	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	BH15	19/06/2023	0.2 - 0.3	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH15	BH15	19/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	BH15	19/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	P-QC01	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	BH16 (triplicate)	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	BH16	16/06/2023	0 - 0.1	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH16	BH16	16/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	BH17 (triplicate)	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	BH17	16/06/2023	0 - 0.1	Normal	325916	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	-
BH17	BH17	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	BH17																						



						Chlorinated Hydrocarbons											Solvents		Pesticides				
						Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Dibromomethane	cis-1,3-Dichloropropene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Vinyl Chloride	Cyclohexane	Isophorone	Mirex
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
LOR	1	1	1	1	1	1	1	0.5	2	0.5	1	1	1	1	1	1	1	0.1					
Human Health - NEPM Setting 'D' - Commercial / Industrial						39 ^{#10}	23,000 ^{#10}	1.4 ^{#10}	460 ^{#10}	370 ^{#10}	99 ^{#10}		5.3 ^{#10}	7.5 ^{#10}	8 ^{#10}	100 ^{#10}	300 ^{#10}		6 ^{#10}	1.7 ^{#10}	27,000 ^{#10}	2,400 ^{#10}	100 ^{#1}
TPH Management Limits - NEPM Setting D - Commercial / Industrial																							
Maintenance of Ecosystems - Commercial / Industrial																							

Location	Field ID	Date	Depth	Type	Lab Report																		
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	<10	<10	<10	<10	<10	<10	<10	<10	-	-	<10	<10	<10	<10	<10	<10	-	-
BH105	BH105_0.8-1.0 - [TRIPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	-	-
BH107	BH107_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	-	<0.1
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	-	-
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	-	<0.1
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	-	<0.1
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	-	<0.1
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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		Phthalates						Polychlorinated Biphenyls								Organochlorine Pesticides								
		Bis(2-ethylhexyl) Phthalate	Butyl Benzyl Phthalate	Diethyl Phthalate	Dimethyl Phthalate	Dibutyl Phthalate	Di-n-octyl Phthalate	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Sum of total)	a-BHC	b-BHC	d-BHC	Dieldrin	g-BHC (Lindane)	Aldrin	DDT	4,4'-DDE	DDD
	Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	LOR	5	1	1	1	1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Human Health - NEPM Setting 'D' - Commercial / Industrial		160 ^{#10}	1,200 ^{#10}	660,000 ^{#10}	1	82,000 ^{#10}	8,200 ^{#10}									7 ^{#11}	0.36 ^{#10}	1.3 ^{#10}			2.5 ^{#10}			
TPH Management Limits - NEPM Setting D - Commercial / Industrial																								
Maintenance of Ecosystems - Commercial / Industrial																						640 ^{#25}		

Location	Field ID	Date	Depth	Type	Lab Report																							
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0 - [TRIPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	BH107_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	26	26	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1: Soil Analytical Results
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



						Organochlorine Pesticides										Fungicides	Asbestos				PFAS									
						DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Chlordane (cis)	Chlordane (trans)	Endrin aldehyde	Heptachlor	Heptachlor epoxide	Methoxychlor	Hexachlorobenzene	Asbestos (absent/present)	Asbestos in soil (<2mm AF/FA)	Asbestos in soil (>7mm ACM)	Total Asbestos g/kg*	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)	Sum of PFAS	
Unit						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	g	%(w/w)	%(w/w)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
LOR						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1						0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	
Human Health - NEPM Setting 'D' - Commercial / Industrial						3,600 ^{#1}			4,900 ^{#10}	100 ^{#1}	500 ^{#10}	500 ^{#10}		50 ^{#1}	0.33 ^{#10}	2,500 ^{#1}	80 ^{#1}			0.001	0.05			50 ^{#12}	20 ^{#13}	20 ^{#13}	20 ^{#12}			
TPH Management Limits - NEPM Setting D - Commercial / Industrial																														
Maintenance of Ecosystems - Commercial / Industrial																								0.01 ^{#26}						
Location	Field ID	Date	Depth	Type	Lab Report																									
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	<0.0001	<0.0002	<0.0001	0.0003	<0.0001	0.0003	0.0003	0.0003	
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH01	BH01	19/06/2023	0.9 - 1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH02	BH02	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH02	BH02	16/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH03	BH03	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH03	BH03	19/06/2023	0.9 - 1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH04	BH04	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH04	BH04	19/06/2023	3 - 3.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH05	BH05	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	<0.0001	<0.0002	<0.0001	0.0005	<0.0001	0.0005	0.0005	0.0005	
BH05	BH05	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH06	BH06	19/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH06	BH06	19/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH06	BH06	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH07	BH07	16/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH07	BH07	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH08	BH08	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	<0.0001	<0.0002	<0.0001	0.0005	<0.0001	0.0005	0.0005	0.0005	
BH08	BH08	19/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH08	BH08	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH09	BH09	16/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH09	BH09	16/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH09	QC04	16/06/2023	0.5 - 0.6	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH09	BH09	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH10	QC03	16/06/2023	1 - 1.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH10	BH10	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH10	BH10	16/06/2023	3 - 3.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH11	BH11	16/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH11	BH11	16/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH12	BH12	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	<0.0001	<0.0002	<0.0001	0.0003	<0.0001	0.0003	0.0003	0.0003	
BH12	BH12	16/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH12	BH12	16/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH13	BH13	19/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH13	BH13	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH14	BH14	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	Absent	-	-	-	-	-	-	-	-	-	-	-	-	
BH14	QC02	16/06/2023	0.5 - 0.6	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH14	BH14	16/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0002	0.0002	0.0009	<0.0001	0.0009	0.0011	0.0012	
BH14	BH14	16/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH15	BH15 (triplicate)	19/06/2023																												

Table 1: Soil Analytical Results
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



	Organochlorine Pesticides															Fungicides	Asbestos				PFAS							
	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Chlordane (cis)	Chlordane (trans)	Endrin aldehyde	Heptachlor	Heptachlor epoxide	Methoxychlor	Hexachlorobenzene	Asbestos (absent/present)	Asbestos in soil (<2mm AF/FA)	Asbestos in soil (>7mm ACM)	Total Asbestos g/kg*	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)	Sum of PFAS				
	Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	g	%(w/w)	%(w/w)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
	LOR	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1						0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001		
	Human Health - NEPM Setting 'D' - Commercial / Industrial	3,600 ^{#1}			4,900 ^{#10}	100 ^{#1}	500 ^{#10}	500 ^{#10}		50 ^{#1}	0.33 ^{#10}	2,500 ^{#1}	80 ^{#1}			0.001	0.05			50 ^{#12}	20 ^{#13}	20 ^{#13}	20 ^{#12}					
TPH Management Limits - NEPM Setting D - Commercial / Industrial																												
Maintenance of Ecosystems - Commercial / Industrial																				0.01 ^{#26}								

Location	Field ID	Date	Depth	Type	Lab Report																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												</
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Comments

- #1 NEPC (2013) - HIL 'D'.
#2 NEPC (2013) - HIL 'D'. Value is for Chromium (VI). Refer Cr III and Cr VI results if speciated data are available.
#3 NEPC (2013) - HIL 'D'. Assumes 50% bioavailability. Consider site-specific bioavailability where appropriate.
#4 Friebel & Nadebaum (2011) - HSL-D.
#5 HSL for TRH F1 adopted for this historical fraction. Where F1 data are available, screening based on this fraction is not required.
#6 HSL for TRH F2 adopted for this historical fraction. Where F2 data are available, screening based on this fraction is not required.
#7 HSL based on vapour intrusion pathway (sand <1 m depth)
#8 HSL based on direct contact pathways (Friebel and Nadebaum, 2011) as vapour intrusion HSL is not limiting.
#9 HSL based on direct contact pathways (Friebel and Nadebaum, 2011) as fraction is not volatile.
#10 USEPA RSLs (May 2024 Update) - Industrial.
#11 NEPC (2013) - HIL 'D'. Relates to non-dioxin like PCBs only. Where a PCB source is known or suspected, site-specific risk assessment should be undertaken.
#12 PFAS NEMP 2.0: Health, Industrial/commercial (HIL D)
#13 PFAS NEMP 2.0: Health, Industrial/commercial (HIL D). Value is for PFOS+PFHxS
#14 Coarse soil values adopted for initial screening
#15 NEPC (2013) EIL - Commercial and Industrial. Value applies to aged arsenic (contamination present in soil for at least two years). For fresh contamination refer Schedule B7 of the NEPM.
#16 NEPC (2013) EIL - Commercial and Industrial. Value is for chromium III. Initial screening value applicable to all aged soils (see text). Derive site-specific value if contamination is fresh (<2 years) or if EILs are exceeded.
#17 NEPC (2013) EIL - Commercial and Industrial. Initial screening value applicable to all aged soils (see text). Derive site-specific value if contamination is fresh (<2 years) or if EILs are exceeded.
#18 NEPC (2013) EIL - Commercial and Industrial. Initial screening value applicable to all aged soils (see text). Derive site-specific value if contamination is fresh (<2 years) or if EILs are exceeded. Assumes ABC of 30 mg/kg
#19 NEPC (2013) ESL - Commercial and Industrial. Coarse soil value adopted for initial screening.
#20 NEPC (2013) ESL - Commercial and Industrial. Fine soil value (most conservative) adopted for initial screening.
#21 ESL for TRH F1 adopted for this historical fraction. Where F1 data are available, screening based on this fraction is not required.
#22 ESL for TRH >C10-C16 adopted for this historical fraction. Where >C10-C16 data are available, screening based on this fraction is not required.
#23 ESL for coarse soil adopted for initial screening.
#24 NEPC (2013) ESL - Commercial and Industrial. Value applies to both coarse and fine soil.
#25 NEPC (2013) EIL - Commercial and Industrial. Value applies to both fresh and aged contamination.
#26 PFAS NEMP 2.0: Ecological, indirect exposure

Table 2: Acid Sulfate Soil Assessment Analytical Results
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



	Acid Sulfate Soils					Acid Sulfate Soils- Accounting							
	pH (KCl)	Titratable Actual Acidity	Sulfidic - Titratable Actual Acidity	Chromium Reducible Sulfur (Scr)	a-Chromium Reducible Sulfur (Scr)	Acid Neutralising Capacity	Net Acidity (acidity units)	Sulfidic - Acid Neutralising Capacity	Sulfidic - Net Acidity	a-Net Acidity without ANCE	s-Net Acidity without ANCE	Liming rate without ANCE	Liming Rate
Unit	pH Units	mole H+/t	%S	%w/w	mole H+/t	%CaCO3	mole H+/t	%S	%S	mole H+/t	%S	kg CaCO3/t	kg CaCO3/t
LOR		5	0.01	0.005	3	0.05	5	0.05	0.005	5	0.005	0.75	0.75
National Acid Sulfate Soils Guidance 2018 (>1,000 T, coarse)							18 ^{#1}		0.03 ^{#1}				

Location	Field ID	Date	Depth	Type	Lab Report													
BH101	BH101_2.0-2.1	03/06/2024	2 - 2.1	Normal	353045	5.0	<5	<0.01	0.04	24	-	27	-	0.043	27	0.043	2.0	2
BH102	BH102_1.8-2.0	03/06/2024	1.8 - 2	Normal	353158	4.5	13	0.02	0.01	8	-	21	-	0.033	21	0.033	1.6	2
BH103	BH103_3.6-3.9	05/06/2024	3.6 - 3.9	Normal	353594	5.6	<5	<0.01	0.02	15	-	15	-	0.024	15	0.024	1.1	1
BH104	BH104_2.5-2.7	15/06/2024	2.5 - 2.7	Normal	354055	6.0	<5	<0.01	<0.005	<3	-	<5	-	<0.005	<5	<0.005	<0.75	<0.75
BH105	BH105_2.4-2.7	04/06/2024	2.4 - 2.7	Normal	353594	5.7	<5	<0.01	<0.005	<3	-	<5	-	<0.005	<5	<0.005	<0.75	<0.75
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	4.7	13	0.02	0.01	9	-	22	-	0.035	22	0.035	1.7	2
BH107	BH107_2.4-2.7	04/06/2024	2.4 - 2.7	Normal	353158	6.0	<5	<0.01	<0.005	<3	-	<5	-	<0.005	<5	<0.005	<0.75	<0.75
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	5.8	<5	<0.01	0.005	3	-	<5	-	0.0050	<5	0.0050	<0.75	<0.75
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	5.5	<5	<0.01	<0.005	<3	-	<5	-	0.0060	<5	0.0060	<0.75	<0.75
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	9.5	<5	<0.01	<0.005	<3	4.5	<5	1.4	<0.005	<5	<0.005	<0.75	<0.75
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	6.4	<5	<0.01	<0.005	<3	-	<5	-	<0.005	<5	<0.005	<0.75	<0.75
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	6.8	<5	<0.01	0.04	22	0.40	<5	0.13	<0.005	22	0.035	1.7	<0.75
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	5.9	<5	<0.01	0.01	7	-	7.2	-	0.012	7.2	0.012	<0.75	<0.75

Comments

#1 The calculated Net Acidity should only include the ANC, where ANC has been corroborated by other data (e.g. slab incubation data). Otherwise Net Acidity = Potential Sulfidic Acidity + Actual Acidity + Retained Acidity.

Environmental Standards

Commonwealth of Australia, 2018, National Acid Sulfate Soils Guidance 2018 (>1,000 T, coarse)

Table 3: Soil Analytical Results - Waste
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



	Metals														BTEX					
	Arsenic	Arsenic (filtered)	Cadmium	Chromium	Chromium (filtered)	Copper	Lead	Lead (filtered)	Mercury	Mercury (filtered)	Nickel	Nickel (filtered)	Zinc	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Total Xylene	
Unit	mg/kg	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR	4	0.05	0.4	1	0.01	1	1	0.03	0.1	0.0005	1	0.02	1	0.2	0.5	0.5	0.5	0.5	0.5	
NSW EPA 2014 - General Solid Waste CT1 (No Leaching)	100		20	100 ^{#1}			100		4		40			10	288	600			1,000	
NSW EPA 2014 - General Solid Waste SCC1 (with leached)	500		100	1,900 ^{#1}			1,500		50		1,050			18	518	1,080			1,800	
NSW EPA 2014 - General Solid Waste TCLP1 (leached)		5			5 ^{#1}			5		0.2		2								
NSW EPA 2014 - Restricted Solid Waste CT2 (No Leaching)	400		80	400 ^{#2}			400		16		160			40	1,152	2,400			4,000	
NSW EPA 2014 - Restricted Solid Waste SCC2 (with leached)	2,000		400	7,600 ^{#2}			6,000		200		4,200			72	2,073	4,320			7,200	
NSW EPA 2014 - Restricted Solid Waste TCLP2 (leached)		20			20 ^{#1}			20		0.8		8								

Location	Field ID	Date	Depth	Type	Lab Report																			
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	10	-	<0.4	14	-	33	280	-	0.2	-	35	-	170	<0.2	<0.5	<1	<2	<1	<1
BH01	BH01	19/06/2023	0.9 - 1	Normal	325916	10	-	<0.4	16	-	67	140	-	<0.1	-	12	-	94	<0.2	<0.5	<1	<2	<1	<1
BH02	BH02	16/06/2023	1 - 1.1	Normal	325916	5	-	<0.4	8	-	32	92	-	<0.1	-	10	-	94	<0.2	<0.5	<1	<2	<1	<1
BH02	BH02	16/06/2023	2.9 - 3	Normal	325916	<4	-	<0.4	4	-	7	18	-	<0.1	-	4	-	24	<0.2	<0.5	<1	<2	<1	<1
BH03	BH03	19/06/2023	0.2 - 0.3	Normal	325916	11	-	<0.4	43	-	100	65	-	<0.1	-	33	-	120	<0.2	<0.5	<1	<2	<1	<1
BH03	BH03	19/06/2023	0.9 - 1	Normal	325916	17	-	<0.4	8	-	100	69	-	0.1	-	8	-	130	<0.2	<0.5	<1	<2	<1	<1
BH04	BH04	19/06/2023	0.2 - 0.3	Normal	325916	9	-	<0.4	18	-	330	62	-	<0.1	-	24	-	110	<0.2	<0.5	<1	<2	<1	<1
BH04	BH04	19/06/2023	3 - 3.1	Normal	325916	4	-	<0.4	2	-	900	87	-	0.2	-	3	-	21	<0.2	<0.5	<1	<2	<1	<1
BH05	BH05	19/06/2023	0.2 - 0.3	Normal	325916	20	-	<0.4	14	-	44	120	-	0.1	-	10	-	130	<0.2	<0.5	<1	<2	<1	<1
BH05	BH05	19/06/2023	2.9 - 3	Normal	325916	8	-	<0.4	4	-	29	52	-	0.2	-	2	-	40	<0.2	<0.5	<1	<2	<1	<1
BH06	BH06	19/06/2023	0.5 - 0.6	Normal	325916	5	-	<0.4	11	-	25	48	-	<0.1	-	8	-	63	<0.2	<0.5	<1	<2	<1	<1
BH06	BH06	19/06/2023	2.9 - 3	Normal	325916	<4	-	0.6	9	-	20	36	-	<0.1	-	6	-	72	<0.2	<0.5	<1	<2	<1	<1
BH07	BH07	16/06/2023	0.2 - 0.3	Normal	325916	5	-	<0.4	27	-	160	72	-	<0.1	-	15	-	83	<0.2	<0.5	<1	<2	<1	<1
BH07	BH07	16/06/2023	1 - 1.1	Normal	325916	<4	-	0.5	36	-	210	79	-	<0.1	-	16	-	100	<0.2	<0.5	<1	<2	<1	<1
BH08	BH08	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08	BH08	19/06/2023	2 - 2.1	Normal	325916	<4	-	<0.4	73	-	35	120	-	0.3	-	18	-	67	<0.2	<0.5	<1	<2	<1	<1
BH08	BH08	19/06/2023	2.9 - 3	Normal	325916	8	-	<0.4	57	-	100	94	-	0.2	-	30	-	58	<0.2	<0.5	<1	<2	<1	<1
BH09	BH09	16/06/2023	0.2 - 0.3	Normal	325916	13	-	<0.4	35	-	150	89	-	0.1	-	23	-	85	<0.2	<0.5	<1	<2	<1	<1
BH09	BH09	16/06/2023	0.5 - 0.6	Normal	325916	10	-	<0.4	20	-	58	91	-	<0.1	-	13	-	100	<0.2	<0.5	<1	<2	<1	<1
BH09	QC04	16/06/2023	0.5 - 0.6	Field_D	325916	9	-	<0.4	25	-	62	80	-	0.1	-	14	-	97	<0.2	<0.5	<1	<2	<1	<1
BH10	QC03	16/06/2023	1 - 1.1	Field_D	325916	8	-	<0.4	13	-	17	38	-	<0.1	-	4	-	43	<0.2	<0.5	<1	<2	<1	<1
BH10	BH10	16/06/2023	1 - 1.1	Normal	325916	9	-	<0.4	11	-	26	53	-	<0.1	-	6	-	61	<0.2	<0.5	<1	<2	<1	<1
BH10	BH10	16/06/2023	3 - 3.1	Normal	325916	4	-	3	20	-	18	43	-	0.3	-	14	-	75	<0.2	<0.5	<1	<2	<1	<1
BH101	BH101_0.3-0.4	03/06/2024	0.3 - 0.4	Normal	353045	<4	-	<0.4	<1	-	<1	2	-	<0.1	-	<1	-	9	<0.2	<0.5	<1	<2	<1	<1
BH101	QC100	03/06/2024	0.3 - 0.4	Field_D	353045	<4	-	<0.4	<1	-	1	7	-	<0.1	-	<1	-	13	<0.2	<0.5	<1	<2	<1	<1
BH101	BH101_2.5-2.6	03/06/2024	2.5 - 2.6	Normal	353045	<4	-	<0.4	<1	-	<1	<1	-	<0.1	-	<1	-	9	<0.2	<0.5	<1	<2	<1	<1
BH102	BH102_0.11-0.2	03/06/2024	0.11 - 0.2	Normal	353045	4	-	0.7	4	-	53	310	-	0.2	-	4	-	280	<0.2	<0.5	<1	<2	<1	<1
BH102	BH102_0.11-0.2	03/06/2024	0.11 - 0.2	Normal	353045-A	-	-	-	-	-	-	-	0.07	-	-	-	-	-	-	-	-	-	-	-
BH102	BH102_2.8-3.0	03/06/2024	2.8 - 3	Normal	353158	<4	-	<0.4	<1	-	<1	1	-	<0.1	-	<1	-	1	<0.2	<0.5	<1	<2	<1	<1
BH102	BH102_2.8-3.0	03/06/2024	2.8 - 3	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	BH103_0.4-0.6	05/06/2024	0.4 - 0.6	Normal	353594	6	-	<0.4	13	-	41	110	-	<0.1	-	10	-	100	<0.2	<0.5	<1	<2	<1	<1
BH103	BH103_0.4-0.6	05/06/2024	0.4 - 0.6	Normal	353594-B	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-
BH103	BH103_1.9-2.2	05/06/2024	1.9 - 2.2	Normal	353594	8	-	<0.4	14	-	58	64	-	<0.1	-	18	-	83	<0.2	<0.5	<1	<2	<1	<1
BH103	QC203	05/06/2024	1.9 - 2.2	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH104	BH104_0.2-0.3	15/06/2024	0.2 - 0.3	Normal	354055	21	-	0.5	17	-	130	120	-	0.1	-	11	-	260	<0.2	<0.5	<1	<2	<1	<1
BH104	QC104	15/06/2024	0.2 - 0.3	Field_D	354055	31	-	0.6	16	-	520	310	-	0.2	-	16	-	400	<0.2	<0.5	<1	<2	<1	<1
BH104	QC104	15/06/2024	0.2 - 0.3	Field_D	354055-A	-	-	-	-	-	-	-	0.07	-	-	-	-	-	-	-	-	-	-	-
BH104	BH104_0.6-0.8	15/06/2024	0.6 - 0.8	Normal	354055	24	-	0.5	17	-	100	110	-	0.1	-	11	-	180	<0.2	<0.5	<1	<2	<1	<1
BH104	QC205	15/06/2024	0.6 - 0.8	Interlab_D	ES2420087	17	-	1	32	-	129	151	-	0.1	-	16	-	328	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
BH104	BH104_0.6-0.8	15/06/2024	0.6 - 0.8	Normal	354055-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH104	BH104_2.5-2.7	15/06/2024	2.5 - 2.7	Normal	354055	<4	-	<0.4	1	-	1	2	-	<0.1	-	<1	-	4	<0.2	<0.5	<1	<2	<1	<1
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	470	-	9.8	430	-	350	38,000	-	6.3	-	14	-	39,000	<2	<5	10	120	<10	120
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594-B	-	0.5	-	-	0.04	-	-	77	-	<0.0005	-	-	-	-	-	-	-	-	-
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0 - [TRIPPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	4	-	1	6	-	8	460	-	<0.1	-	<1	-	400	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594-B	-	-	-	-	-	-	-	4.5	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	11	-	1	13	-	17	520	-	0.2	-	<1	-	560	<2	<5	<10	40	<10	40
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	<4	-	<0.4	<1	-	1	9	-	<0.1	-	<1	-	10	<0.2	<0.5	<1	<2	<1	<1
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	<4	-	<0.4	<1	-	<1	<1	-	<0.1	-	<1	-	4	<0.					

Table 3: Soil Analytical Results - Waste
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	Metals														BTEX					
	Arsenic	Arsenic (filtered)	Cadmium	Chromium	Chromium (filtered)	Copper	Lead	Lead (filtered)	Mercury	Mercury (filtered)	Nickel	Nickel (filtered)	Zinc	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Total Xylene	
Unit	mg/kg	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR	4	0.05	0.4	1	0.01	1	1	0.03	0.1	0.0005	1	0.02	1	0.2	0.5	0.5	0.5	0.5	0.5	
NSW EPA 2014 - General Solid Waste CT1 (No Leaching)	100		20	100 ^{#1}			100		4		40			10	288	600			1,000	
NSW EPA 2014 - General Solid Waste SCC1 (with leached)	500		100	1,900 ^{#1}			1,500		50		1,050			18	518	1,080			1,800	
NSW EPA 2014 - General Solid Waste TCLP1 (leached)		5			5 ^{#1}			5		0.2		2								
NSW EPA 2014 - Restricted Solid Waste CT2 (No Leaching)	400		80	400 ^{#2}			400		16		160			40	1,152	2,400			4,000	
NSW EPA 2014 - Restricted Solid Waste SCC2 (with leached)	2,000		400	7,600 ^{#2}			6,000		200		4,200			72	2,073	4,320			7,200	
NSW EPA 2014 - Restricted Solid Waste TCLP2 (leached)		20			20 ^{#1}			20		0.8		8								

Location	Field ID	Date	Depth	Type	Lab Report																			
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	10	-	<0.4	14	-	33	280	-	0.2	-	35	-	170	<0.2	<0.5	<1	<2	<1	<1
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	<4	-	<0.4	20	-	74	1	-	<0.1	-	110	-	44	<0.2	<0.5	<1	<2	<1	<1
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<4	-	<0.4	3	-	2	79	-	<0.1	-	2	-	8	<0.2	<0.5	<1	<2	<1	<1
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	BH11	16/06/2023	0.2 - 0.3	Normal	325916	<4	-	<0.4	13	-	440	53	-	<0.1	-	8	-	65	<0.2	<0.5	<1	<2	<1	<1
BH11	BH11	16/06/2023	2 - 2.1	Normal	325916	<4	-	<0.4	3	-	30	11	-	<0.1	-	1	-	93	<0.2	<0.5	<1	<2	<1	<1
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	12	-	<0.4	35	-	32	61	-	<0.1	-	12	-	83	-	-	-	-	-	-
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	9	-	<0.4	16	-	31	63	-	<0.1	-	9	-	83	-	-	-	-	-	-
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	10	-	<0.4	23	-	52	91	-	<0.1	-	13	-	94	<0.2	<0.5	<1	<2	<1	<1
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	14	-	<0.4	20	-	26	64	-	<0.1	-	9	-	79	<0.2	<0.5	<1	<2	<1	<1
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	<4	-	<0.4	2	-	2	3	-	<0.1	-	<1	-	5	<0.2	<0.5	<1	<2	<1	<1
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<4	-	<0.4	12	-	10	30	-	<0.1	-	5	-	42	<0.2	<0.5	<1	<2	<1	<1
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	8	-	<0.4	5	-	14	26	-	<0.1	-	4	-	31	<0.2	<0.5	<1	<2	<1	<1
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	11	-	<0.4	15	-	49	92	-	<0.1	-	16	-	170	<0.2	<0.5	<1	<2	<1	<1
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	<4	-	<0.4	2	-	1	2	-	<0.1	-	<1	-	4	<0.2	<0.5	<1	<2	<1	<1
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	<4	-	<0.4	3	-	17	67	-	<0.1	-	3	-	46	<0.2	<0.5	<1	<2	<1	<1
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	<4	-	<0.4	11	-	23	91	-	<0.1	-	6	-	80	<0.2	<0.5	<1	<2	<1	<1
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	8	-	<1	14	-	29	153	-	0.1	-	10	-	102	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	8	-	<0.4	12	-	57	83	-	<0.1	-	15	-	130	<0.2	<0.5	<1	<2	<1	<1
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	5	-	<0.4	8	-	28	96	-	<0.1	-	16	-	440	<0.2	<0.5	<1	<2	<1	<1
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	<5	-	<1	18	-	32	61	-	<0.1	-	24	-	141	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	<4	-	<0.4	<1	-	<1	<1	-	<0.1	-	<1	-	5	<0.2	<0.5	<1	<2	<1	<1
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	9	-	<0.4	13	-	44	110	-	0.1	-	12	-	130	<0.2	<0.5	<1	<2	<1	<1
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	7	-	<0.4	14	-	91	81	-	<0.1	-	10	-	120	<0.2	<0.5	<1	<2	<1	<1
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055-A	-	-	-	-	-	-	-	<0.03	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	<4	-	<0.4	1	-	5	12	-	<0.1	-	6	-	89	<0.2	<0.5	<1	<2	<1	<1
BH12	BH12	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	0.5 - 0.6	Normal	325916	9	-	<0.4	13	-	290	90	-	0.2	-	12	-	86	<0.2	<0.5	<1	<2	<1	<1
BH12	BH12	16/06/2023	2 - 2.1	Normal	325916	<4	-	<0.4	2	-	1	6	-	<0.1	-	1	-	18	<0.2	<0.5	<1	<2	<1	<1
BH13	BH13	19/06/2023	1 - 1.1	Normal	325916	7	-	<0.4	15	-	54	590	-	<0.1	-	12	-	100	<0.2	<0.5	<1	<2	<1	<1
BH13	BH13	19/06/2023	2.9 - 3	Normal	325916	8	-	<0.4	2	-	<1	2	-	<0.1	-	<1	-	3	<0.2	<0.5	<1	<2	<1	<1
BH14	QC02	16/06/2023	0.5 - 0.6	Field_D	325916	9	-	<0.4	21	-	60	520	-	0.4	-	6	-	390	<0.2	<0.5	<1	<2	<1	<1
BH14	BH14	16/06/2023	0.5 - 0.6	Normal	325916	9	-	<0.4	19	-	22	160	-	0.2	-	3	-	120	<0.2	<0.5	<1	<2	<1	<1
BH14	BH14	16/06/2023	2.9 - 3	Normal	325916	<4	-	<0.4	3	-	2	20	-	<0.1	-	<1	-	20	<0.2	<0.5	<1	<2	<1	<1
BH15	BH15 (triplicate)	19/06/2023	0.2 - 0.3	Field_D	325916	27	-	0.8	16	-	140	210	-	0.1	-	13	-	300	-	-	-	-	-	-
BH15	BH15	19/06/2023	0.2 - 0.3	Normal	325916	35	-	0.9	22	-	190	200	-	0.2	-	15	-	290	<0.2	<0.5	<1	<2	<1	<1
BH15	BH15	19/06/2023	2 - 2.1	Normal	325916	14	-	8.5	79	-	82	170	-	<0.1	-	56	-	530	<0.2	<0.5	<1	<2	<1	<1
BH16	BH16 (triplicate)	16/06/2023	0 - 0.1	Field_D	325916	<4	-	<0.4	5	-	19	33	-	<0.1	-	6	-	43	-	-	-	-	-	-
BH16	P-QC01	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	BH16	16/06/2023	0 - 0.1	Normal	325916	4	-	<0.4	14	-	29	34	-	<0.1	-	14	-	42	<0.2	<0.5	<1	<2	<1	<1
BH16	BH16	16/06/2023	2.9 - 3	Normal	325916	<4	-	<0.4	2	-	3	6	-	<0.1	-	2	-	9	<0.2	<0.5	<1	<2	<1	<1
BH17	BH17 (triplicate)	16/06/2023	0 - 0.1	Field_D	325916	16	-	<0.4	5	-	16	27	-	<0.1	-	4	-	43	-	-	-	-	-	-
BH17	BH17	16/06/2023	0 - 0.1	Normal	325916	55	-	<0.4	11	-	45	60	-	0.1	-	7	-	94	<0.2	<0.5	<1	<2	<1	<1
BH17	BH17	16/06/2023	4 - 4.1	Normal	325916	<4	-	<0.4	<1	-	<1	2	-	<0.1	-	<1	-	2	<0.2	<0.5	<1	<2	<1	<1
BH17	QC01	16/06/2023	4 - 4.1	Field_D	325916	<4	-	<0.4	<1	-	<1	1	-	<0.1	-	<1	-	1	<0.2	<0.5	<1	<2	<1	<1

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		Total Petroleum		PAHs			MAH	Halogenated Benzenes			Chlorinated Hydrocarbons							
		C6-C9 Fraction	C10-C36 Fraction (Sum)	Benzo(a)pyrene	Benzo(a)pyrene (filtered)	Sum of Polycyclic aromatic hydrocarbons (PAH)	Styrene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	Chlorobenzene	1,1-Dichloroethene	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1,2,2-Tetrachloroethane	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform
	Unit	mg/kg	mg/kg	mg/kg	µg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR		10	50	0.05	0.1	0.05	1	1	1	1	1	1	1	1	1	1	1	1
NSW EPA 2014 - General Solid Waste CT1 (No Leaching)		650	10,000	0.8		200	60	86	150	2,000	14	200	600	24	26	10	10	120
NSW EPA 2014 - General Solid Waste SCC1 (with leached)		650	10,000	10		200	108	155	270	3,600	25	360	1,080	43.2	46.8	18	18	216
NSW EPA 2014 - General Solid Waste TCLP1 (leached)					40													
NSW EPA 2014 - Restricted Solid Waste CT2 (No Leaching)		2,600	40,000	3.2		800	240	344	600	8,000	56	800	2,400	96	104	40	40	480
NSW EPA 2014 - Restricted Solid Waste SCC2 (with leached)		2,600	40,000	23		800	432	620	1,080	14,400	100	1,440	4,320	172.8	187.2	72	72	864
NSW EPA 2014 - Restricted Solid Waste TCLP2 (leached)					160													

Location	Field ID	Date	Depth	Type	Lab Report															
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	<25	<50	0.6	-	5.2	<1	-	-	-	<1	<1	<1	<1	<1	<1
BH01	BH01	19/06/2023	0.9 - 1	Normal	325916	<25	<50	0.3	-	2.8	-	-	-	-	-	-	-	-	-	-
BH02	BH02	16/06/2023	1 - 1.1	Normal	325916	<25	<50	0.73	-	5.5	-	-	-	-	-	-	-	-	-	-
BH02	BH02	16/06/2023	2.9 - 3	Normal	325916	<25	<50	0.1	-	0.3	-	-	-	-	-	-	-	-	-	-
BH03	BH03	19/06/2023	0.2 - 0.3	Normal	325916	<25	110	0.68	-	5.8	-	-	-	-	-	-	-	-	-	-
BH03	BH03	19/06/2023	0.9 - 1	Normal	325916	<25	2,100	28	-	340	-	-	-	-	-	-	-	-	-	-
BH04	BH04	19/06/2023	0.2 - 0.3	Normal	325916	<25	<50	0.57	-	6.4	-	-	-	-	-	-	-	-	-	-
BH04	BH04	19/06/2023	3 - 3.1	Normal	325916	<25	<50	0.3	-	2.4	-	-	-	-	-	-	-	-	-	-
BH05	BH05	19/06/2023	0.2 - 0.3	Normal	325916	<25	<50	0.6	-	5.5	<1	-	-	-	<1	<1	<1	<1	<1	<1
BH05	BH05	19/06/2023	2.9 - 3	Normal	325916	<25	<50	0.4	-	3	-	-	-	-	-	-	-	-	-	-
BH06	BH06	19/06/2023	0.5 - 0.6	Normal	325916	<25	<50	0.5	-	4.4	-	-	-	-	-	-	-	-	-	-
BH06	BH06	19/06/2023	2.9 - 3	Normal	325916	<25	<50	0.1	-	0.6	-	-	-	-	-	-	-	-	-	-
BH07	BH07	16/06/2023	0.2 - 0.3	Normal	325916	<25	400	1	-	11	-	-	-	-	-	-	-	-	-	-
BH07	BH07	16/06/2023	1 - 1.1	Normal	325916	<25	560	0.98	-	11	-	-	-	-	-	-	-	-	-	-
BH08	BH08	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08	BH08	19/06/2023	2 - 2.1	Normal	325916	<25	<50	0.2	-	2.1	<1	-	-	-	<1	<1	<1	<1	<1	<1
BH08	BH08	19/06/2023	2.9 - 3	Normal	325916	<25	<50	0.3	-	2.9	-	-	-	-	-	-	-	-	-	-
BH09	BH09	16/06/2023	0.2 - 0.3	Normal	325916	<25	350	1.5	-	16	-	-	-	-	-	-	-	-	-	-
BH09	BH09	16/06/2023	0.5 - 0.6	Normal	325916	<25	420	1.6	-	19	-	-	-	-	-	-	-	-	-	-
BH09	QC04	16/06/2023	0.5 - 0.6	Field_D	325916	<25	380	2.5	-	32	-	-	-	-	-	-	-	-	-	-
BH10	QC03	16/06/2023	1 - 1.1	Field_D	325916	<25	<50	0.2	-	2.2	-	-	-	-	-	-	-	-	-	-
BH10	BH10	16/06/2023	1 - 1.1	Normal	325916	<25	<50	0.4	-	3.7	-	-	-	-	-	-	-	-	-	-
BH10	BH10	16/06/2023	3 - 3.1	Normal	325916	<25	150	0.2	-	1.6	-	-	-	-	-	-	-	-	-	-
BH101	BH101_0.3-0.4	03/06/2024	0.3 - 0.4	Normal	353045	<25	<50	<0.05	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH101	QC100	03/06/2024	0.3 - 0.4	Field_D	353045	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-
BH101	BH101_2.5-2.6	03/06/2024	2.5 - 2.6	Normal	353045	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-
BH102	BH102_0.11-0.2	03/06/2024	0.11 - 0.2	Normal	353045	<25	<50	0.4	-	4.1	-	-	-	-	-	-	-	-	-	-
BH102	BH102_0.11-0.2	03/06/2024	0.11 - 0.2	Normal	353045-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH102	BH102_2.8-3.0	03/06/2024	2.8 - 3	Normal	353158	<25	<50	<0.05	-	<0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH102	BH102_2.8-3.0	03/06/2024	2.8 - 3	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	BH103_0.4-0.6	05/06/2024	0.4 - 0.6	Normal	353594	<25	110	0.80	-	5.9	-	-	-	-	-	-	-	-	-	-
BH103	BH103_0.4-0.6	05/06/2024	0.4 - 0.6	Normal	353594-B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103	BH103_1.9-2.2	05/06/2024	1.9 - 2.2	Normal	353594	<25	<50	0.4	-	2.7	-	-	-	-	-	-	-	-	-	-
BH103	QC203	05/06/2024	1.9 - 2.2	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH104	BH104_0.2-0.3	15/06/2024	0.2 - 0.3	Normal	354055	<25	260	0.85	-	12	-	-	-	-	-	-	-	-	-	-
BH104	QC104	15/06/2024	0.2 - 0.3	Field_D	354055	<25	140	0.90	-	10	-	-	-	-	-	-	-	-	-	-
BH104	QC104	15/06/2024	0.2 - 0.3	Field_D	354055-A	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
BH104	BH104_0.6-0.8	15/06/2024	0.6 - 0.8	Normal	354055	<25	820	1.6	-	21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH104	QC205	15/06/2024	0.6 - 0.8	Interlab_D	ES2420087	<10	3,390	1.1	-	16.5	-	-	-	-	-	-	-	-	-	-
BH104	BH104_0.6-0.8	15/06/2024	0.6 - 0.8	Normal	354055-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH104	BH104_2.5-2.7	15/06/2024	2.5 - 2.7	Normal	354055	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	480	19,000	0.3	-	77	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594-B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0 - [TRIPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594-B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	180	3,200	0.1	-	21	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	<25	<50	<0.05	-	<0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH107	BH107_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<25	<50	0.1	-	0.92	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158	<25	560	4.0	-	44	-	-	-	-	-	-	-	-	-	-
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158-A	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	<25	<50	<0.05	-	<0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table 3: Soil Analytical Results - Waste
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



	Total Petroleum		PAHs			MAH	Halogenated Benzenes			Chlorinated Hydrocarbons							
	C6-C9 Fraction	C10-C36 Fraction (Sum)	Benzo(a)pyrene	Benzo(a)pyrene (filtered)	Sum of Polycyclic aromatic hydrocarbons (PAH)	Styrene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	Chlorobenzene	1,1-Dichloroethene	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1,2,2-Tetrachloroethane	1,2-Dichloroethane	Carbon Tetrachloride	Chloroform
Unit	mg/kg	mg/kg	mg/kg	µg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	10	50	0.05	0.1	0.05	1	1	1	1	1	1	1	1	1	1	1	1
NSW EPA 2014 - General Solid Waste CT1 (No Leaching)	650	10,000	0.8		200	60	86	150	2,000	14	200	600	24	26	10	10	120
NSW EPA 2014 - General Solid Waste SCC1 (with leached)	650	10,000	10		200	108	155	270	3,600	25	360	1,080	43.2	46.8	18	18	216
NSW EPA 2014 - General Solid Waste TCLP1 (leached)				40													
NSW EPA 2014 - Restricted Solid Waste CT2 (No Leaching)	2,600	40,000	3.2		800	240	344	600	8,000	56	800	2,400	96	104	40	40	480
NSW EPA 2014 - Restricted Solid Waste SCC2 (with leached)	2,600	40,000	23		800	432	620	1,080	14,400	100	1,440	4,320	172.8	187.2	72	72	864
NSW EPA 2014 - Restricted Solid Waste TCLP2 (leached)				160													

Location	Field ID	Date	Depth	Type	Lab Report																
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	<25	<50	0.6	-	5.2	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158-A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<25	<50	0.3	-	3.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	BH11	16/06/2023	0.2 - 0.3	Normal	325916	<25	<50	0.5	-	4.2	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
BH11	BH11	16/06/2023	2 - 2.1	Normal	325916	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	<25	440	1.2	-	17	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<25	520	0.63	-	8.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055-A	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	<25	<50	<0.05	-	0.2	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<25	340	0.79	-	17	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	42	9,200	1.1	-	37	-	-	-	-	-	-	-	-	-	-	-
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055-A	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	<25	820	15	-	180	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055-A	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	<25	<50	0.3	-	3.1	-	-	-	-	-	-	-	-	-	-	-
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	<25	300	1.3	-	17	-	-	-	-	-	-	-	-	-	-	-
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	<10	280	1.1	-	11.5	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	<25	120	0.66	-	6.1	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	<25	120	0.3	-	3.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	<10	<50	<0.5	-	1.6	-	-	-	-	-	-	-	-	-	-	-
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	<25	360	0.86	-	7.7	-	-	-	-	-	-	-	-	-	-	-
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	<25	<50	0.68	-	6.2	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055-A	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	0.5 - 0.6	Normal	325916	<25	<50	0.85	-	8.6	-	-	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	2 - 2.1	Normal	325916	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH13	BH13	19/06/2023	1 - 1.1	Normal	325916	<25	250	0.6	-	6.3	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
BH13	BH13	19/06/2023	2.9 - 3	Normal	325916	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH14	QC02	16/06/2023	0.5 - 0.6	Field_D	325916	<25	150	3	-	34	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
BH14	BH14	16/06/2023	0.5 - 0.6	Normal	325916	<25	350	4.4	-	69	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
BH14	BH14	16/06/2023	2.9 - 3	Normal	325916	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH15	BH15 (triplicate)	19/06/2023	0.2 - 0.3	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	BH15	19/06/2023	0.2 - 0.3	Normal	325916	<25	230	1	-	13	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
BH15	BH15	19/06/2023	2 - 2.1	Normal	325916	<25	120	0.2	-	1.4	-	-	-	-	-	-	-	-	-	-	-
BH16	BH16 (triplicate)	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	P-QC01	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	BH16	16/06/2023	0 - 0.1	Normal	325916	<25	<50	0.1	-	1.1	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
BH16	BH16	16/06/2023	2.9 - 3	Normal	325916	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH17	BH17 (triplicate)	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	BH17	16/06/2023	0 - 0.1	Normal	325916	<25	<50	0.8	-	8.7	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
BH17	BH17	16/06/2023	4 - 4.1	Normal	325916	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-
BH17	QC01	16/06/2023	4 - 4.1	Field_D	325916	<25	<50	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-

Table 3: Soil Analytical Results - Waste
2-22 Kent Road Mascot
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Goodman Property Services Australia Pty Ltd



	Unit	Chlorinated Hydrocarbons			PCBs	Asbestos	PFAS			
		Tetrachloroethene	Trichloroethene	Vinyl Chloride	PCBs (Sum of total)	Asbestos (absent/present)	Perfluorooctanoic acid (PFOA)	Perfluorooctanoic acid (PFOA)	Sum of PFHxS and PFOS	Sum of PFHxS and PFOS
		mg/kg	mg/kg	mg/kg	mg/kg	-	mg/kg	µg/L	mg/kg	µg/L
LOR		1	1	1	0.1		0.0001	0.01	0.0001	0.01
NSW EPA 2014 - General Solid Waste CT1 (No Leaching)		14	10	4	50					
NSW EPA 2014 - General Solid Waste SCC1 (with leached)		25.2	18	7.2	50		18		1.8	
NSW EPA 2014 - General Solid Waste TCLP1 (leached)								500		50
NSW EPA 2014 - Restricted Solid Waste CT2 (No Leaching)		56	40	16	50					
NSW EPA 2014 - Restricted Solid Waste SCC2 (with leached)		100.8	72	28.8	50		72		7.2	
NSW EPA 2014 - Restricted Solid Waste TCLP2 (leached)								2,000		200

Location	Field ID	Date	Depth	Type	Lab Report								
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	<0.0001	-	0.0003
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	<1	<1	<1	<0.1	-	-	-	-
BH01	BH01	19/06/2023	0.9 - 1	Normal	325916	-	-	-	-	-	-	-	-
BH02	BH02	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-
BH02	BH02	16/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-
BH03	BH03	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-
BH03	BH03	19/06/2023	0.9 - 1	Normal	325916	-	-	-	-	-	-	-	-
BH04	BH04	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-
BH04	BH04	19/06/2023	3 - 3.1	Normal	325916	-	-	-	-	-	-	-	-
BH05	BH05	19/06/2023	0.2 - 0.3	Normal	325916	<1	<1	<1	-	-	<0.0001	-	0.0005
BH05	BH05	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-
BH06	BH06	19/06/2023	0.5 - 0.6	Normal	325916	-	-	-	<0.1	-	-	-	-
BH06	BH06	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-
BH07	BH07	16/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-
BH07	BH07	16/06/2023	1 - 1.1	Normal	325916	-	-	-	-	-	-	-	-
BH08	BH08	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	<0.0001	-	0.0005
BH08	BH08	19/06/2023	2 - 2.1	Normal	325916	<1	<1	<1	-	-	-	-	-
BH08	BH08	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-
BH09	BH09	16/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	-	-	-
BH09	BH09	16/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-
BH09	QC04	16/06/2023	0.5 - 0.6	Field_D	325916	-	-	-	-	-	-	-	-
BH10	QC03	16/06/2023	1 - 1.1	Field_D	325916	-	-	-	-	-	-	-	-
BH10	BH10	16/06/2023	1 - 1.1	Normal	325916	-	-	-	<0.1	-	-	-	-
BH10	BH10	16/06/2023	3 - 3.1	Normal	325916	-	-	-	-	-	-	-	-
BH101	BH101_0.3-0.4	03/06/2024	0.3 - 0.4	Normal	353045	<1	<1	<1	<0.1	Absent	<0.0001	-	<0.0001
BH101	QC100	03/06/2024	0.3 - 0.4	Field_D	353045	-	-	-	-	-	<0.0001	-	<0.0001
BH101	BH101_2.5-2.6	03/06/2024	2.5 - 2.6	Normal	353045	-	-	-	-	-	-	-	-
BH102	BH102_0.11-0.2	03/06/2024	0.11 - 0.2	Normal	353045	-	-	-	<0.1	Absent	-	-	-
BH102	BH102_0.11-0.2	03/06/2024	0.11 - 0.2	Normal	353045-A	-	-	-	-	-	-	-	-
BH102	BH102_2.8-3.0	03/06/2024	2.8 - 3	Normal	353158	<1	<1	<1	-	-	<0.0001	-	0.0025
BH102	BH102_2.8-3.0	03/06/2024	2.8 - 3	Normal	353158-A	-	-	-	-	-	<0.01	-	0.04
BH103	BH103_0.4-0.6	05/06/2024	0.4 - 0.6	Normal	353594	-	-	-	-	-	-	-	-
BH103	BH103_0.4-0.6	05/06/2024	0.4 - 0.6	Normal	353594-B	-	-	-	-	-	-	-	-
BH103	BH103_1.9-2.2	05/06/2024	1.9 - 2.2	Normal	353594	-	-	-	<0.1	Absent	<0.0001	-	0.0011
BH103	QC203	05/06/2024	1.9 - 2.2	Interlab_D	ES2418662	-	-	-	-	-	<0.0002	-	0.0012
BH104	BH104_0.2-0.3	15/06/2024	0.2 - 0.3	Normal	354055	-	-	-	0.2	Present	<0.0001	-	<0.0001
BH104	QC104	15/06/2024	0.2 - 0.3	Field_D	354055	-	-	-	-	-	<0.0001	-	0.0002
BH104	QC104	15/06/2024	0.2 - 0.3	Field_D	354055-A	-	-	-	-	-	<0.01	-	<0.01
BH104	BH104_0.6-0.8	15/06/2024	0.6 - 0.8	Normal	354055	<1	<1	<1	-	-	<0.0001	-	0.0015
BH104	QC205	15/06/2024	0.6 - 0.8	Interlab_D	ES2420087	-	-	-	-	-	<0.0002	-	0.0011
BH104	BH104_0.6-0.8	15/06/2024	0.6 - 0.8	Normal	354055-A	-	-	-	-	-	<0.01	-	0.02
BH104	BH104_2.5-2.7	15/06/2024	2.5 - 2.7	Normal	354055	-	-	-	-	-	-	-	-
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594	-	-	-	<0.1	Absent	-	-	-
BH105	BH105_0.2-0.3	04/06/2024	0.2 - 0.3	Normal	353594-B	-	-	-	-	-	-	-	-
BH105	BH105_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353594-A	-	-	-	-	-	<0.0001	-	<0.0001
BH105	QC202	04/06/2024	0.4 - 0.6	Interlab_D	ES2418662	-	-	-	-	-	<0.0002	-	<0.0002
BH105	BH105_0.8-1.0 - [TRIPLICATE]	04/06/2024	0.8 - 1	Field_D	353594	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594-B	-	-	-	-	-	-	-	-
BH105	BH105_0.8-1.0	04/06/2024	0.8 - 1	Normal	353594	<10	<10	<10	-	-	<0.0001	-	<0.0001
BH106	BH106_0.15-0.3	04/06/2024	0.15 - 0.3	Normal	353158	-	-	-	<0.1	Present	<0.0001	-	<0.0001
BH106	BH106_1.0-1.2	04/06/2024	1 - 1.2	Normal	353158-A	-	-	-	-	-	<0.0001	-	0.0002
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158	-	-	-	-	-	<0.0001	-	0.0005
BH106	QC102	04/06/2024	1 - 1.2	Field_D	353158-A	-	-	-	-	-	<0.01	-	<0.01
BH106	BH106_2.2-2.5	04/06/2024	2.2 - 2.5	Normal	353158	<1	<1	<1	-	-	-	-	-
BH107	BH107_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	<0.0001	-	<0.0001
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<1	<1	<1	0.3	Absent	-	-	-
BH107	BH107_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158-A	-	-	-	-	-	-	-	-
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158	-	-	-	-	-	-	-	-
BH107	BH107_0.9-1.1	04/06/2024	0.9 - 1.1	Normal	353158-A	-	-	-	-	-	-	-	-
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158	-	-	-	0.6	Absent	<0.0001	-	<0.0001
BH108	BH108_0.3-0.5	04/06/2024	0.3 - 0.5	Normal	353158-A	-	-	-	-	-	-	-	-
BH108	BH108_1.8-2.2	04/06/2024	1.8 - 2.2	Normal	353158	<1	<1	<1	-	-	-	-	-

Table 3: Soil Analytical Results - Waste
2-22 Kent Road Mascot
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Goodman Property Services Australia Pty Ltd



						Chlorinated Hydrocarbons			PCBs	Asbestos	PFAS			
						Tetrachloroethene	Trichloroethene	Vinyl Chloride	PCBs (Sum of total)	Asbestos (absent/present)	Perfluorooctanoic acid (PFOA)	Perfluorooctanoic acid (PFOA)	Sum of PFHxS and PFOS	Sum of PFHxS and PFOS
Unit						mg/kg	mg/kg	mg/kg	mg/kg	-	mg/kg	µg/L	mg/kg	µg/L
LOR						1	1	1	0.1	-	0.0001	0.01	0.0001	0.01
NSW EPA 2014 - General Solid Waste CT1 (No Leaching)						14	10	4	50					
NSW EPA 2014 - General Solid Waste SCC1 (with leached)						25.2	18	7.2	50		18		1.8	
NSW EPA 2014 - General Solid Waste TCLP1 (leached)												500		50
NSW EPA 2014 - Restricted Solid Waste CT2 (No Leaching)						56	40	16	50					
NSW EPA 2014 - Restricted Solid Waste SCC2 (with leached)						100.8	72	28.8	50		72		7.2	
NSW EPA 2014 - Restricted Solid Waste TCLP2 (leached)												2,000		200

Location	Field ID	Date	Depth	Type	Lab Report									
BH01	BH01	19/06/2023	0.2 - 0.3	Normal	325916	-	-	-	-	-	<0.0001	-	0.0003	-
BH01	BH01	19/06/2023	0.5 - 0.6	Normal	325916	<1	<1	<1	<0.1	-	-	-	-	-
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158	-	-	-	-	-	-	-	-	-
BH109	BH109_0.05-0.2	04/06/2024	0.05 - 0.2	Normal	353158-A	-	-	-	-	-	-	-	-	-
BH109	BH109_0.4-0.6	04/06/2024	0.4 - 0.6	Normal	353158	<1	<1	<1	<0.1	Absent	-	-	-	-
BH109	BH109_1.4-1.7	04/06/2024	1.4 - 1.7	Normal	353158	-	-	-	-	-	<0.0001	-	<0.0001	-
BH11	BH11	16/06/2023	0.2 - 0.3	Normal	325916	<1	<1	<1	<0.1	-	-	-	-	-
BH11	BH11	16/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-
BH110	BH110_1.0-1.1 - [TRIPLICATE]	15/06/2024	1 - 1.1	Normal	354055	-	-	-	-	-	-	-	-	-
BH110	QC105 - [TRIPLICATE]	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	-	-	-	-
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055	-	-	-	-	-	<0.0001	-	0.0002	-
BH110	BH110_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	<1	<1	<1	26	Absent	<0.0001	-	0.0002	-
BH110	QC105	15/06/2024	1 - 1.1	Field_D	354055-A	-	-	-	-	-	-	-	-	-
BH110	BH110_2.8-2.9	15/06/2024	2.8 - 2.9	Normal	354055	-	-	-	-	-	-	-	-	-
BH111	BH111_1.0-1.1	15/06/2024	1 - 1.1	Normal	354055	-	-	-	0.5	Absent	<0.0001	-	<0.0001	-
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055	-	-	-	-	-	-	-	-	-
BH111	BH111_2.0-2.1	15/06/2024	2 - 2.1	Normal	354055-A	-	-	-	-	-	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055	-	-	-	0.3	Absent	-	-	-	-
BH112	BH112_0.35-0.45	15/06/2024	0.35 - 0.45	Normal	354055-A	-	-	-	-	-	-	-	-	-
BH112	BH112_1.7-2.0	15/06/2024	1.7 - 2	Normal	354055	-	-	-	-	-	-	-	-	-
BH113	BH113_0.15-0.3	15/06/2024	0.15 - 0.3	Normal	354055	-	-	-	-	-	-	-	-	-
BH113	BH113_0.4-0.5	15/06/2024	0.4 - 0.5	Normal	354055	-	-	-	0.1	Absent	-	-	-	-
BH113	QC204	15/06/2024	0.4 - 0.5	Interlab_D	ES2420087	-	-	-	-	-	<0.0002	-	0.0003	-
BH114	BH114_0.16-0.3	15/06/2024	0.16 - 0.3	Normal	354055	-	-	-	-	-	-	-	-	-
BH114	BH114_0.9-1.0	15/06/2024	0.9 - 1	Normal	354055	<1	<1	<1	<0.1	Present	<0.0001	-	0.0002	-
BH114	QC206	15/06/2024	0.9 - 1	Interlab_D	ES2420087	-	-	-	-	-	<0.0002	-	0.0002	-
BH114	BH114_2.4-2.7	15/06/2024	2.4 - 2.7	Normal	354055	-	-	-	-	-	-	-	-	-
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055	-	-	-	0.2	Absent	<0.0001	-	0.0005	-
BH115	QC106	15/06/2024	0.16 - 0.25	Field_D	354055	-	-	-	-	-	0.0001	-	0.0005	-
BH115	BH115_0.16-0.25	15/06/2024	0.16 - 0.25	Normal	354055-A	-	-	-	-	-	-	-	-	-
BH115	BH115_1.0-1.2	15/06/2024	1 - 1.2	Normal	354055	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	0 - 0.1	Normal	325916	-	-	-	-	-	<0.0001	-	0.0003	-
BH12	BH12	16/06/2023	0.5 - 0.6	Normal	325916	-	-	-	-	-	-	-	-	-
BH12	BH12	16/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-
BH13	BH13	19/06/2023	1 - 1.1	Normal	325916	<1	<1	<1	-	-	-	-	-	-
BH13	BH13	19/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-
BH14	QC02	16/06/2023	0.5 - 0.6	Field_D	325916	<1	<1	<1	<0.1	-	-	-	-	-
BH14	BH14	16/06/2023	0.5 - 0.6	Normal	325916	<1	<1	<1	<0.1	-	0.0002	-	0.0009	-
BH14	BH14	16/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-
BH15	BH15 (triplicate)	19/06/2023	0.2 - 0.3	Field_D	325916	-	-	-	-	-	-	-	-	-
BH15	BH15	19/06/2023	0.2 - 0.3	Normal	325916	<1	<1	<1	-	-	<0.0001	-	0.001	-
BH15	BH15	19/06/2023	2 - 2.1	Normal	325916	-	-	-	-	-	-	-	-	-
BH16	BH16 (triplicate)	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-
BH16	P-QC01	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	<0.0001	-	0.0003	-
BH16	BH16	16/06/2023	0 - 0.1	Normal	325916	<1	<1	<1	<0.1	-	<0.0001	-	0.0003	-
BH16	BH16	16/06/2023	2.9 - 3	Normal	325916	-	-	-	-	-	-	-	-	-
BH17	BH17 (triplicate)	16/06/2023	0 - 0.1	Field_D	325916	-	-	-	-	-	-	-	-	-
BH17	BH17	16/06/2023	0 - 0.1	Normal	325916	<1	<1	<1	-	-	<0.0001	-	0.0002	-
BH17	BH17	16/06/2023	4 - 4.1	Normal	325916	-	-	-	-	-	-	-	-	-
BH17	QC01	16/06/2023	4 - 4.1	Field_D	325916	-	-	-	-	-	-	-	-	-

Comments

#1 As Chromium (VI)

#2 As chromium (VI)

Table 3a: Soil Analytical Results - Waste 95% Pro UCL v5.2
2-22 Kent Road Mascot
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Goodman Property Services Australia Pty Ltd

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2	User Selected Options											
3	Date/Time of Computation		ProUCL 5.2 30/07/2024 7:16:35 PM									
4	From File		21569 ProUCL a.xls									
5	Full Precision		OFF									
6	Confidence Coefficient		95%									
7	Number of Bootstrap Operations		2000									
8												
9	Arsenic											
10	General Statistics											
11	Total Number of Observations				52		Number of Distinct Observations				21	
12							Number of Missing Observations				31	
13	Minimum				4		Mean				20.52	
14	Maximum				470		Median				9	
15	SD				64.2		Std. Error of Mean				8.903	
16	Coefficient of Variation				3.129		Skewness				6.995	
17												
18	Normal GOF Test											
19	Shapiro Wilk Test Statistic				0.226		Shapiro Wilk GOF Test					
20	1% Shapiro Wilk P Value				0		Data Not Normal at 1% Significance Level					
21	Lilliefors Test Statistic				0.398		Lilliefors GOF Test					
22	1% Lilliefors Critical Value				0.141		Data Not Normal at 1% Significance Level					
23	Data Not Normal at 1% Significance Level											
24												
25	Assuming Normal Distribution											
26	95% Normal UCL								95% UCLs (Adjusted for Skewness)			
27	95% Student's-t UCL				35.43		95% Adjusted-CLT UCL (Chen-1995)				44.39	
28							95% Modified-t UCL (Johnson-1978)				36.87	
29												
30	Gamma GOF Test											
31	A-D Test Statistic				7.132		Anderson-Darling Gamma GOF Test					
32	5% A-D Critical Value				0.787		Data Not Gamma Distributed at 5% Significance Level					
33	K-S Test Statistic				0.273		Kolmogorov-Smirnov Gamma GOF Test					
34	5% K-S Critical Value				0.128		Data Not Gamma Distributed at 5% Significance Level					
35	Data Not Gamma Distributed at 5% Significance Level											
36												
37	Gamma Statistics											
38	k hat (MLE)				0.863		k star (bias corrected MLE)				0.826	
39	Theta hat (MLE)				23.79		Theta star (bias corrected MLE)				24.85	
40	nu hat (MLE)				89.72		nu star (bias corrected)				85.88	
41	MLE Mean (bias corrected)				20.52		MLE Sd (bias corrected)				22.58	
42							Approximate Chi Square Value (0.05)				65.51	
43	Adjusted Level of Significance				0.0454		Adjusted Chi Square Value				65.01	
44												
45	Assuming Gamma Distribution											
46	95% Approximate Gamma UCL				26.9		95% Adjusted Gamma UCL				27.11	
47												
48	Lognormal GOF Test											
49	Shapiro Wilk Test Statistic				0.815		Shapiro Wilk Lognormal GOF Test					
50	10% Shapiro Wilk P Value				1.9790E-8		Data Not Lognormal at 10% Significance Level					
51	Lilliefors Test Statistic				0.182		Lilliefors Lognormal GOF Test					
52	10% Lilliefors Critical Value				0.112		Data Not Lognormal at 10% Significance Level					
53	Data Not Lognormal at 10% Significance Level											
54												
55	Lognormal Statistics											
56	Minimum of Logged Data				1.386		Mean of logged Data				2.34	
57	Maximum of Logged Data				6.153		SD of logged Data				0.793	
58												
59	Assuming Lognormal Distribution											
60	95% H-UCL				17.97		90% Chebyshev (MVUE) UCL				19.32	
61	95% Chebyshev (MVUE) UCL				21.68		97.5% Chebyshev (MVUE) UCL				24.95	
62	99% Chebyshev (MVUE) UCL				31.38							
63												
64	Nonparametric Distribution Free UCL Statistics											
65	Data do not follow a Discernible Distribution											
66												
67	Nonparametric Distribution Free UCLs											
68	95% CLT UCL				35.16		95% BCA Bootstrap UCL				48.63	
69	95% Standard Bootstrap UCL				35.08		95% Bootstrap-t UCL				119.1	
70	95% Hall's Bootstrap UCL				88.9		95% Percentile Bootstrap UCL				37.81	
71	90% Chebyshev(Mean, Sd) UCL				47.23		95% Chebyshev(Mean, Sd) UCL				59.33	
72	97.5% Chebyshev(Mean, Sd) UCL				76.12		99% Chebyshev(Mean, Sd) UCL				109.1	
73												
74	Suggested UCL to Use											
75	95% Student's-t UCL				35.43							
76												
77	The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.											
78	Please verify the data were collected from random locations.											
79	If the data were collected using judgmental or other non-random methods,											
80	then contact a statistician to correctly calculate UCLs.											
81												
82	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
83	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											

	A	B	C	D	E	F	G	H	I	J	K	L
322	Nickel											
323												
324	General Statistics											
325	Total Number of Observations				66		Number of Distinct Observations				24	
326							Number of Missing Observations				17	
327	Minimum				1		Mean				13.58	
328	Maximum				110		Median				11.5	
329	SD				15.1		Std. Error of Mean				1.858	
330	Coefficient of Variation				1.112		Skewness				4.505	
331												
332	Normal GOF Test											
333	Shapiro Wilk Test Statistic				0.598		Shapiro Wilk GOF Test					
334	1% Shapiro Wilk P Value				0		Data Not Normal at 1% Significance Level					
335	Lilliefors Test Statistic				0.27		Lilliefors GOF Test					
336	1% Lilliefors Critical Value				0.126		Data Not Normal at 1% Significance Level					
337	Data Not Normal at 1% Significance Level											
338												
339	Assuming Normal Distribution											
340	95% Normal UCL								95% UCLs (Adjusted for Skewness)			
341	95% Student's-t UCL				16.68		95% Adjusted-CLT UCL (Chen-1995)				17.73	
342							95% Modified-t UCL (Johnson-1978)				16.85	
343												
344	Gamma GOF Test											
345	A-D Test Statistic				1.097		Anderson-Darling Gamma GOF Test					
346	5% A-D Critical Value				0.768		Data Not Gamma Distributed at 5% Significance Level					
347	K-S Test Statistic				0.15		Kolmogorov-Smirnov Gamma GOF Test					
348	5% K-S Critical Value				0.112		Data Not Gamma Distributed at 5% Significance Level					
349	Data Not Gamma Distributed at 5% Significance Level											
350												
351	Gamma Statistics											
352	k hat (MLE)				1.56		k star (bias corrected MLE)				1.499	
353	Theta hat (MLE)				8.701		Theta star (bias corrected MLE)				9.054	
354	nu hat (MLE)				205.9		nu star (bias corrected)				197.9	
355	MLE Mean (bias corrected)				13.58		MLE Sd (bias corrected)				11.09	
356							Approximate Chi Square Value (0.05)				166.4	
357	Adjusted Level of Significance				0.0464		Adjusted Chi Square Value				165.7	
358												
359	Assuming Gamma Distribution											
360	95% Approximate Gamma UCL				16.15		95% Adjusted Gamma UCL				16.21	
361												
362	Lognormal GOF Test											
363	Shapiro Wilk Test Statistic				0.963		Shapiro Wilk Lognormal GOF Test					
364	10% Shapiro Wilk P Value				0.121		Data appear Lognormal at 10% Significance Level					
365	Lilliefors Test Statistic				0.128		Lilliefors Lognormal GOF Test					
366	10% Lilliefors Critical Value				0.0997		Data Not Lognormal at 10% Significance Level					
367	Data appear Approximate Lognormal at 10% Significance Level											
368												
369	Lognormal Statistics											
370	Minimum of Logged Data				0		Mean of logged Data				2.255	
371	Maximum of Logged Data				4.7		SD of logged Data				0.859	
372												
373	Assuming Lognormal Distribution											
374	95% H-UCL				17.34		90% Chebyshev (MVUE) UCL				18.65	
375	95% Chebyshev (MVUE) UCL				20.9		97.5% Chebyshev (MVUE) UCL				24.03	
376	99% Chebyshev (MVUE) UCL				30.16							
377												
378	Nonparametric Distribution Free UCL Statistics											
379	Data appear to follow a Discernible Distribution											
380												
381	Nonparametric Distribution Free UCLs											
382	95% CLT UCL				16.63		95% BCA Bootstrap UCL				18.26	
383	95% Standard Bootstrap UCL				16.57		95% Bootstrap-t UCL				19.15	
384	95% Hall's Bootstrap UCL				31.26		95% Percentile Bootstrap UCL				16.7	
385	90% Chebyshev(Mean, Sd) UCL				19.15		95% Chebyshev(Mean, Sd) UCL				21.68	
386	97.5% Chebyshev(Mean, Sd) UCL				25.18		99% Chebyshev(Mean, Sd) UCL				32.06	
387												
388	Suggested UCL to Use											
389	95% H-UCL				17.34							
390												
391	The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.											
392	Please verify the data were collected from random locations.											
393	If the data were collected using judgmental or other non-random methods,											
394	then contact a statistician to correctly calculate UCLs.											
395												
396	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
397	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
398	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
399												
400												

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Table 3a: Soil Analytical Results - Waste 95% Pro UCL v5.2
2-22 Kent Road Mascot
21569

Goodman Property Services Australia Pty Ltd

	A	B	C	D	E	F	G	H	I	J	K	L
480	Benzo(a)pyrene											
481												
482	General Statistics											
483	Total Number of Observations				55		Number of Distinct Observations				29	
484							Number of Missing Observations				28	
485	Minimum				0.1		Mean				1.6	
486	Maximum				28		Median				0.66	
487	SD				4.187		Std. Error of Mean				0.565	
488	Coefficient of Variation				2.617		Skewness				5.442	
489												
490	Normal GOF Test											
491	Shapiro Wilk Test Statistic				0.339		Shapiro Wilk GOF Test					
492	1% Shapiro Wilk P Value				0		Data Not Normal at 1% Significance Level					
493	Lilliefors Test Statistic				0.391		Lilliefors GOF Test					
494	1% Lilliefors Critical Value				0.138		Data Not Normal at 1% Significance Level					
495	Data Not Normal at 1% Significance Level											
496												
497	Assuming Normal Distribution											
498	95% Normal UCL								95% UCLs (Adjusted for Skewness)			
499	95% Student's-t UCL				2.544		95% Adjusted-CLT UCL (Chen-1995)				2.971	
500							95% Modified-t UCL (Johnson-1978)				2.613	
501												
502	Gamma GOF Test											
503	A-D Test Statistic				4.417		Anderson-Darling Gamma GOF Test					
504	5% A-D Critical Value				0.8		Data Not Gamma Distributed at 5% Significance Level					
505	K-S Test Statistic				0.248		Kolmogorov-Smirnov Gamma GOF Test					
506	5% K-S Critical Value				0.125		Data Not Gamma Distributed at 5% Significance Level					
507	Data Not Gamma Distributed at 5% Significance Level											
508												
509	Gamma Statistics											
510	k hat (MLE)				0.674		k star (bias corrected MLE)				0.649	
511	Theta hat (MLE)				2.375		Theta star (bias corrected MLE)				2.465	
512	nu hat (MLE)				74.1		nu star (bias corrected)				71.39	
513	MLE Mean (bias corrected)				1.6		MLE Sd (bias corrected)				1.986	
514							Approximate Chi Square Value (0.05)				52.94	
515	Adjusted Level of Significance				0.0456		Adjusted Chi Square Value				52.51	
516												
517	Assuming Gamma Distribution											
518	95% Approximate Gamma UCL				2.157		95% Adjusted Gamma UCL				2.175	
519												
520	Lognormal GOF Test											
521	Shapiro Wilk Test Statistic				0.934		Shapiro Wilk Lognormal GOF Test					
522	10% Shapiro Wilk P Value				0.00672		Data Not Lognormal at 10% Significance Level					
523	Lilliefors Test Statistic				0.12		Lilliefors Lognormal GOF Test					
524	10% Lilliefors Critical Value				0.109		Data Not Lognormal at 10% Significance Level					
525	Data Not Lognormal at 10% Significance Level											
526												
527	Lognormal Statistics											
528	Minimum of Logged Data				-2.303		Mean of logged Data				-0.432	
529	Maximum of Logged Data				3.332		SD of logged Data				1.126	
530												
531	Assuming Lognormal Distribution											
532	95% H-UCL				1.796		90% Chebyshev (MVUE) UCL				1.87	
533	95% Chebyshev (MVUE) UCL				2.172		97.5% Chebyshev (MVUE) UCL				2.592	
534	99% Chebyshev (MVUE) UCL				3.417							
535												
536	Nonparametric Distribution Free UCL Statistics											
537	Data do not follow a Discernible Distribution											
538												
539	Nonparametric Distribution Free UCLs											
540	95% CLT UCL				2.528		95% BCA Bootstrap UCL				2.993	
541	95% Standard Bootstrap UCL				2.502		95% Bootstrap-t UCL				5.659	
542	95% Hall's Bootstrap UCL				6.343		95% Percentile Bootstrap UCL				2.601	
543	90% Chebyshev(Mean, Sd) UCL				3.293		95% Chebyshev(Mean, Sd) UCL				4.06	
544	97.5% Chebyshev(Mean, Sd) UCL				5.125		99% Chebyshev(Mean, Sd) UCL				7.217	
545												
546	Suggested UCL to Use											
547	95% Student's-t UCL				2.544							
548												
549	The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.											
550	Please verify the data were collected from random locations.											
551	If the data were collected using judgmental or other non-random methods,											
552	then contact a statistician to correctly calculate UCLs.											
553												
554	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
555	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
556	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
557												
558												

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Table 4: Groundwater Gauging Data
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



Well ID	Screen Interval	Easting	Northing	Top of Casing	Date Gauged	PID	Total Well Depth	Depth to Water	Depth to Product	Product Thickness	Groundwater Elevation
	(m bgl)	(MGA)	(MGA)	(m AHD)		PPM	(m bTOC)	(m bTOC)	(m bTOC)	(m)	(m AHD)
MW01	2.0 - 5.0	332162.538	6245139.633	4	19/06/2024	0	4.53	1.62	-	-	2.38
MW02	1.0 - 4.0	332099.736	6245084.123	3.98	19/06/2024	0	3.58	1.79	-	-	2.19
MW03	1.0 - 4.0	332037.638	6245140.768	3.67	19/06/2024	0	3.86	1.51	-	-	2.16
MW04	1.0 - 4.0	332088.495	6245185.287	3.6	19/06/2024	0	3.49	1.33	-	-	2.27
MW05	Unknown*	332102.632	6245247.55	2.91	19/06/2024	0	3.86	1.53	-	-	1.38
MW101	1.0 - 4.0	332139.095	6245206.968	3.437	19/06/2024	15.8	3.92	1.11	-	-	2.327
MW102	1.0 - 4.0	332159.594	6245222.331	3.462	19/06/2024	0	3.92	1.4	-	-	2.062
MW103	1.0 - 4.0	332049.745	6245196.377	3.779	19/06/2024	0	3.91	1.73	-	-	2.049
MW104	1.0 - 4.0	332046.078	6245100.92	3.529	19/06/2024	3.8	3.87	1.5	-	-	2.029

Notes

TOC- Top of casing

m bgl- meters below ground level

mTOC- metres below top of casing

m AHD- meters Australian Height Datum

MGA- Map Grid Australia

*Well discovered during site inspection

Table 5: Groundwater Stabilisead Geochemical Parameters
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd

			Dissolved Oxygen (Field)	EC (Field)	pH (Field)	Temp (Field)	ORP	Redox
Unit			mg/L	uS/cm	pH Units	° C	(Er) (mV)	(Eh) (mV)
Location	Date	Time						
MW01	19/06/2024	12:22:00	0.06	532	6.34	20.8	156.5	361.5
MW02	19/06/2024	11:34:00	3.42	90.5	6.44	18.1	89.4	294.4
MW03	18/06/2024	15:56:00	0.58	464	6.89	19.5	79.3	284.3
MW04	19/06/2024	8:30:00	4.82	81.4	6.33	17.7	174.7	379.7
MW05	19/06/2024	15:23:00	0.12	211.3	6.19	19.4	116	321
MW101	19/06/2024	14:14:00	0.07	104.5	5.92	19.1	178.1	383.1
MW102	19/06/2024	13:44:00	0.16	109.6	5.17	19.6	3.3	208.3
MW103	19/06/2024	9:24:00	2.64	91.1	6.87	14.9	48.8	253.8
MW104	19/06/2024	10:47:00	2.18	80.4	6.3	18.2	43.8	248.8

Statistics

Number of Results	9	9	9	9	9	9
Number of Detects	9	9	9	9	9	9
Minimum Concentration	0.06	80.4	5.17	14.9	3.3	208
Maximum Concentration	4.82	532	6.89	20.8	178.1	383
Average Concentration *	1.6	196	6.3	19	99	304
Median Concentration *	0.58	104.5	6.33	19.1	89.4	294
Standard Deviation *	1.8	177	0.51	1.7	62	58

Notes

Values presented are those after stabilisation. In accordance with EPA Publication 669, the parameters were considered stable when three consecutive readings (obtained several minutes apart) were within the EC- Electrical Conductivity.
 ORP = Oxidation Reduction Potential as millivolts (mV). Field values (Er values, mV) taken with redox probe with a platinum electrode and silver/silver chloride reference electrode. For interpretation of the Er results can be converted to Eh values using the following conversion: Eh (mV) = Er (mV) + 205.

Table 6: Groundwater Analytical Results
2-22 Kent Road Mascot
21569
Goodman Property Services Australia Pty Ltd



									BTEX						Total Petroleum Hydrocarbons					Total Recoverable Hydrocarbons							
		Arsenic (filtered)	Cadmium (filtered)	Chromium (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Total Xylene	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	C6-C10 Fraction	C6-C10 Fraction minus BTEX (F1)	>C10-C16 Fraction	>C10-C16 Fraction minus naphthalene (F2)	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Sum)
	Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
	LOR	0.001	0.0001	0.001	0.001	0.001	0.00005	0.001	0.001	1	1	1	2	1	2	10	50	100	50	50	10	10	50	50	100	100	50
Groundwater HSLs - NEPM Setting 'D' - Commercial / Industrial - Default Screen										5,000 ^{#1}	NL ^{#1}	NL ^{#1}			NL ^{#1}						6,000 ^{#1}		NL ^{#1}				
Aquatic ecosystems DGV - slightly to moderately disturbed (95%) - marine			0.0007 ^{#2}	0.0044 ^{#3}	0.0013 ^{#4}	0.0044 ^{#4}	0.0001 ^{#2}	0.007 ^{#2}	0.008 ^{#4}	500 ^{#2}	180 ^{#4}	80 ^{#4}		350 ^{#5}							640 ^{#6}		640 ^{#6}	640 ^{#7}	640 ^{#8}		
Recreational Water - Health		0.1 ^{#10}	0.02 ^{#10}	0.5 ^{#11}	20 ^{#10}	0.1 ^{#10}	0.01 ^{#10}	0.2 ^{#10}	60 ^{#12}	10 ^{#10}	8,000 ^{#10}	3,000 ^{#10}			6,000 ^{#10}						900 ^{#13}		900 ^{#13}	900 ^{#14}	900 ^{#14}		

Location	Field ID	Date	Type	Lab Report																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</
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					PAHs	MAH										Halogenated Benzenes										Halogenated Hydrocarbons							
					Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Styrene	1,2,3-Trichlorobenzene	1,2-Dichlorobenzene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	2-Chlorotoluene	1,4-Dichlorobenzene	4-Chlorotoluene	Bromobenzene	Chlorobenzene	1,2-Dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane						
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L						
LOR					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	10	10	10						
Groundwater HSLs - NEPM Setting 'D' - Commercial / Industrial - Default Screen					NL ^{#1}																												
Aquatic ecosystems DGV - slightly to moderately disturbed (95%) - marine					50 ^{#2}			30 ^{#4}						3 ^{#5}	160 ^{#5}	20 ^{#2}	260 ^{#5}					55 ^{#4}											
Recreational Water - Health					700 ^{#15}	560 ^{#12}	600 ^{#12}	4,500 ^{#12}	10,000 ^{#12}	6,600 ^{#12}		20,000 ^{#12}	6,900 ^{#12}	300 ^{#10}	300 ^{#16}	15,000 ^{#10}	300 ^{#16}		2,400 ^{#12}	400 ^{#10}	2,500 ^{#12}	620 ^{#12}	3,000 ^{#10}	10 ^{#10}	10 ^{#10}	2,000 ^{#12}	52,000 ^{#12}						
Location	Field ID	Date	Type	Lab Report																													
MW01	MW01	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							
MW02	MW02	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							
MW03	MW03	18/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							
MW04	MW04	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							
MW04	QC107	19/06/2024	Field_D	354375	<1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MW05	MW05	19/06/2024	Normal	354446	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							
MW101	MW101	19/06/2024	Normal	354446	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							
MW102	MW102	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							
MW103	MW103	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							
MW103	QC207	19/06/2024	Interlab_D	ES2420128	<5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MW104	MW104	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10							



	Chlorinated Hydrocarbons																							
	1, 1-Dichloropropene	1, 1-Dichloroethane	1, 1-Dichloroethene	1, 1, 1, 2-Tetrachloroethane	1, 1, 1-Trichloroethane	1, 2-Dibromo-3-chloropropane	1, 1, 2-Trichloroethane	1, 1, 2, 2-Tetrachloroethane	1, 2, 3-Trichloropropane	1, 2-Dichloroethane	1, 3-Dichloropropane	1, 2-Dichloropropane	2, 2-Dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon Tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Dibromomethane	
Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	1	10	1	1	
Groundwater HSLs - NEPM Setting 'D' - Commercial / Industrial - Default Screen																								
Aquatic ecosystems DGV - slightly to moderately disturbed (95%) - marine			700 ^{#4}		270 ^{#4}		1,900 ^{#4}	400 ^{#4}		1,900 ^{#4}	1,100 ^{#4}	900 ^{#4}					240 ^{#4}			370 ^{#2}				
Recreational Water - Health		28 ^{#12}	300 ^{#10}	5.7 ^{#12}	80,000 ^{#12}	10 ^{#17}	2.8 ^{#12}	0.76 ^{#12}	0.0075 ^{#12}	30 ^{#10}	3,700 ^{#12}	400 ^{#18}		830 ^{#12}	600 ^{#17}	1,000 ^{#17}	30 ^{#10}	1,000 ^{#17}	83,000 ^{#12}	3,000 ^{#17}	1,900 ^{#12}	600 ^{#19}	83 ^{#12}	

Location	Field ID	Date	Type	Lab Report																						
MW01	MW01	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1
MW02	MW02	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1
MW03	MW03	18/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1
MW04	MW04	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1
MW04	QC107	19/06/2024	Field_D	354375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05	MW05	19/06/2024	Normal	354446	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	5	<1
MW101	MW101	19/06/2024	Normal	354446	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1
MW102	MW102	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1
MW103	MW103	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1
MW103	QC207	19/06/2024	Interlab_D	ES2420128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW104	MW104	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1



Chlorinated Hydrocarbons								Solvents				Perfluoroalkane Sulfonic Acids			PFAS	
	cis-1,3-Dichloropropene	Hexachlorobutadiene	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Vinyl Chloride	Cyclohexane	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)	Sum of PFAS
Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR	1	1	1	1	1	1	10	1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Groundwater HSLs - NEPM Setting 'D' - Commercial / Industrial - Default Screen																
Aquatic ecosystems DGV - slightly to moderately disturbed (95%) - marine			70 ^{#4}			330 ^{#4}	100 ^{#4}				19 ^{#9}	0.00023 ^{#9}				
Recreational Water - Health		7 ^{#10}	500 ^{#10}	600 ^{#19}		80 ^{#17}	3 ^{#10}	130,000 ^{#12}			10 ^{#20}	2 ^{#20}	2 ^{#20}	2 ^{#20}		

Location	Field ID	Date	Type	Lab Report																
MW01	MW01	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	0.02	0.04	0.01	0.05	0.06	0.07
MW02	MW02	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW03	MW03	18/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	<0.01	0.1	0.01	0.11	0.1	0.11
MW04	MW04	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	<0.01	0.07	0.01	0.09	0.07	0.09
MW04	QC107	19/06/2024	Field_D	354375	-	-	-	-	-	-	-	-	<0.01	<0.02	<0.01	0.07	0.02	0.08	0.07	0.08
MW05	MW05	19/06/2024	Normal	354446	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW101	MW101	19/06/2024	Normal	354446	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	0.01	<0.01	<0.01	<0.01	0.01	0.01
MW102	MW102	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	0.03	0.38	0.08	0.46	0.41	0.49
MW103	MW103	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	<0.01	0.04	<0.01	0.04	0.04	0.04
MW103	QC207	19/06/2024	Interlab_D	ES2420128	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.01	0.05	0.01	0.06	-	0.06
MW104	MW104	19/06/2024	Normal	354375	<1	<1	<1	<1	<1	<1	<10	<1	<0.01	<0.02	<0.01	0.02	<0.01	0.02	0.02	0.02

Comments

- #1 Value for shallow (2-4 m bgl) sand aquifer adopted for initial screening.
- #2 ANZG (2018). Higher species protection level adopted as recommended
- #3 ANZG (2018). The more conservative value (Chromium CrVI) out of the available chromium species was adopted for initial screening purposes.
- #4 ANZG (2018)
- #5 ANZG (2018). Freshwater DGV adopted as an unknown reliability value as recommended
- #6 CRWB (2019). Lowest of values for gasoline (C4-C12) and diesel (C8-C21) range hydrocarbons.
- #7 CRWB (2019). Value for diesel (C8-C21) mixture.
- #8 CRWB (2019). Value for diesel (C8-C21) mixture. No value derived for TPH >C21 as not considered soluble; diesel value used for screening.
- #9 PFAS National Environmental Management Plan (HEPA 2020). Higher species protection level adopted as recommended
- #10 NHMRC (2011) - Health. Multiplied by a factor of x10
- #11 NHMRC (2011) - Health. Guideline for Cr (VI) conservatively adopted for comparison to total chromium. Speciated analysis should be undertaken where guideline is exceeded. Multiplied by a factor of x10
- #12 USEPA Tap Water RSL (TR=1E-06; THQ=0.1) - May 2024. Multiplied by a factor of x10
- #13 WHO (2008). Lowest derived value for aliphatic and aromatic fractions in this range. Multiplied by a factor of x10
- #14 Lowest derived value for aliphatic and aromatic fractions in this range (90 ug/L). Multiplied by a factor of x10
- #15 NHMRC (2011) - Health. Derived as per NHMRC (2011) based on TDI used for NEPM HSL derivation. Multiplied by a factor of x10
- #16 NHMRC (2011) - Health. Value is for total TCBs but applies to individual isomers also. Multiplied by a factor of x10
- #17 WHO Guidelines for drinking-water quality. Multiplied by a factor of x10
- #18 WHO Guidelines for drinking-water quality. Provisional guideline due to uncertainties in the health database. Multiplied by a factor of x10
- #19 NHMRC (2011) - Health. Value is for total 1,2-DCE but also applied to individual isomers. Multiplied by a factor of x10
- #20 NHMRC (2019) Guidance on PFAS in Recreational Waters

Site	Location	Sampled Date/Time	Sample Type	Sample Comments	Purge/Sampling Comments	Flow Rate L/h	Hydrogen sulfide ppm	Methane %v/v	Carbon Dioxide %v/v	Carbon Monoxide ppm	Oxygen %v/v
					Headspace PID Reading(s) (PPM)						
Kent Road	VP01	18/06/2024 01:40PM	Normal	LEL - 0.0%	81.1	0.1	0	0	6.4	0	14.1
Kent Road	VP01	25/06/2024 09:15AM	Normal	Canister: 2560 Regulator: 1750 Start: 9:21 -28 hg End: 9:27 -7hg ISO:230 ppm	76.2 - 73	0.1	0	0	6.3	0	14.4
Kent Road	VP02	18/06/2024 01:22PM	Normal	LEL - 0.0%	4.0	0.1	0	0	2.5	0	19
Kent Road	VP02	25/06/2024 09:36AM	Normal	Canister: 2274 Regulator: 1861 Start: 9:50 am at -29 hg End: 9:56 am at -7 hg ISO: 240 ppm	8.1 - 9.1	0.1	0	0	2.5	0	18.8
Kent Road	VP03	18/06/2024 01:56PM	Normal	LEL - 0.0%	21.7	0.1	0	0	7.3	0	11.2
Kent Road	VP03	25/06/2024 08:56AM	Normal	Canister: 3530 Regulator: 1753 Start : 9:04 am -29 hg End : 9:10 am -7 hg Iso : 230 ppm	24.1 - 18.9	0.1	0	0	7.2	0	10.8
Kent Road	VP04	18/06/2024 02:22PM	Normal	LEL - 0.0%	0.0 ppm	0.1	0	0	10.6	0	9.8
Kent Road	VP04	25/06/2024 08:05AM	Normal	Canister: 3274 Regulator:1748 Start: 8.35am - 37.5 hg End: 8:43 am -7 hg Iso: 220 PPM	15.5 - 9.8ppm	0.1	0	0	9.8	0	11.2
Kent Road	VP05	18/06/2024 02:16PM	Normal	LEL - 0.0%	0.0 ppm	0.1	0	0	4.3	0	16.9
Kent Road	VP05	25/06/2024 10:03AM	Normal	Canister: 2461 Regulator: 503 Start: 10:08 am at -28hg End: 10:15 am at -7hg ISO: 210 ppm	0-0 ppm	0.1	0	0	4.2	0	17.1
Kent Road	VP06	18/06/2024 03:31PM	Normal	LEL - 0.0%	0.7 ppm	0.1	0	0	2.8	0	10.8
Kent Road	VP07	18/06/2024 03:27PM	Normal	LEL - 0.0%	7.6 ppm	0.1	0	0	5.4	0	9.5
Kent Road	VP08	18/06/2024 03:13PM	Normal	LEL - 0.0%	1.0 ppm	0.1	0	0	0	0	15.7
Kent Road	VP09	18/06/2024 03:17PM	Normal	LEL - 0.0%	23.4 ppm	0.1	0	0	0	0	5.7
Kent Road	VP10	18/06/2024 03:22PM	Normal	LEL - 0.0%	7.2 ppm	0.1	0	0	0.7	0	8.2
Kent Road	VP11	18/06/2024 02:08PM	Normal	LEL - 0.0 %	2.1	0.1	8	0	4.6	0	16
Kent Road	VP11	25/06/2024 10:24AM	Normal	Canister: 3503 Regulator: 628 Start: 10:26am at -29 hg End: 10:31 am at -7hg ISO: 260 PPM	2.6 - 1.8 ppm	0.1	0	0	4.5	0	16.2

Table 8: Soil Vapour Analytical Results
2-22 Kent Road Mascot
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Goodman Property Services Australia Pty Ltd



					NA		BTEX					PAHs	Volatile Organic Compounds				MAH				Halogenated Benzenes				
					Vacuum before Analysis	Vacuum before Shipment	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Naphthalene	1,3-Butadiene	Acrolein	Propene	Methyl Methacrylate	1,2,4-Trimethylbenzene	1-Methyl-4 ethyl benzene	1,3,5-Trimethylbenzene	Styrene	1,2-Dichlorobenzene	1,2,4-Trichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Chlorobenzene
Unit	Unit	Unit	Unit	Unit	Hg"	Hg"	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
LOR							1.6	1.9	2.2	4.3	2.2	2.6	1.1	11	0.9	2	2.5	2.5	2.5	2.1	3	3.7	3	3	2.3
NEPM 2013 Interim HILs for VOCs - Commercial/Industrial																									
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Sand >=0m, <1m							4,000	4,800,000	1,300,000			3,000													
Soil Vapour Guideline Commercial (AF=0.03)													136 ^{#3}	2.92 ^{#3}	437,000 ^{#3}	102,000 ^{#3}	8,770 ^{#3}		8,770 ^{#3}	146,000 ^{#3}	29,200 ^{#3}	292 ^{#3}	29,200 ^{#4}	117,000 ^{#3}	7,300 ^{#3}

Location	Field ID	Date	Type	Lab Report
VP01	VP01	25/06/2024	Normal	354994
VP02	VP02	25/06/2024	Normal	354994
VP03	VP03	25/06/2024	Normal	354994
VP04	VP04	25/06/2024	Normal	354994
VP05	VP05	25/06/2024	Normal	354994
VP11	VP11	25/06/2024	Normal	354994

-5	-30	<1.6	<1.9	<2.2	<4.3	<2.2	<2.6	<1.1	<11	<0.9	<2	<2.5	<2.5	<2.5	<2.1	<3	<3.7	<3	<3	<2.3
-5	-30	<1.6	<1.9	<2.2	<4.3	<2.2	<2.6	<1.1	<11	<0.9	<2	4	<2.5	<2.5	<2.1	<3	<3.7	<3	<3	<2.3
-5	-30	<1.6	<1.9	<2.2	<4.3	<2.2	<2.6	<1.1	<11	<0.9	<2	<2.5	<2.5	<2.5	<2.1	<3	<3.7	<3	<3	<2.3
-3	-30	<1.6	<1.9	<2.2	<4.3	<2.2	<2.6	<1.1	<11	<0.9	<2	<2.5	<2.5	<2.5	<2.1	<3	<3.7	<3	<3	<2.3
-5	-30	<1.6	<1.9	<2.2	<4.3	<2.2	<2.6	<1.1	<11	<0.9	<2	5	<2.5	<2.5	<2.1	<3	<3.7	<3	<3	<2.3
-5	-30	<1.6	<1.9	10	200	130	6	<1.1	<11	<0.9	<2	390	70	240	<2.1	<3	<3.7	<3	<3	<2.3

Table 8: Soil Vapour Analytical Results
2-22 Kent Road Mascot
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Goodman Property Services Australia Pty Ltd



					Halogenated Hydrocarbons				Chlorinated Hydrocarbons																		
					1,2-Dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2-Dichloroethane	1,2-Dichloropropane	1,2-Dichlorotetrafluoroethane (Freon 114)	Benzyl Chloride	Bromodichloromethane	Bromoform	Carbon Tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene
Unit					µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	
LOR					3.8	1.9	2.5	2.8	2	2	2.7	2.7	3.4	3.8	2	2.3	2.5	2.6	3.4	5.2	3.1	1.6	1.3	2.4	1	2	2.3
NEPM 2013 Interim HILs for VOCs - Commercial/Industrial											230,000 ^{#1}														300 ^{#1}		
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Sand >=0m, <1m																											
Soil Vapour Guideline Commercial (AF=0.03)					6.8 ^{#3}	730 ^{#3}	14,600 ^{#3}	106,000 ^{#5}	2,560 ^{#3}	29,200 ^{#3}		29.2 ^{#3}	70.3 ^{#3}	730,000 ^{#3}	157 ^{#3}	583 ^{#3}	14,600 ^{#6}	83.3 ^{#3}	110 ^{#3}	3,700 ^{#3}	680 ^{#3}	60.8 ^{#7}	583,000 ^{#3}	14,300 ^{#3}	13,100 ^{#3}		
Location	Field ID	Date	Type	Lab Report																							
VP01	VP01	25/06/2024	Normal	354994	<3.8	<1.9	<2.5	<2.8	<2	<2	<2.7	<2.7	<3.4	<3.8	<2	<2.3	<2.5	<2.6	<3.4	<5.2	<3.1	<1.6	<1.3	<2.4	<1	<2	<2.3
VP02	VP02	25/06/2024	Normal	354994	<3.8	<1.9	<2.5	<2.8	<2	<2	<2.7	<2.7	<3.4	<3.8	<2	<2.3	<2.5	<2.6	<3.4	<5.2	<3.1	<1.6	<1.3	<2.4	<1	<2	<2.3
VP03	VP03	25/06/2024	Normal	354994	<3.8	<1.9	<2.5	<2.8	<2	<2	<2.7	<2.7	<3.4	<3.8	<2	<2.3	<2.5	<2.6	<3.4	<5.2	<3.1	<1.6	<1.3	<2.4	<1	<2	<2.3
VP04	VP04	25/06/2024	Normal	354994	<3.8	<1.9	<2.5	<2.8	<2	<2	<2.7	<2.7	<3.4	<3.8	<2	<2.3	<2.5	<2.6	<3.4	<5.2	<3.1	<1.6	<1.3	<2.4	<1	<2	<2.3
VP05	VP05	25/06/2024	Normal	354994	<3.8	<1.9	<2.5	<2.8	<2	<2	<2.7	<2.7	<3.4	<3.8	<2	<2.3	<2.5	<2.6	<3.4	<5.2	<3.1	<1.6	<1.3	<2.4	<1	<2	<2.3
VP11	VP11	25/06/2024	Normal	354994	<3.8	<1.9	<2.5	<2.8	<2	<2	<2.7	<2.7	<3.4	<3.8	<2	<2.3	<2.5	<2.6	<3.4	<5.2	<3.1	<1.6	<1.3	<2.4	<1	<2	<2.3



Chlorinated Hydrocarbons									Solvents														
	Dichloromethane	Hexachlorobutadiene	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Vinyl Chloride		1,4-Dioxane	Methyl Ethyl Ketone (MEK)	2-Hexanone (MBK)	4-Methyl-2-pentanone	Acetone	Carbon disulfide	Cyclohexane	Ethanol	Ethyl acetate	Heptane	Hexane	Methyl tert-Butyl Ether (MTBE)	2-Propanol	Tetrahydrofuran	Vinyl acetate
Unit	µg/m3	ppbv	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3		µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
LOR	17	5	5.3	3.4	2	2.3	2.7	1.3	1.8	15	2	20	11.9	16	1.7	9	1.8	2	1.8	1.8	12	1.5	1.8
NEPM 2013 Interim HILs for VOCs - Commercial/Industrial																							
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Sand >=0m, <1m																							
Soil Vapour Guideline Commercial (AF=0.03)									87,700 ^{#3}		186 ^{#3}		5,830 ^{#3}										

Location	Field ID	Date	Type	Lab Report																				
VP01	VP01	25/06/2024	Normal	354994	<17	<5	<5.3	<3.4	<2	<2.3	<2.7	<1.3	<1.8	<15	<2	<20	<11.9	<16	<1.7	30	<1.8	<2	<1.8	<1.8
VP02	VP02	25/06/2024	Normal	354994	<17	<5	<5.3	75	<2	<2.3	<2.7	<1.3	<1.8	<15	<2	<20	30	<16	<1.7	160	<1.8	<2	<1.8	<1.8
VP03	VP03	25/06/2024	Normal	354994	<17	<5	<5.3	<3.4	<2	<2.3	<2.7	<1.3	<1.8	<15	<2	<20	<11.9	<16	<1.7	50	<1.8	<2	2	<1.8
VP04	VP04	25/06/2024	Normal	354994	<17	<5	<5.3	<3.4	<2	<2.3	<2.7	<1.3	<1.8	<15	<2	<20	10	<16	<1.7	80	<1.8	<2	<1.8	<1.8
VP05	VP05	25/06/2024	Normal	354994	<17	<5	<5.3	87	<2	<2.3	<2.7	<1.3	<1.8	<15	<2	<20	<11.9	<16	<1.7	70	<1.8	<2	<1.8	<1.8
VP11	VP11	25/06/2024	Normal	354994	<17	<5	<5.3	20	<2	<2.3	<2.7	<1.3	<1.8	<15	<2	<20	<11.9	<16	<1.7	70	<1.8	<2	<1.8	<1.8

Comments
#1 NEPC 2013 Interim HILs for VOCCs - Commercial/Industrial - NEPM (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) – Interim Soil Vapour HILs for “Commercial/Industrial D.”
#2 NEPM and/or CRC CARE 2011
#3 USEPA VISL
#4 USEPA VISL (based on 1,2-DCB as analog)
#5 HEAST 1987
#6 USEPA VISL (based on Freon 12 as analog)
#7 OEHHA IUR-based
#8 ATSDR 1994
#9 Cal OEHHA 1999

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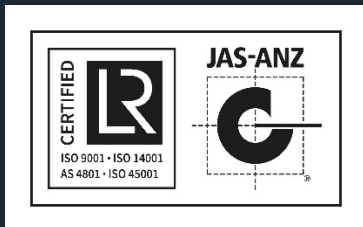
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