SHIRE OF SERPENTINE AND JARRAHDALE

PRELIMINARY & DETAILED SITE INVESTIGATION
EXECUTIVE SUMMARY

Waste Transfer and Recycling Facility
40 Watkins Road, Mundijong
Western Australia 6123

ENVIRONMENTAL
RISK CONSULTANTS

MAY 2024
DRAFT (REV1)

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ER Consultants Pty Ltd
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Preliminary Site Investigation (PSI)/Detailed Site Investigation (DSI)

Waste transfer and Recycling Facility, 40 Watkins Road, Mundijong, Western Australia 6123

Prepared for: Shire of Serpentine and Jarrahdale

Job number: 1449

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1.0 EXECUTIVE SUMMARY

1.1 General and Background

ER Consultants Pty Ltd (ERC) was engaged by shire of Serpentine Jarrahdale (the Shire), to undertake a detailed site investigation (DSI), to investigate and assess the contamination status of the Watkins Road Transfer Station (WTS), located at 40 Watkins Road, Mundijong, WA 6123 (Figure 1).

For the purpose of this DSI, the site comprises two parcels of land identified as and depicted on Figure 1 & 2:

- LOT 512 ON PLAN 53922 as shown on certificate of title LR3141/929 known as Mundijong WA 6123 (40 Watkins Road – WTS).
- COCKBURN SOUND LOCATION 4396 as shown on certificate of title LR3111/72 known as Mundijong WA 6123 (DBCA land).

Prior to 2000, both the WTS and DBCA land to the north were used for extensive sand mining and subsequent landfilling activities (Class 1 and 2) under Department of Water and Environmental Regulation (DWER) licence L182/97. Both lots were classified by the DWER on 29 February 2008 as "*Possibly Contaminated – Investigation Required*" (PC-IR) under Section 59 of the Contaminated Sites Act 2003. Both sites were reported to DWER due to the history of waste disposal activities since the early 1980s, with illegal dumping also suspected to have occurred on the southeastern portion of the DBCA land. Capping of the landfill area is thought to have occurred ~2000.

The Shire operates the WTS as per the conditions of DWER licence L9073/2017/1. However, the WTS has been closed to the public since October 2023 following the discovery of low density asbestos containing material (ACM) debris at the site surface across several sections of the operational portion of the site. Following closure, the Shire is reviewing its long-term occupational strategy for the WTS with a view to potential remediation and/or management and subsequent reopening of the facility (pending the outcome of this DSI).

In this report, the term contamination has been used as defined in the *Contaminated Sites Act (2003)* (CS Act); as:

1) *In this Act –*

   contaminated, in relation to land, water or a site, means having a substance in or on that land, water or site at above background concentrations that presents, or has the potential to present, a risk of harm to human health, the environment or any environmental value.

2) *However, land, water or a site, or land, water or a site of a prescribed class or description, is not contaminated where the regulations so provide.*

Figures 1 to 6 present the site location, setting and layout.

1.2 Project Objectives

The broad objectives of the project were to:

1) Make a holistic assessment of the contamination status of the site (including asbestos but not limited to), inclusive of both lots currently classified as PC-IR, to meet the requirements of DWER and current site classifications.
2) Assess potential human health and ecological risks and determine whether the site is suitable for ongoing use as a WTS in an ongoing industrial land-use scenario.
3) Make recommendations as to the ongoing management or remediation requirements to render the site fit for purpose and/or manage residual/ongoing risk if potential human health and ecological risks are identified.
4) If appropriate, make a recommendation for re-classification of either or both lots in accordance with the Act.

1.3 Scope of Work

The DSI was undertaken across three main phases of assessment which are detailed below. Additional phases of work were generally undertaken as more data became available and further site characterisation was required for form an appropriate risk assessment. All sample locations discussed below are shown presented in Figures 7 & 8.

In summary:

- Preliminary Air Monitoring was completed in December 2023 to assess respirable fibre concentration (including airborne asbestos), under ambient conditions.
- PHASE 1 | The preliminary site investigation (PSI) component of the project was completed in February 2024 and comprised:
    - A preliminary site inspection and desktop historical study to identify potential sources of contamination and likely contaminants at the site.
    - Selection of broad suite of potential contaminants which would be screened for during the DSI. The selection of contaminants was based on the DWER (2021) guidance on potentially contaminating industries, activities, and land uses with respect to landfill and waste disposal sites. The potential contaminants adopted for assessment included:
        - Total recoverable hydrocarbons (TRH)
        - Benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN)
        - Metals (arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, vanadium, and zinc)
        - Polycyclic Aromatic Hydrocarbon (PAH)
        - Phenols
        - Per-fluoro-alkyl-substances (PFAS')
        - Nutrients

- Asbestos *(as ACM >7mm), described as fragments or debris generally arising from "bonded" building material)*
- Asbestos in soil *(as asbestos fines [AF] and/or fibrous asbestos [FA] <7mm), generally arising from deterioration of ACM into AF, or FA resulting from "friable" asbestos sources such as insulation or lagging materials*.

- During sample assessment, the laboratory results were screened against established levels, relative to site-use and exposure scenario, which are adopted from the current regulatory guidance. This assessment seeks to establish if a risk to human health or the environment may exist. *This step was undertaken during each subsequent phase of work and as such, is not repeated in the text.*
- Advancement of twenty-five (25) strategic test pits (TP1 to TP25) across both the WTS and DBCA land to assess the lateral extent of buried landfill waste across the site, and to make a preliminary assessment of sub-surface contamination.
- Advancement of seven strategic soil bores (SB1 to SB7) to assist with identifying the lateral extent of buried landfill waste across the WTS.
- Preliminary sampling of two drain waste stockpiles to the north and west of the WTS.
- Installation of three groundwater monitoring wells (MW01D to MW03D) to gain an initial understanding of groundwater quality and potential contamination below the site, and in close proximity to the historical buried waste material.

- PHASE 2 | The detailed site investigation (DSI) component was completed in March 2024 and comprised:
  - Advancement of eleven (11) additional test pits (TP26 to TP36) across the DBCA land to further assess the lateral extent of buried landfill waste across the site, and to gain further understanding of the nature of potential contamination within the buried landfill waste.
  - Advancement of nine additional soil bores (SB8 to SB16) primarily targeting potential sources of contamination at the WTS, related to its more recent use since 2000 (post landfilling activity).
  - Installation of three additional groundwater monitoring wells (MW04D to MW06D) to delineate the extent of contaminants identified in groundwater during Phase 1 works. Six opportunistic shallow wells (MW02S to MW07S) were also installed at this time to target a potential seasonal perched aquifer, which may exist at the site during the wetter months of the year. These wells are "perched" on the sub-surface geological boundary between the sand and clay which underlie the site and were noted to be dry at the time of installation (which is not unexpected during late summer/autumn).
- PHASE 3 | ACM surface debris removal was completed in May 2024 and comprised:
  - Removal of several surface hotspots by manual methods (emu-picking) where ACM had been identified by ERC during Phase 1 and 2 works, and by others prior to ERC's engagement.

- Advancement of a further twenty-five (25) strategic hand dug test pits (TP37 to TP61) along two windrows of sand/gravel/mulch located in the centre and along the eastern boundary of the WTS. The purpose of the sampling was to assess for ACM contamination within each windrow which may warrant further remediation and/or management.

1.4 Summary of Site Observations and Characteristics

1.4.1 General

The following Figures should be viewed when reading this section:

- Figures 6a & 6b present the areas of concern (AOC) identified as part of the project.
- Figures 7 to 9 present the sample locations.
- Figure 10 presents the inferred groundwater flow direction.
- Figures 11a & 11b identifies the soil sample locations which exceeded the adopted ecological screening levels.
- Figures 12a & 12b identifies the groundwater samples and contaminant plume extent at levels which pose a potential risk to human health.
- Figure 13 identifies the locations where gravimetric ACM was detected in shallow soils at concentrations with the potential to pose a risk to human health.
- Figure 14 presents a visual representation of the inferred landfill cap thickness across the site, based on test pit and soil bore observations on site.
- Figure 15 presents the conceptual site model (CSM), which is a schematic conceptual view of how site contamination is linked to and may pose a risk to site users and/or surrounding human health and environmental receptors.

1.4.2 WTS (LOT 512)

Figure 6A displays the locations of the features described below. It is noted that features with the potential to cause contamination are described as “Areas of Concern” (AOC).

- The site rises in elevation from the southwest corner toward the northeast and is surrounded by a secure metal fence along all elevations, with an access gate (from Watkins Road) to the southwest, and another to the northwest (into the adjoining DBCA land).
- Most of the site is unsealed and was previously used for green waste processing above the southern extent of buried landfill waste which extends north into the DBCA site. The majority of green waste had been removed by the time the DSI commenced, however, some residual green waste material remained in the northeast of the processing area.
- Two large drain waste stockpiles are present to the north and east of the former green waste processing area.
- A drainage sump is present to the southwest of the green waste processing area and collects surface run-off from the site.
- Two windrows comprising cut material from the site (Windrow 1) and green waste mixed with sand (Windrow 2) were observed. Windrow 1 is contaminated with ACM debris throughout, whereas Windrow 2 reported isolated ACM impact from north to south (see Figure 13).

- Several surface "hotspots" of ACM debris were identified across the site. Although the site is not licensed to accept ACM wastes, it is likely that over the years, small quantities of ACM have been brought into the site undetected and mixed with other wastes. Over time, these ACMs have likely been broken down resulting in the surface debris observed. As part of this DSI, a targeted ACM removal program was implemented in an attempt to remove visible ACM debris and the results are discussed in Section 1.4.
- Several other AOCs were observed within the WTS, generally related to skip bin storage and general waste processing. These areas were targeted for soil assessment which is discussed in Section 1.4.
- A localised area of apparent "fly-tipped" (illegally dumped) surface waste was observed just beyond the southeast corner of the fenced site area, comprising several stockpiles of sand and ACM debris.
- Approximately 50% of the investigated area is underlain by buried landfill waste comprising a mixture of sand, gravel, plastic, metal, brick, occasional batteries and drums, and low densities of ACM, but no obvious fibrous asbestos (FA). Some evidence of previous putrescible material was noted in areas; however, the observed waste components are mostly defined as inert type material. Figure 6A & 7 presents the inferred lateral extent of the buried landfill material. The maximum thickness of buried waste material was unable to be confirmed due to difficulty excavating below 3 to 4m in the unstable material but can be generally inferred to be at least that across the impacted portion of the site.
- During test pitting works, a landfill cap was observed above the buried waste, with thickness generally between 0.2m and 1m across the area (see Figure 14). ACM contamination was identified within the landfill cap material close to the site surface at four test pit locations (see Figure 13). This may indicate that ACM impacted material was inadvertently used to cap the landfill areas over 20 years ago, or smaller quantities of ACM debris brought to site over the site's operational history, may have penetrated the site surface through vehicular action, predominantly occurring in the green waste processing area.
- The lateral extent of buried landfill waste appears to have been delineated to the south, east and west as part of the works undertaken, covering an approximate footprint of ~ 10,500m^2 (see Figure 7).
- Notwithstanding the extensive historically landfilled portion of the site, the underlying geology comprises sandy soil from ground level (gl) to around 6m bgl where the soil turns to clay. Groundwater was encountered deep in the clay at various depths across the site, relative to the undulating ground levels and was inferred to flow in a south-westerly direction. Given the geological boundary between sand and clay below the site, a partial "perched" aquifer could potentially form during the winter (wetter) months as rainfall infiltrates the site and settles on the less permeable clay, before fully penetrating to the deeper layers beneath. It is noted that an actual perched aquifer was not observed during this DSI which was undertaken over the drier months of the year (February to March). This assessment generally applies to the DBCA land as well and has not been replicated in the section below.

1.4.3 DBCA LAND (Location 4396)

Figure 6B displays the locations of the features described below. It is noted that features with the potential to cause contamination are described as "Areas of Concern".

- The site is undulating and rises in elevation in a general easterly direction. The observed undulations are attributable to the buried waste material beneath the site.

- Numerous areas of illegally dumped surface waste were observed, including household goods, sand/gravel, building material and ACM.
- The fencing surrounding the site was observed to be in a condition unable of preventing unauthorised access and illegal dumping. As such, the problem is likely to continue unless the area can be adequately fenced off.
- Approximately 90% of the investigated area is underlain by buried landfill waste comprising a mixture of sand, gravel, plastic, metal, brick, occasional batteries and drums, and low densities of ACM, but no obvious FA. Some evidence of previous putrescible material was noted in areas; however, the observed waste is mostly defined as inert type material. Figure 6B & 7 presents the inferred lateral extent of the buried landfill material. The maximum thickness of buried waste material was unable to be confirmed due to difficulty excavating below 3 to 4m in the unstable material but can be generally inferred to be at least that across the impacted portion of the site.
- During test pitting works, a landfill cap was observed above the buried waste, with thickness generally between 0.2m and 1m across the area (see Figure 14). ACM contamination and/or impact was identified within the landfill cap material close to the site surface at three test pit locations (see Figure 13). This may indicate that ACM impacted material was inadvertently used to cap the landfill areas over 20 years ago, or smaller quantities of "fly-tipped" ACM debris may have penetrated the site surface through vehicular action (which appears to have occurred in the area).
- The lateral extent of buried landfill waste appears to have been delineated to the north, east and west as part of the works undertaken, covering an approximate footprint of ~ 17,500m^2 (see Figure 7).

1.5 Summary of Site Contamination and Qualitative Risk Assessment

1.5.1 WTS (LOT 512) & DBCA Land

Soil Contamination & Risk Summary

- Preliminary air monitoring for respirable fibres (including asbestos) was conducted over several days at the site in December 2023. Respirable fibre concentrations did not exceed the laboratory limit of reporting (0.01f/mL) at any monitoring station (Figure 9) and as such, the risk of airborne asbestos at the site was considered to be low.
- Asbestos (as ACM) contamination (exceeding the screening criteria for industrial site uses) is present in near surface soils below isolated parts of DBCA land, the green waste processing area, Windrow 1 and in fly-tipped areas outside the southeastern corner of the WTS (see Figure 13). These impacts may pose a risk to site users if the site re-opens and will require remediation and/or management to mitigate the risk.
- Although ACM impact was identified in Windrow 2 (WTS), (Figure 13) it is present at concentrations below the screening criteria for industrial sites and as such represents a low risk. However, it is recommended that management of this material be included with the overall asbestos management strategy for the site.
- Near surface asbestos in soil (as AF or FA) was not reported in any of the samples analysed from the landfill capping material. In conjunction with the visual observations of bonded ACM during this DSI, this supports the assumption that the occurrence of asbestos contamination is most likely a result of the importation of ACM from bonded building materials to the site, rather than from a friable asbestos source (which is generally associated with higher risk to health).

- Only minor/isolated detections of other soil contamination were reported across both the WTS and DBCA land including:
    - Isolated detections of PFOS at three sample locations at concentrations which have the potential to pose a risk to groundwater and terrestrial ecology:
        - WTS (SB13, TP23 and SP4)
        - DBCA (no exceedances reported)
    - Isolated detections of TRH at three locations at concentrations which have the potential to pose a risk to groundwater and terrestrial ecology:
        - WTS (SP2 and TP25)
        - DBCA (TP07)
- In general, no other notable or significant occurrences of soil impact and/or contamination were identified with respect to the other contaminants analysed (i.e. BTEXN, PAH, phenols, and metals).
- The above findings indicate that gross soil contamination with the potential to cause a risk to human health does not appear to be present at the site (other than the previously documented ACM contamination within the landfill capping layer, windrows, and fly-tipped area to the southeast). This is likely to be due to the age of the buried waste, being >20 years old, with no likely notable additional source of significant contamination being present since the landfill was capped, and the subsequent natural attenuation and/or leaching of contaminants into the underlying soils and/or groundwater over that period. However, irrespective of the results, it is recommended that contact with buried landfill material be avoided as the materials contained within whilst apparently mostly inert in nature, carry other risks through their general physical form.

Groundwater Contamination and Risk Summary

- Dissolved phase hydrocarbons (DPH) groundwater contamination (comprising TRH F3) was identified in MW01D (DBCA land) at concentrations that represent a potential human health risk if contact/ingestion were to occur. The DPH contaminant "plume" can be inferred to extend to the southwest, approaching MW02D (where detectable TRH F2 and F3 is reported), but is not likely to extend far beyond. As such, it is likely that DPH concentration is present below the majority of the DBCA land, marginally encroaching below the northwest corner of the WTS (Figure 12A). The DPH contamination is currently inferred to be delineated by the surrounding monitoring points which did not report concentrations exceeding the screening levels (MW03D to MW06D), although residual/low-level TRH F2 and F3 impact was detected in MW05D.
- PFAS groundwater contamination (sum PFHxS & PFOS) was identified in MW01D (DBCA land), MW06D (DBCA land) and MW02D (WTS) at concentrations that represent a potential human health risk if ingestion were to occur. It is noted that this assessment is based on the adoption of the drinking water guideline which is a conservative approach. The contaminant "plume" can be inferred to extend to the southwest along a similar path to the DPH and may extend marginally beyond the boundary of the WTS at concentrations exceeding the drinking water screening levels (Figure 12B). The contamination (sum PFHxS & PFOS) is currently inferred to be delineated by the surrounding monitoring points which did not report concentrations exceeding the screening levels (MW04D. MW05D and MW03 GALT), although residual/low-level concentrations were detected in MW04D).

- PFAS groundwater contamination (sum PFHxS & PFOS) was identified in MW01D (DBCA land), MW06D (DBCA land) and MW02D (WTS) at concentrations that may represent a potential human health risk if ingestion were to occur. It is noted that this assessment is based on the adoption of the drinking water guideline which is a conservative approach. The contaminant "plume" can be inferred to extend to the southwest along a similar path to the DPH and may extend marginally beyond the boundary of the WTS at concentrations exceeding the drinking water screening levels (Figure 12B).
- PFAS groundwater contamination (PFOS) was identified in all wells sampled (including two Kiernan Park bores) at concentrations that may represent a potential risk to surrounding ecological communities (FWG 99% species protection), through bioaccumulation and biomagnification in higher trophic order organisms, as PFAS is stored in animal tissues as it moves through the food chain. Notable decreases in PFOS concentration (on the order of 50-100x reduction) are observed between MW01D and MW04D/MW05D (respectively) over lateral distances of ~450m, which, assuming no other sources of PFOS are present in the vicinity of the plume, it could be inferred that PFOS concentrations might reduce to levels below the FWG (99% species protection), with a further 100-200m of MW04D and MW05D (but this would likely require confirmatory analysis). Further, it is noted that the FWG (99% species protection) for PFOS is extremely low, and only marginally above the detection limit of commercial laboratories, meaning that almost any detection of represents an exceedance of the FWG (99% species protection). The presence of PFOS >FWG (99% species protection) in the two Kiernan Park bores, also indicates another point or diffuse source of PFAS in groundwater is present up-gradient of the site, which is likely to be adding to the overall contaminant load.
- Both PFAS and DPH contaminant plumes in groundwater are inferred to have migrated in a south-westerly direction from the source (buried landfill waste), which is consistent with the measured groundwater flow direction.
- In general, no other notable or significant occurrences of groundwater impact and/or contamination were identified with respect to the other contaminants analysed (i.e. BTEXN, PAH, phenols, and metals).
- As with the soil contamination identified, the groundwater contamination identified below the site is most likely to be attributable to residual impact from landfilling activities occurring >20 years ago, with no obvious ongoing additional source of contamination since. Further, it is likely that any putrescible material has long since decomposed, hydrocarbons predominantly attenuated and other contaminants sorbed or leached through the geological profile resulting in the residual impacts observed as part of this DSI. Without an ongoing source of contamination, these impacts are likely to further decrease over time, with PFAS' being the exception which are far more stable in the environment, take much longer to break down, and will likely be transported further in groundwater, where geological conditions allow it.
- It is unlikely active groundwater remediation will be necessary to remediate the identified contamination and mitigate potential health risks, however, ongoing monitoring and procedural management of contamination, including seasonal monitoring of groundwater contaminant concentrations and restrictions on activities which could result in human/groundwater contact will be required moving forward (but may not be limited to), to protect human health at the site and potential off-site to the southwest.
- In terms of the potential ecological risk posed by the detected PFOS concentrations, significant off-site ecological risks are considered unlikely, primarily due to the ambient background concentrations of PFOS across large areas of the Perth metropolitan area being higher than those reported in the downgradient wells as part of this DSI (Richmond, W.R., 2022). However,

further assessment cannot be ruled out at this stage with regards to investigation of ecological community structure, food web analysis, and sampling of mid-trophic level biota.

- As off-site groundwater contamination may be perceived to be present (Lot 510), it cannot be ruled out at this stage whether Lot 510 will require reporting to DWER as contaminated site, with subsequent appointment of a contaminated sites Auditor to oversee all future investigations.
- In conclusion, it is ERC's opinion that the site is fit for ongoing use as a WTS, provided the following recommendations (Section 1.6) are adhered to which have been designed to mitigate potential human health risk with regards to residual contamination in soil and groundwater.

ACM REMEDIATION (Phase 3)

As part of the scheduled ACM removal works undertaken in May 2024:

- A total of 6.5kg of broken ACM debris attributable to building materials was collected and removed from the operational portion of the WTS.
- A total of 14 fence broken fence panels were removed from various parts of the site, including the DBCA land to the north.

1.6 Site Management Recommendations

ERC make the following recommendations based on the outcome of this DSI, and in the event the facility will re-open in the future. It is noted that alternate recommendations would be made in the event of complete site closure:

1) It is ERC's opinion that the DSI report be provided to DWER with the following recommendation for Lot re-classification, in accordance with the CS Act (2003):
    a) Lot 512 should be re-classified to *Contaminated – Restricted Use (C-RU)*.
    b) Lot 4396 should be re-classified to *Contaminated – Restricted Use (C-RU).*
2) Contamination identified in both soil and groundwater at the site (Lot 512 and Lot 4396) requires management in accordance with *Department of Water and Environmental Regulation, Assessment and Management of Contaminated Sites, Contaminated Sites Guidelines, 2021,* to mitigate risk. As such, a site management plan (SMP) should be prepared for the site to provide the framework for the following (but may not be limited to):
    a) Notification of all site personnel/workers to, and provision of information, regarding the presence of contaminated soil and groundwater below the site, including the development of an asbestos awareness register, specifically targeted at day to day site workers.
    b) Development of a remediation action plan (RAP) to provide the methodology for and subsequently facilitate:
        i. Capping the footprint of buried landfill waste at Lot 512 (WTS) to at least 100mm thickness. Capping buried waste material is designed to break the source-pathway-receptor linkage, by maintaining a physical barrier between site workers and near surface ACM in the current landfill cap. Further engineering considerations will need to be considered by the Shire which are

beyond the scope of the conceptual recommendation made by ERC at this stage.

ii. Removal of any other residual surface ACM debris (i.e. stockpiles/windrow 1-2 but may not be limited to).

c) Development of a series of management protocols to mitigate human health risks with regards to known contamination and potential exposure scenarios identified in the CSM (such as on-site excavations for drainage, unexpected finds of ACM which may occur from time to time, and/or maintenance/monitoring of any applied landfill capping material) (Figure 14).

d) Restriction on active groundwater abstraction (other than for environmental testing).

e) Seasonal groundwater monitoring to track any changes in the nature, magnitude and extent of groundwater contamination identified and discussed in this report, to allow timely adjustments to the human health and ecological risk assessment if required.

f) Prevention of public access to the DBCA Land (i.e. permanent perimeter fencing) to mitigate potential exposure to near surface ACM debris.

g) Further capping of the footprint of buried landfill waste at Lot 4396 (DBCA Land) to meet current landfill closure requirements, noting that further discussions with DWER will be required in this regard, as to DWER's expectations and/or requirements.

3) In accordance with the relevant guidance and legislation, further soil characterisation will be required, if stockpiled materials (such as drain waste and/or construction and demolition waste) are to be considered for either beneficial re-use on-site or removed and disposed of at a licensed waste facility.

4) All future contaminated site assessment should be undertaken in accordance with Department *of Water and Environmental Regulation, Assessment and Management of Contaminated Sites, Contaminated Sites Guidelines, 2021.*

PROJECT LIMITATIONS

ER Consultants Pty Ltd (ERC) has prepared this report in accordance with accepted environmental practices used by environmental professionals working within this area at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The methodology utilised and sources of information used by ERC for this project are documented in the report and further detail can be obtained directly from ERC as required. ERC has made no independent verification of information obtained from other sources and assumes no responsibility for inaccuracies or omissions.

The findings of this report are based on site conditions existing at the time the site activities were conducted. Conclusions have been made from a limited number of observation points assuming that the geological, hydrogeological, and chemical conditions are representative across the site.

For projects such as the one undertaken, relating to efforts to ascertain the presence or absence of hazardous substances or contamination, the level of effort may range from very limited observations and inquiry to extensive investigation and testing. The level of uncertainty with respect to opinions reached on such projects will vary, depending on the extent of the investigation, but some level of uncertainty will exist in every project.

Further to the above, the very nature of earth science is unavoidably based upon interpretation and professional judgement. Whilst not a common occurrence, it is possible for competent professionals working in the same field of contaminated sites, to each have valid but differing opinions on the same report or data set. As such, ERC cannot guarantee or provide any warranty with respect to the outcome of any reviews of this report that have been carried out by other professionals should they result in a different professional interpretation to that which is provided by ERC. This includes reviews carried out by regulators such as DWER or their agents.

The state of practice, particularly with respect to contaminated site is changing and evolving. Whilst ERC is required to perform in reasonable accordance with the standards in effect at the time the services are performed, it is recognised that those standards may subsequently change because of improvements in the state of practice.

This report has been prepared exclusively for the Shire of Serpentine Jarrahdale between December 2023 and May 2024. This report cannot be reproduced without the written authorisation of ERC and then can only be reproduced in its entirety.

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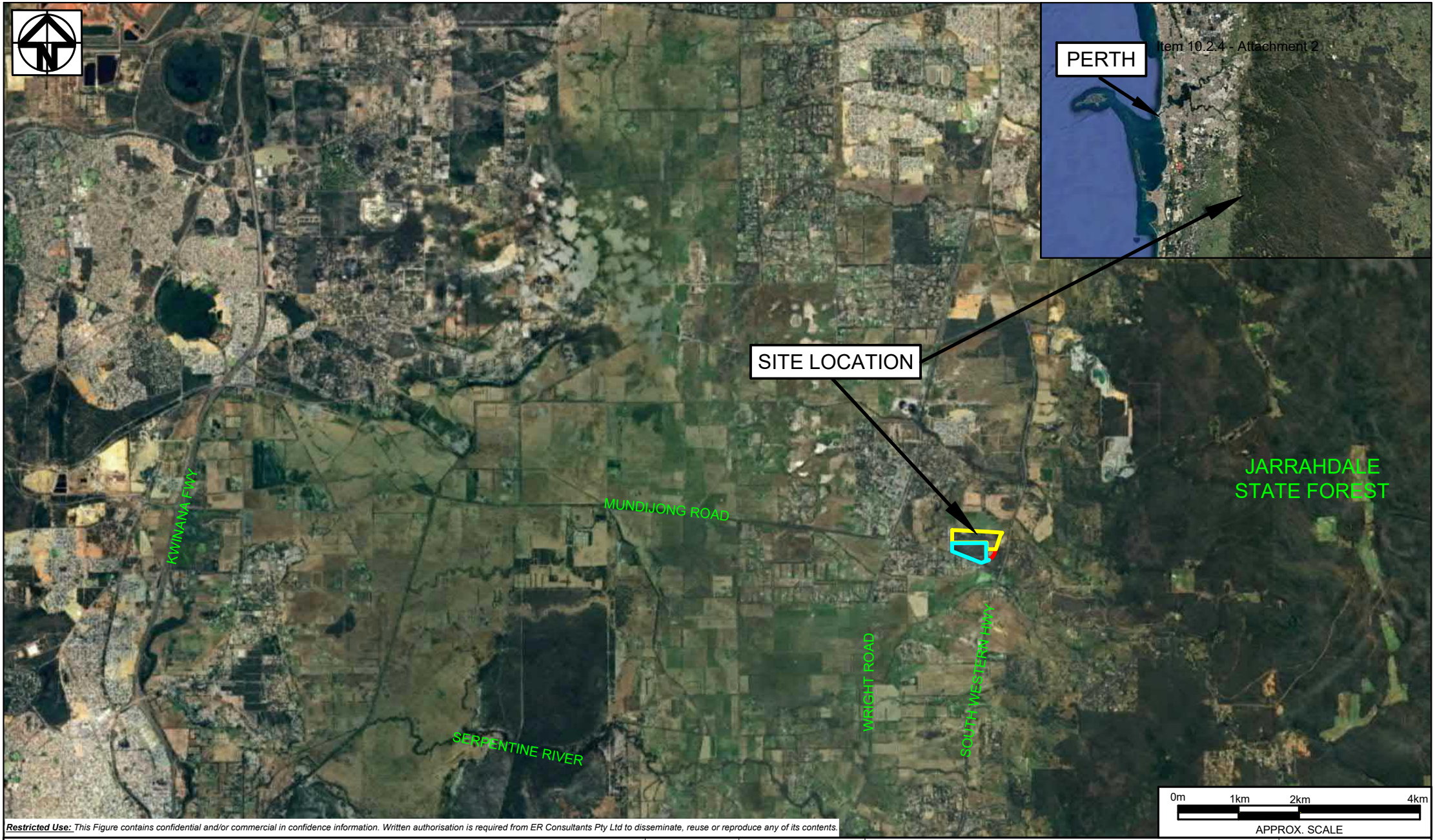
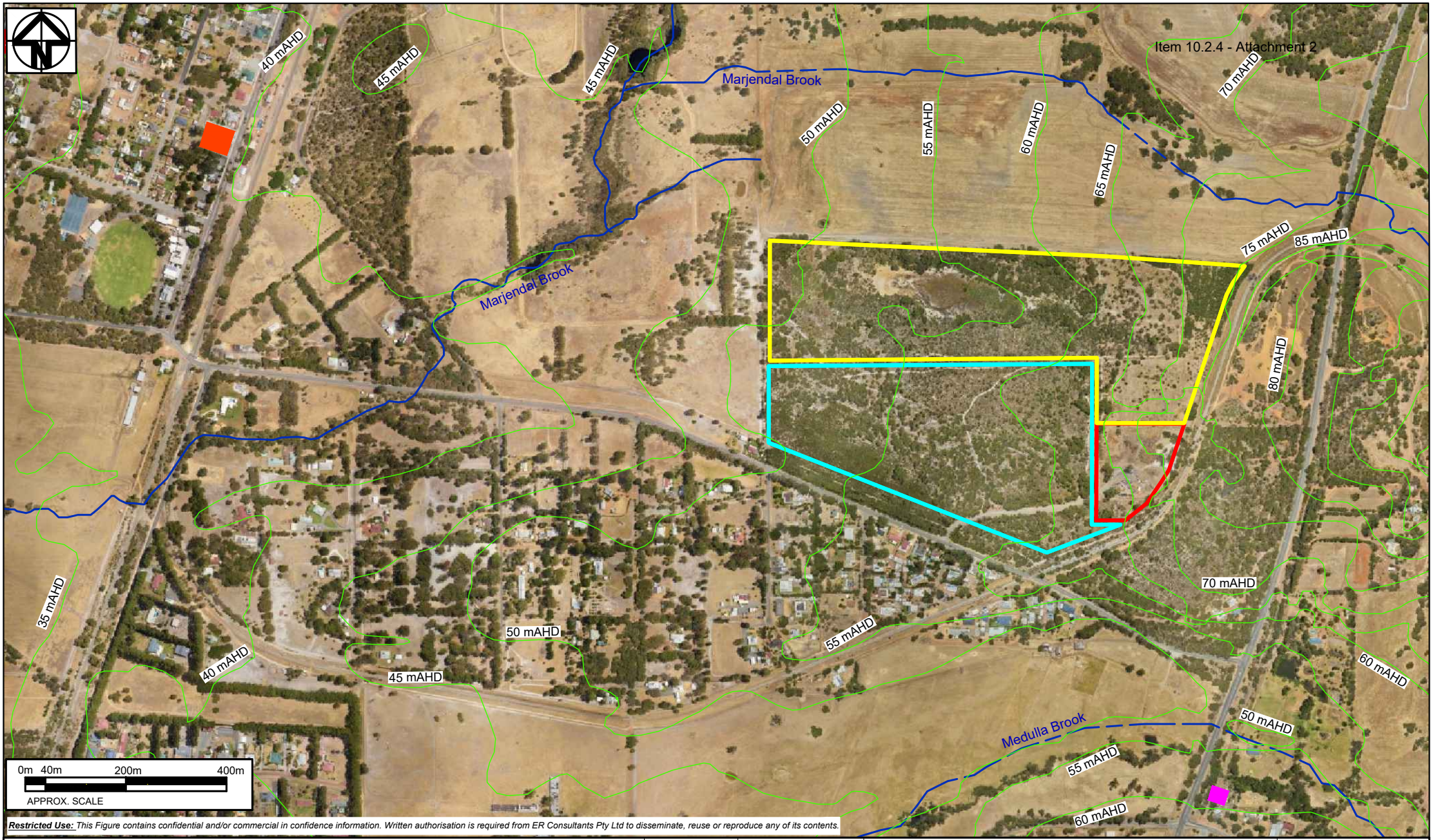


LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road

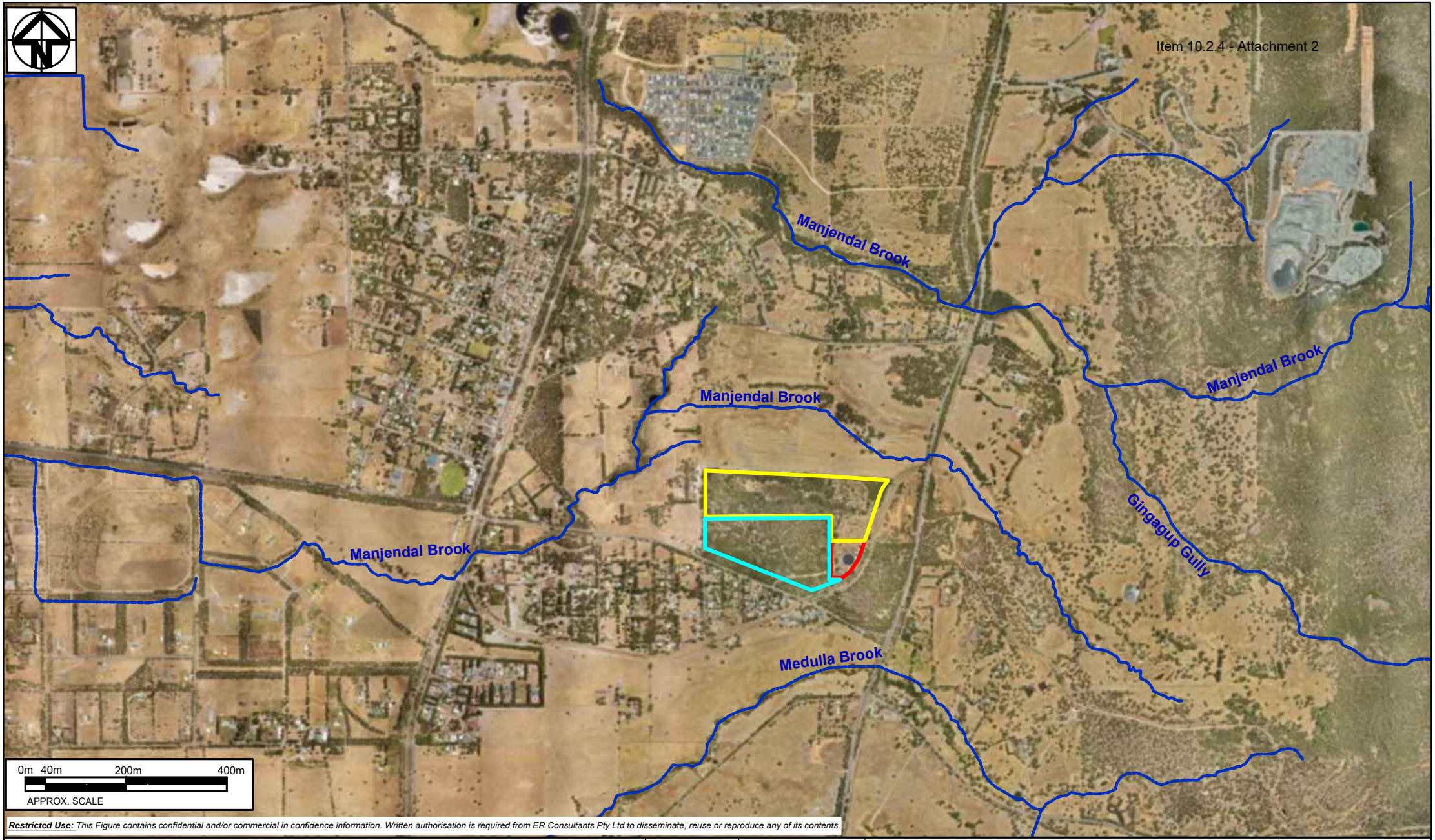
DRG. No.	1449-5-T1		Shire of Serpentine Jarrahdale	**FIGURE 1**
DRAWN:	VL	19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB	19/04/2024	**SITE LOCATION**	
SOURCE:	Google Earth		Ordinary Council Meeting - 17 June 2024	ERC
PAPER SIZE:	A4		40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd



LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Topography Contour Line
- Water Bodies
- Contaminated - Remediation Require (C-RR) - 20 Paterson St.
- Contaminated - Restricted Used (C-RU)- 2 Jarrahdale Road

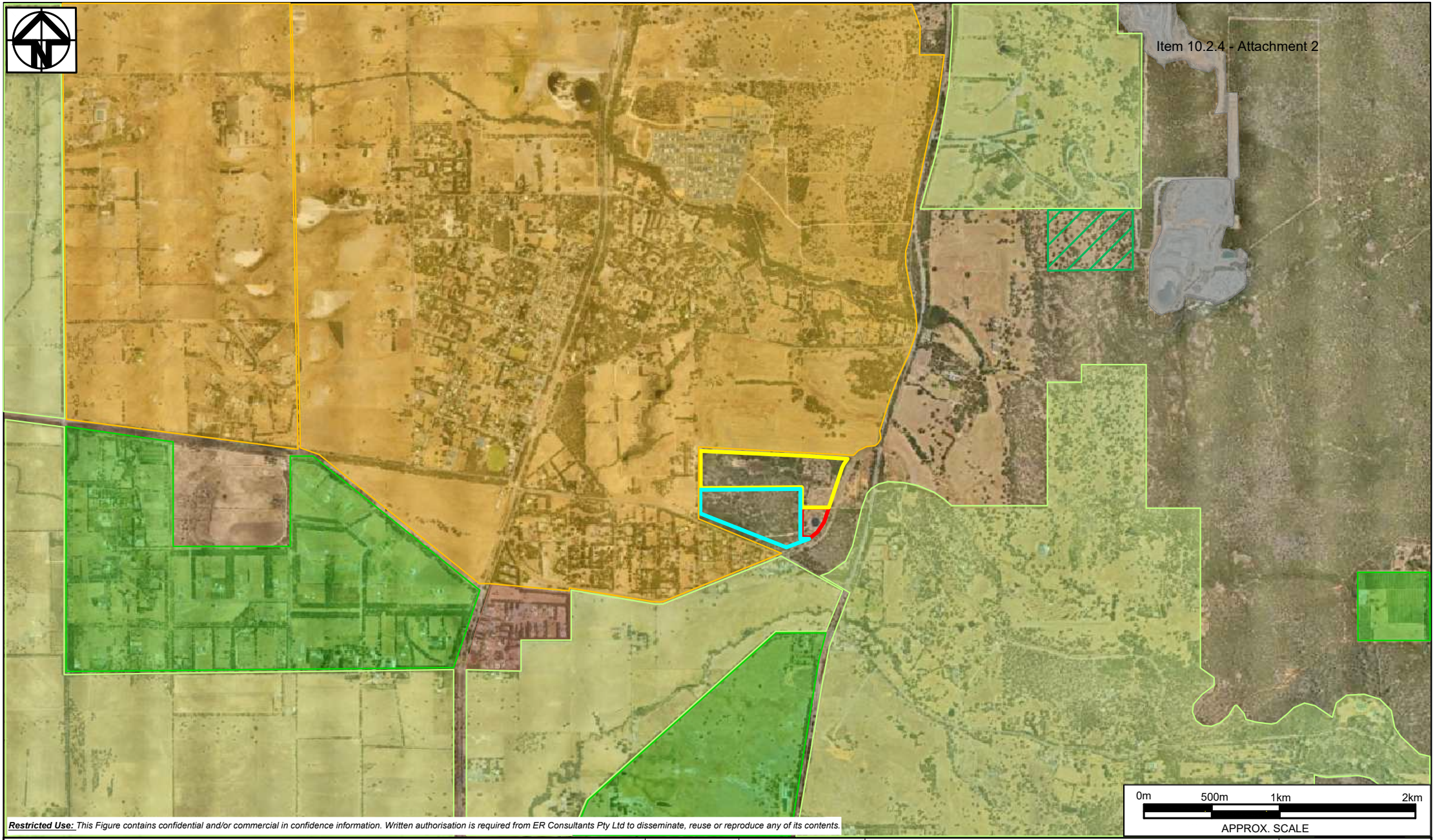
DRG. No.	1449-5-T2	Shire of Serpentine Jarrahdale	**FIGURE 2A**
DRAWN:	VL 19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB 19/04/2024	**SITE TOPOGRAPHY**	
SOURCE:	Landgate	Ordinary Council Meeting - 17 June 2024	
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd



LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Water Bodies

DRG. No.	1449-5-T2		Shire of Serpentine Jarrahdale	**FIGURE 2B**
DRAWN:	VL	19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB	19/04/2024	**SITE SETTING AND SURROUNDING LAND USES**	
SOURCE:	Landgate			
PAPER SIZE:	A4		40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd



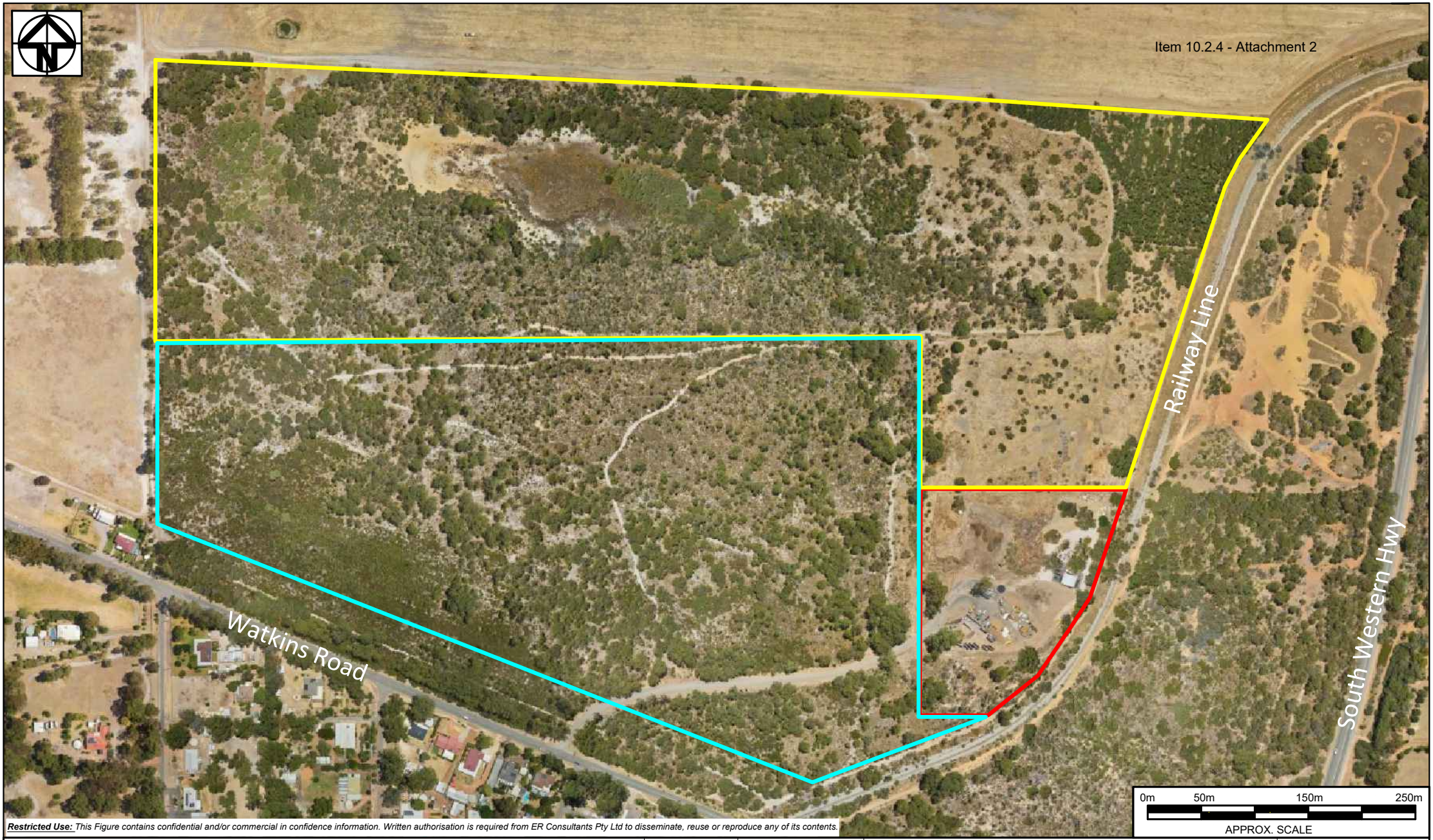
LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Zone Urban Development
- Zone Farmlet
- Zone Rural
- Zone Special Use
- Public Open Space
- Blue Metal Quarry

DRG. No.	1449-5-T3		Shire of Serpentine Jarrahdale
DRAWN:	VL	19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION
REVIEWED:	JB	19/04/2024	**SURROUNDING LAND USE ZONING**
SOURCE:	Landgate		Ordinary Council Meeting - 17 June 2024
PAPER SIZE:	A4		40 Watkins Rd, Mundijong WA 6123

FIGURE 3

ER Consultants Pty Ltd



LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road

DRG. No.	1449-5-T4		Shire of Serpentine Jarrahdale	**FIGURE 4**
DRAWN:	VL	19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB	19/04/2024	**SITE IDENTIFICATION**	
SOURCE:	Landgate		Ordinary Council Meeting - 17 June 2024	
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REVEGETATING BUSHLAND
(HISTORICAL LANDFILL)

Railway Line

DRAIN WASTE STOCKPILE

FORMER GREENWASTE STOCKPILE AREA
(HISTORICAL LANDFILL)

RECYCLING AREA

DRAINAGE SUMP (ACCESS ROAD)

WASTE TRANSFER AREA

MAIN GATE

BUSHLAND

South Western Hwy

0m 10m 30m 50m
APPROX. SCALE

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- Inferred Extent of Landfill

DRG. No.	1449-5-T5		Shire of Serpentine Jarrahdale
DRAWN:	VL	19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION
REVIEWED:	JB	19/04/2024	**GENERAL SITE LAYOUT**
SOURCE:	Landgate		
PAPER SIZE:	A4		40 Watkins Rd, Mundijong WA 6123

FIGURE 5

ER Consultants Pty Ltd

FIGURE 6B

FIGURE 6A

0m 10m 30m 50m

APPROX. SCALE

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Inferred Extent of Landfill

DRG. No.	1449-5-T6	Shire of Serpentine Jarrahdale	**FIGURE 6**
DRAWN:	VL 12/02/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB 12/02/2024	**GENERAL SITE FEATURES**	
SOURCE:	Landgate		
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd

Key Features:

AOC:

1. Laydown Area - Skip Bins
2. General Waste Sorting Area
3. 9'6 High Container (Flammable Liquid)
4. Electronics Skipbin
5. Soil/Gravel Windrow 1
6. Soil/Mulch Windrow 2
7. Drainage Sump
8. Green Waste Sorting Area
9. ACM Fly Tipping Area (Lot 4396 TP2) (Fig 6B)
10. ACM Fly Tipping Area (Lot 4396 TP11) (Fig 6B)
11. ACM Fly Tipping Area outside SE Boundary Fence
12. Drain Waste Stockpiles
13. Dumped Domestic Waste (Lot 4396) (Fig 6B)
14. Buried Landfill Waste

OTHERS:

15. Roadbase Stockpiles (temporary)
16. White Goods/Matresses
17. Fridge/Freezers
18. Bunded Used Batteries - Lead Acid & Dry Cell
19. Light Tubes/Globes/Mobile Phone/Electronic
20. Sorting Shed (household waste)
21. Rainwater Tank
22. BBQs
23. Laydown Area (outdoor household)
24. Bicycles
25. Pet Supplies
26. Site Entry
27. Concrete Pad
28. Scrap Metal
29. Truck Parking Bays
30. Cardboard
31. Toilet
32. Fibre Water Tank
33. Site Office
34. Entry Hut
35. Container
36. Reuse Shop Parking
37. Kyaks/SUPs
38. Garden Furniture
39. Tools/Parts
40. Gate to Lot 4396
41. Railway - Not In Use

0m 10m 20m 30m 40m
APPROX. SCALE

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- Inferred Extent of Landfill
- Feature Footprint

DRG. No.	1449-5-T6A	Shire of Serpentine Jarrahdale	**FIGURE 6A**
DRAWN:	VL 19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB 19/04/2024	**AREA OF CONCERN & GENERAL SITE FEATURES - LOT 512 WTS**	
SOURCE:	Landgate		
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd

Key Features:

AOC:

1. Laydown Area - Skip Bins (Fig 6A)
2. General Waste Sorting Area (Fig 6A)
3. 9'6 High Container (Flammable Liquid) (Fig 6A)
4. Electronics Skipbin (Fig 6A)
5. Soil/Gravel Windrow 1 (Fig 6A)
6. Soil/Mulch Windrow 2 (Fig 6A)
7. Drainage Sump (Fig 6A)
8. Green Waste Sorting Area (Fig 6A)
9. ACM Fly Tipping Area (Lot 4396 TP2)
10. ACM Fly Tipping Area (Lot 4396 TP11)
11. ACM Fly Tipping Area outside SE Boundary Fence (Fig 6A)
12. Drain Waste Stockpiles (Fig 6A)
13. Dumped Domestic Waste (Lot 4396)
14. Buried Landfill Waste (Fig 6A)

OTHERS: (Fig 6A)

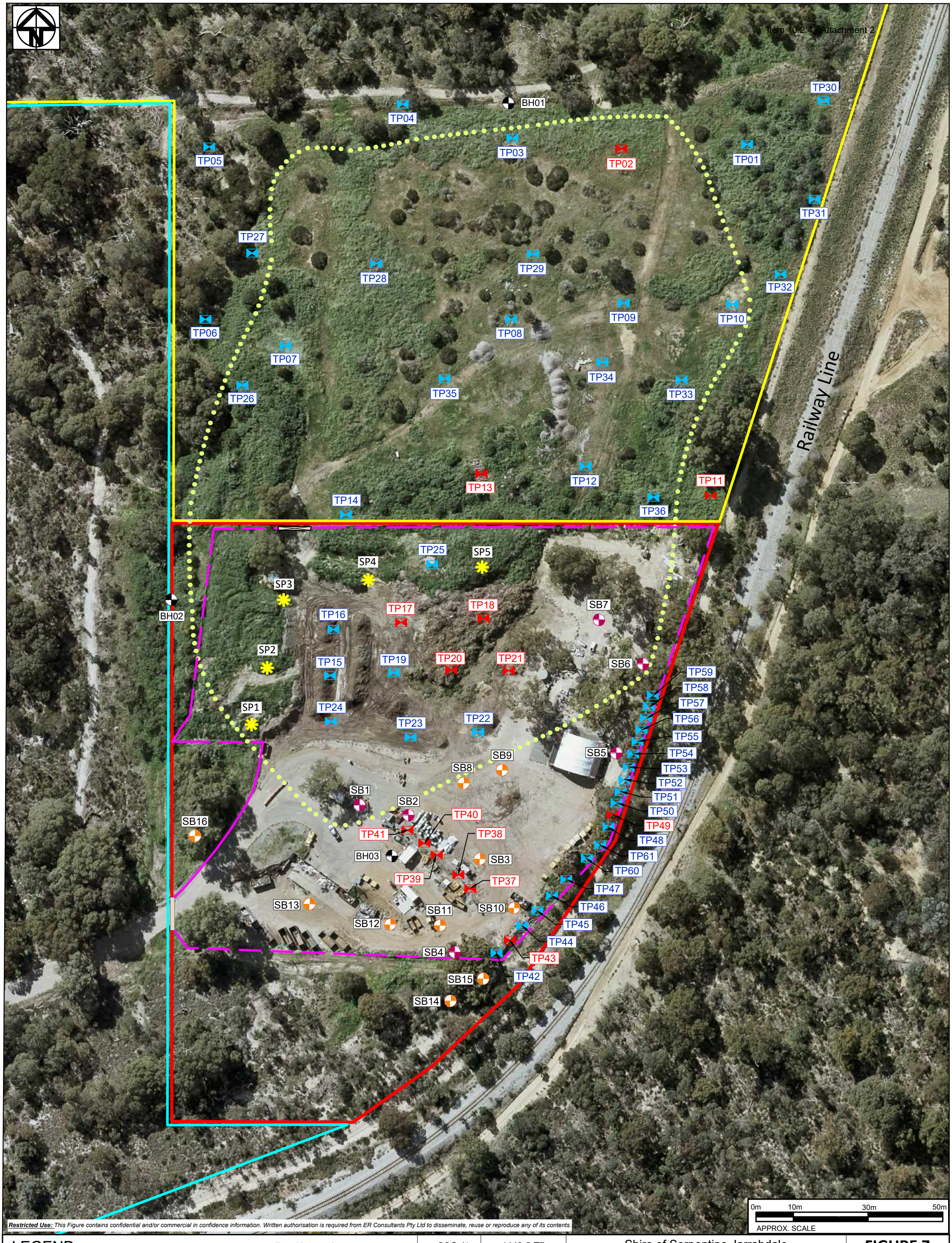
15. Roadbase Stockpiles (temporary)
16. White Goods/Matresses
17. Fridge/Freezers
18. Bunded Used Batteries - Lead Acid & Dry Cell
19. Light Tubes/Globes/Mobile Phone/Electronic
20. Sorting Shed (household waste)
21. Rainwater Tank
22. BBQs
23. Laydown Area (outdoor household)
24. Bicycles
25. Pet Supplies
26. Site Entry
27. Concrete Pad
28. Scrap Metal
29. Truck Parking Bays
30. Cardboard
31. Toilet
32. Fibre Water Tank
33. Site Office
34. Entry Hut
35. Container
36. Reuse Shop Parking
37. Kyaks/SUPs
38. Garden Furniture
39. Tools/Parts
40. Gate to Lot 4396
41. Railway - Not In Use

0m 10m 20m 30m 40m
APPROX. SCALE

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- Inferred Extent of Landfill
- Feature Footprint

DRG. No.	1449-5-T6B	Shire of Serpentine Jarrahdale	**FIGURE 6B**
DRAWN:	VL 19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB 19/04/2024	**AREA OF CONCERN & GENERAL SITE FEATURES - LOT 4396 DBCA**	
SOURCE:	Landgate		
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd



LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- Extent of Historical Landfill
- Test Pit Location
- Test Pit (PACM observed)
- Stockpile Sample
- Soil Bore Locations
- Soil Observation Bore Locations
- Borehole Locations

DRG. No.	1449-5-T7	
DRAWN:	VL	19/04/2024
REVIEWED:	JB	19/04/2024
SOURCE:	Landgate	
PAPER SIZE:	A4	

Shire of Serpentine Jarrahdale

PRELIMINARY AND DETAILED SITE INVESTIGATION

SOIL SAMPLE LOCATIONS

40 Watkins Rd, Mundijong WA 6123

FIGURE 7

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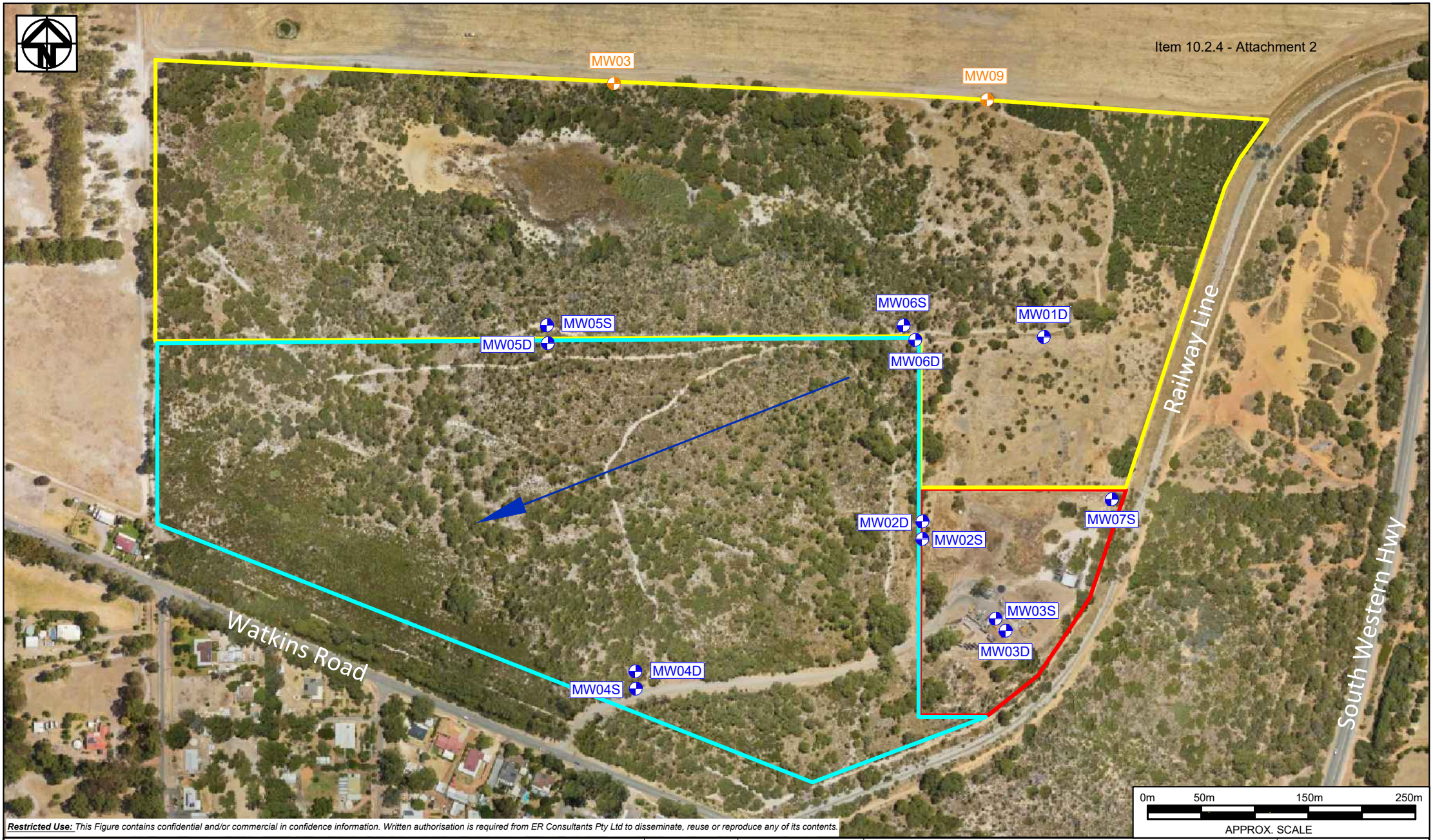
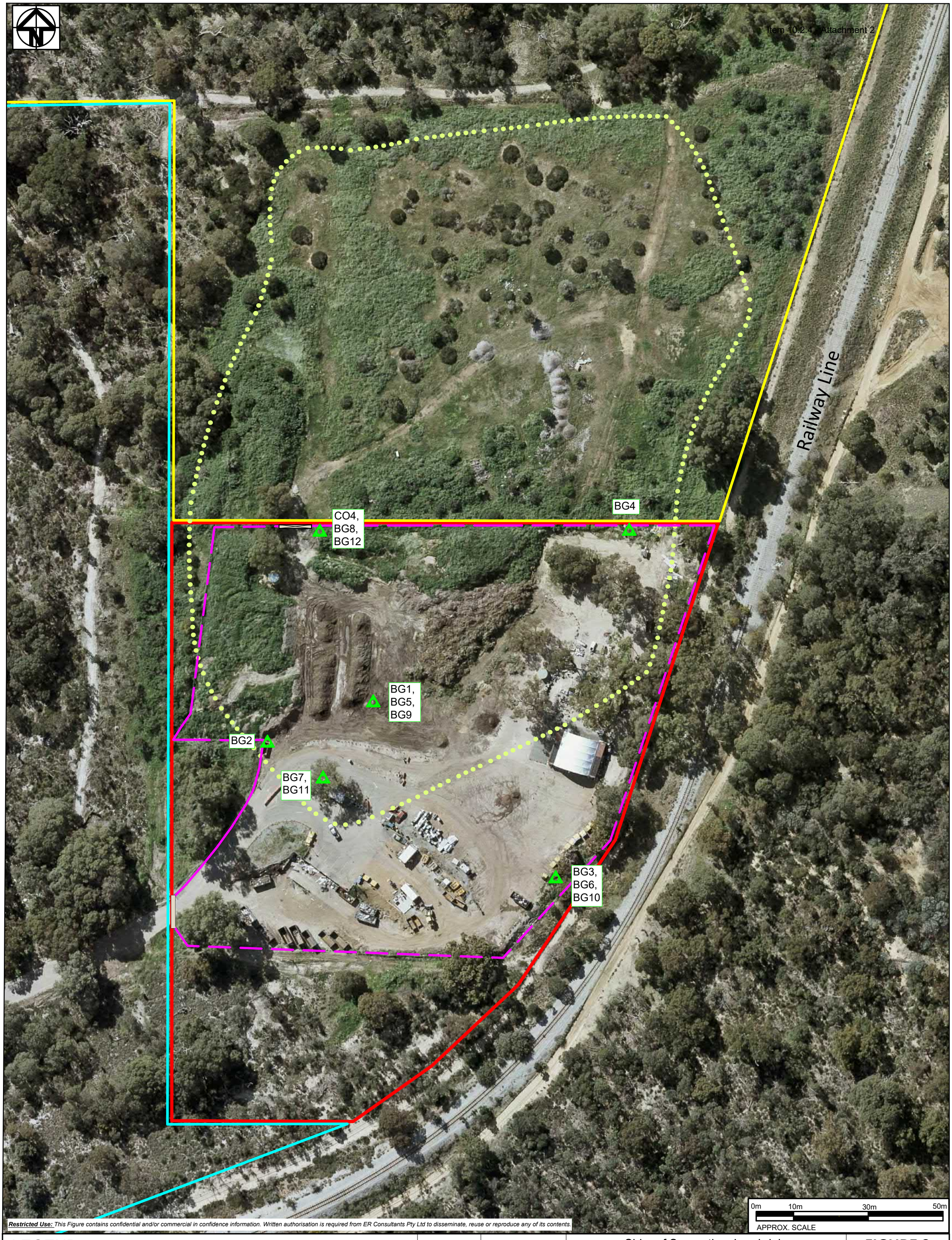


LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Unsuccessful Bore (refusal)
- New Groundwater Monitoring Well Location (ERC)
- Groundwater Monitoring Well Location (GALT Environmental)
- Inferred Groundwater Elevation (mAHD)

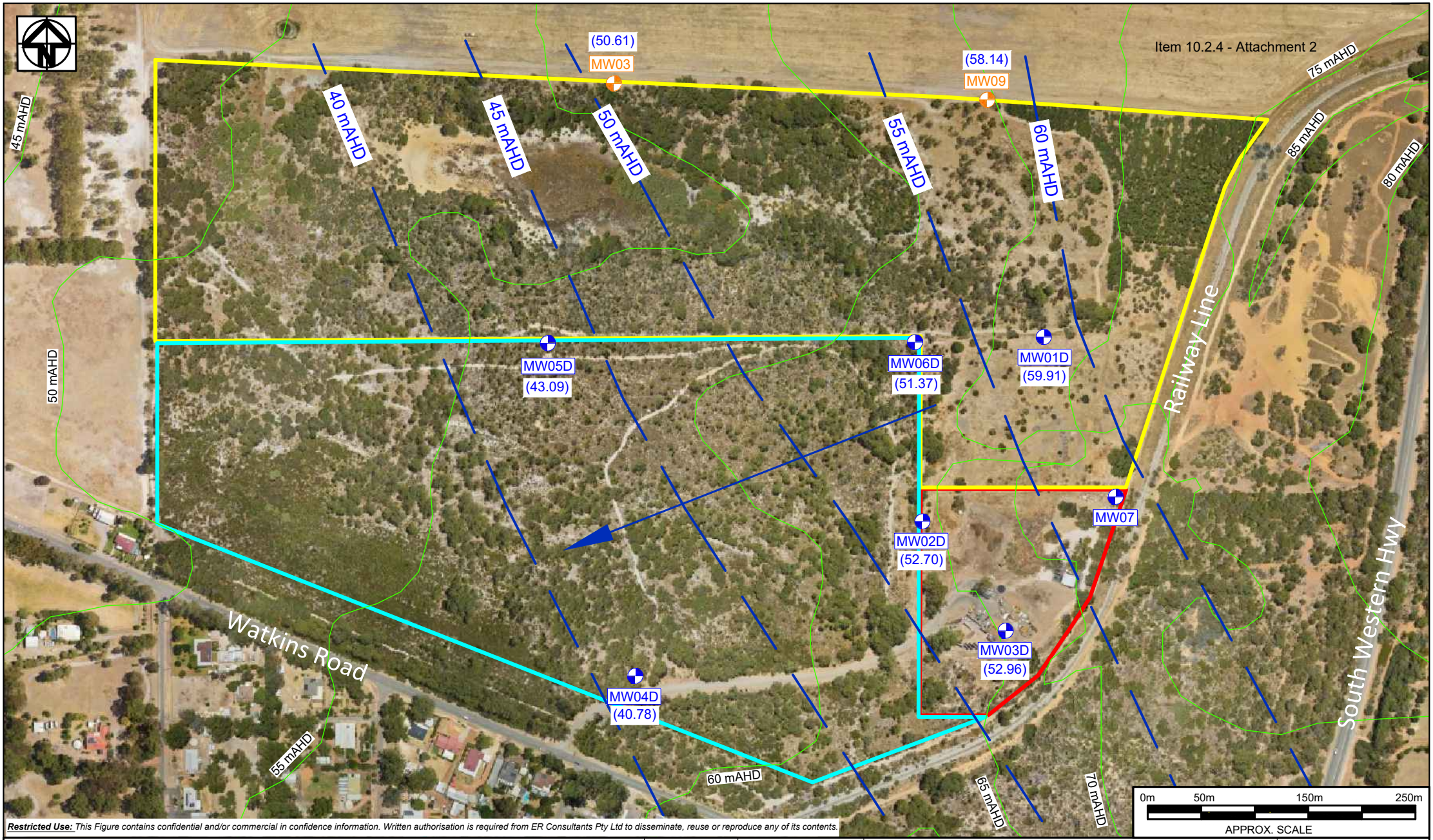
DRG. No.	1449-5-T8	Shire of Serpentine Jarrahdale	**FIGURE 8**
DRAWN:	VL 19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB 19/04/2024	**GROUNDWATER MONITORING WELL LOCATIONS**	
SOURCE:	Landgate		
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd



LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- Extent of Historical Landfill
- Air Monitoring Station

DRG. No.	1449-5-T9	Shire of Serpentine Jarrahdale	**FIGURE 9**
DRAWN:	VL 19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB 19/04/2024	**BACKGROUND AIR MONITORING LOCATIONS**	ERC
SOURCE:	Landgate		
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd



LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Topography Contour Line
- Inferred Groundwater Elevation (mAHD)
- New Groundwater Monitoring Well Location (ERC)
- Groundwater Monitoring Well Location (GALT Environmental)

DRG. No.	1449-5-T10	Shire of Serpentine Jarrahdale	**FIGURE 10**
DRAWN:	VL 19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB 19/04/2024	**RELATIVE LEVEL GROUNDWATER CONTOURS**	
SOURCE:	Landgate		
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123	ER Consultants Pty Ltd

	TRH (F1)	TRH (F2)	TRH (F3)	TRH (F4)	N	B	T	E	X
0.3m	ND	130	510	220	ND	ND	ND	ND	ND

	TRH (F1)	TRH (F2)	TRH (F3)	TRH (F4)	N	B	T	E	X
1.0m	ND	350	910	ND	ND	ND	0.2	ND	ND

TRH (F1)	TRH (F2)	TRH (F3)	TRH (F4)	N	B	T	E	X
ND	150	410	210	ND	ND	ND	ND	ND

TP01 TP02 TP03 TP04 TP05 TP06 TP07 TP08 TP09 TP10 TP11 TP12 TP13 TP14 TP15 TP16 TP17 TP18 TP19 TP20 TP21 TP22 TP23 TP24 TP25 TP26 TP27 TP28 TP29 TP30 TP31 TP32 TP33 TP34 TP35 TP36 TP37 TP38 TP39 TP40 TP41 TP42 TP43 TP44 TP45 TP46 TP47 TP48 TP49 TP50 TP51 TP52 TP53 TP54 TP55 TP56 TP57 TP58 TP59 TP60 TP61

SP1 SP2 SP3 SP4 SP5

SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB11 SB12 SB13 SB14 SB15 SB16

Railway Line

Soil Assessment Criteria

mg/kg ND - Non Detect 123 - Exceedances

- NEPM EIL - COMM/ IND
- NEPM EIL - URBAN RES & PUBLIC OPEN SPACE
- NEPM ESL - COMM/ IND
- NEPM ESL - URBAN RES & PUBLIC OPEN SPACE
- NEPM HIL C - REC
- NEPM HIL D - COMM/IND
- HSL C, Sand >=4m
- HSL D, Sand >=4m
- DIRECT CONTACT, HSL C
- DIRECT CONTACT, HSL D
- HSL IMW, Sand 4m+

0m 10m 30m 50m

APPROX. SCALE

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- Inferred Extent of Landfill
- Test Pit Location
- Test Pit (PACM observed)
- Stockpile Sample
- Soil Bore Locations
- Soil Observation Bore Locations

DRG. No.	1449-5-T11A	
DRAWN:	VL	19/04/2024
REVIEWED:	JB	19/04/2024
SOURCE:	Landgate	
PAPER SIZE:	A4	

Shire of Serpentine Jarrahdale

PRELIMINARY AND DETAILED SITE INVESTIGATION

SOIL ANALYTICAL RESULTS - HYDROCARBONS

40 Watkins Rd, Mundijong WA 6123

FIGURE 11A

ER Consultants Pty Ltd

PFOA	PFHxS	PFOS	SUM PFHxS & PFOS
ND	ND	19	19

	PFOA	PFHxS	PFOS	SUM PFHxS & PFOS
2.0m	1.2	ND	13	13

	PFOA	PFHxS	PFOS	SUM PFHxS & PFOS
1.5m	6.9	ND	40	40

Railway Line

Soil Assessment Criteria

µg/kg ND - Non Detect 123 - Exceedances

- NEMP - ECOLOGICAL DIRECT EXPOSURE
- NEMP - ECOLOGICAL INDIRECT EXPOSURE
- NEMP - PUBLIC OPEN SPACE - HIL C
- NEMP - PUBLIC OPEN SPACE - HIL D

0m 10m 30m 50m

APPROX. SCALE

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- Inferred Extent of Landfill
- Test Pit Location
- Test Pit (PACM observed)
- Stockpile Sample
- Soil Bore Locations
- Soil Observation Bore Locations

DRG. No.	1449-5-T11B	Shire of Serpentine Jarrahdale
DRAWN:	VL 19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION
REVIEWED:	JB 19/04/2024	**SOIL ANALYTICAL RESULTS - PFAS**
SOURCE:	Landgate	Ordinary Council Meeting - 17 June 2024
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123

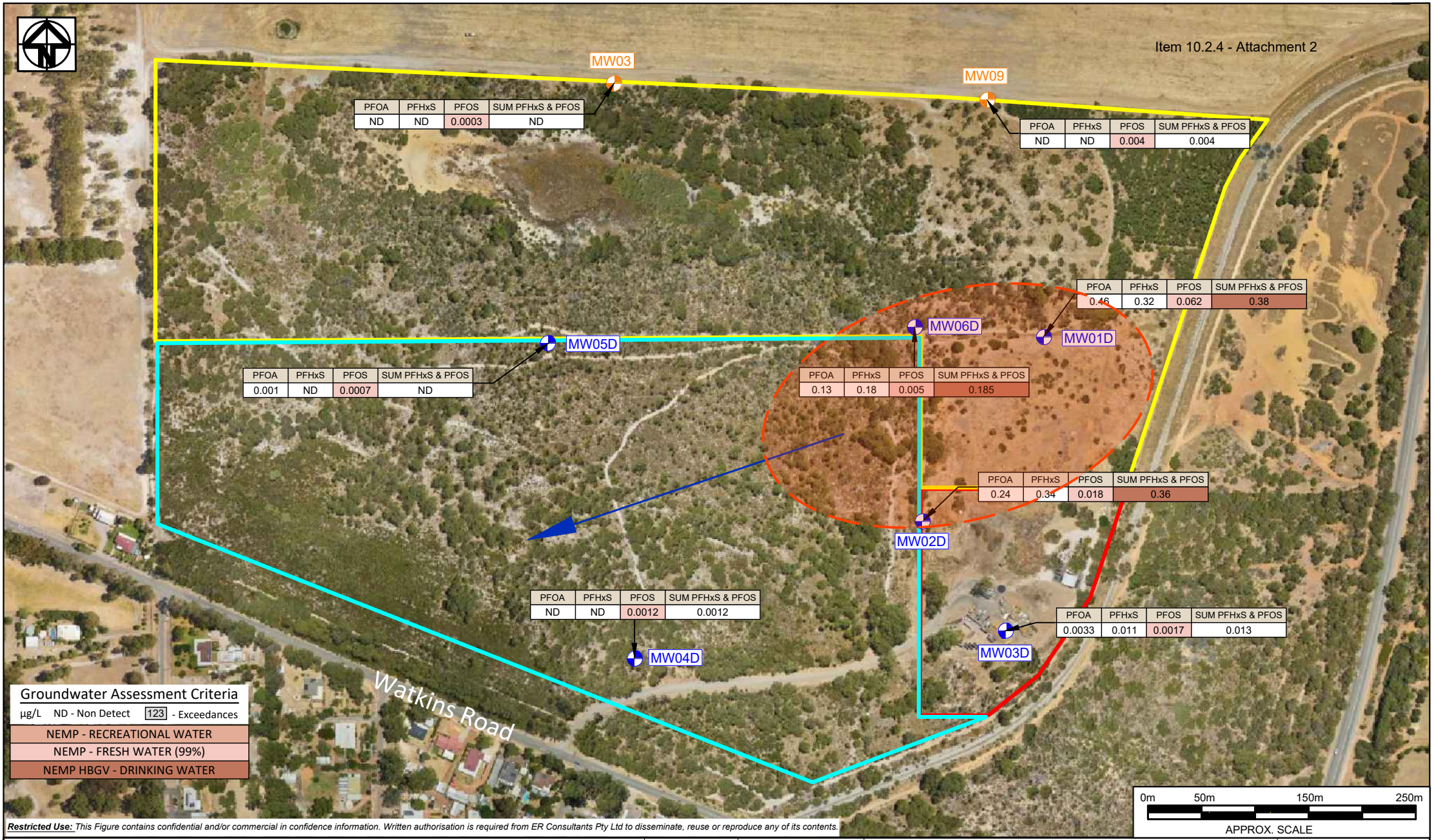
FIGURE 11B

ER Consultants Pty Ltd

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Inferred Extent of DPH (TRH F3) Plume (>DWG)
- Inferred Groundwater Elevation (mAHD)
- New Groundwater Monitoring Well Location (ERC)
- Groundwater Monitoring Well Location (GALT Environmental)

DRG. No.	1449-5-T12A	Shire of Serpentine Jarrahdale	**FIGURE 12A**
DRAWN:	VL 19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION	
REVIEWED:	JB 19/04/2024	**GROUNDWATER ANALYTICAL RESULTS - HYDROCARBONS**	ERC
SOURCE:	Landgate	Ordinary Council Meeting - 17 June 2024	ER Consultants Pty Ltd
PAPER SIZE:	A4	40 Watkins Rd, Mundijong WA 6123	



LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Inferred Extent of PFHxS & PFOS Plume (>DWG)
- Inferred Groundwater Elevation (mAHD)
- New Groundwater Monitoring Well Location (ERC)
- Groundwater Monitoring Well Location (GALT Environmental)

DRG. No.	1449-5-T12B		Shire of Serpentine Jarrahdale
DRAWN:	VL	19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION
REVIEWED:	JB	19/04/2024	**GROUNDWATER ANALYTICAL RESULTS - PFAS**
SOURCE:	Landgate		Ordinary Council Meeting - 17 June 2024
PAPER SIZE:	A4		40 Watkins Rd, Mundijong WA 6123

FIGURE 12B

ER Consultants Pty Ltd

Asbestos Detected	ACM Weight/Weight
Y	0.727

TP30 TP04 TP05 TP03 TP02 TP01 TP31 TP27 TP28 TP29 TP32 TP06 TP09 TP08 TP07 TP34 TP35 TP26 TP33

Railway Line

Asbestos Detected	ACM Weight/Weight
Y	0.045

TP13 TP12

Asbestos Detected	ACM Weight/Weight
Y	0.024

TP11 TP14 TP36 TP25

Asbestos Detected	ACM Weight/Weight
Y	0.091

Asbestos Detected	ACM Weight/Weight
Y	0.273

Asbestos Detected	ACM Weight/Weight
Y	0.182

Asbestos Detected	ACM Weight/Weight
Y	0.273

TP16 TP17 TP18 TP15 TP19 TP20 TP21 TP59 TP58 TP57 TP56 TP55 TP54 TP53 TP52 TP51 TP50 TP24 TP23 TP22

Asbestos Detected	ACM Weight/Weight
Y	0.009

TP41 TP39

Asbestos Detected	ACM Weight/Weight
Y	0.082

Asbestos Detected	ACM Weight/Weight
Y	0.028

TP40 TP49

Asbestos Detected	ACM Weight/Weight
Y	0.038

TP48 TP61 TP60 TP38

Asbestos Detected	ACM Weight/Weight
Y	0.014

TP47 TP46 TP37

Asbestos Detected	ACM Weight/Weight
Y	0.014

TP45 TP44 TP43

Asbestos Detected	ACM Weight/Weight
Y	0.009

TP42

Asbestos Assessment Criteria
%- weight/weight 123 - Exceedances
Comm/ Ind Use (DoH 2021)

0m 10m 30m 50m
APPROX. SCALE

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- Inferred Extent of Landfill
- Test Pit Location
- Test Pit (PACM observed)
- Windrow 1 Boundary
- Windrow 2 Boundary

DRG. No.	1449-5-T13		Shire of Serpentine Jarrahdale
DRAWN:	VL	19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION
REVIEWED:	JB	19/04/2024	**ASBESTOS CONTAINING MATERIAL RESULTS**
SOURCE:	Landgate		40 Watkins Rd, Mundijong WA 6123
PAPER SIZE:	A4		

FIGURE 13

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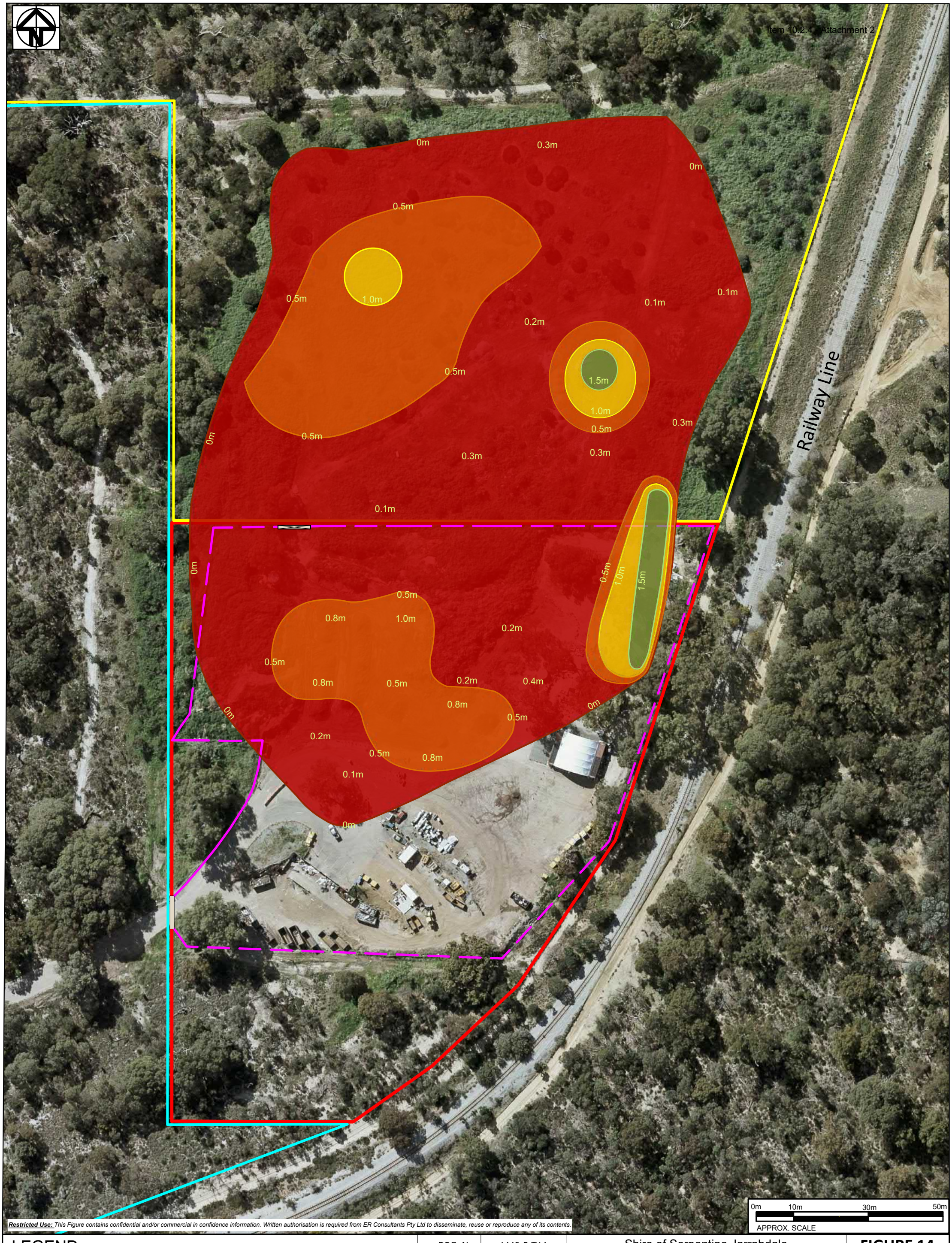

LEGEND

- Lot 512 (40 Watkins Road) (PC-IR)
- Lot 4396 Cockburn Sound Location (DBCA site) (PC-IR)
- Lot 510 Watkins Road
- Site Fence Boundary
- 0m
- 0.5m
- 1m
- 1.5m

DRG. No.	1449-5-T14		Shire of Serpentine Jarrahdale
DRAWN:	VL	19/04/2024	PRELIMINARY AND DETAILED SITE INVESTIGATION
REVIEWED:	JB	19/04/2024	**INFERRED LANDFILL CAP THICKNESS**
SOURCE:	Landgate		
PAPER SIZE:	A4		40 Watkins Rd, Mundijong WA 6123

FIGURE 14

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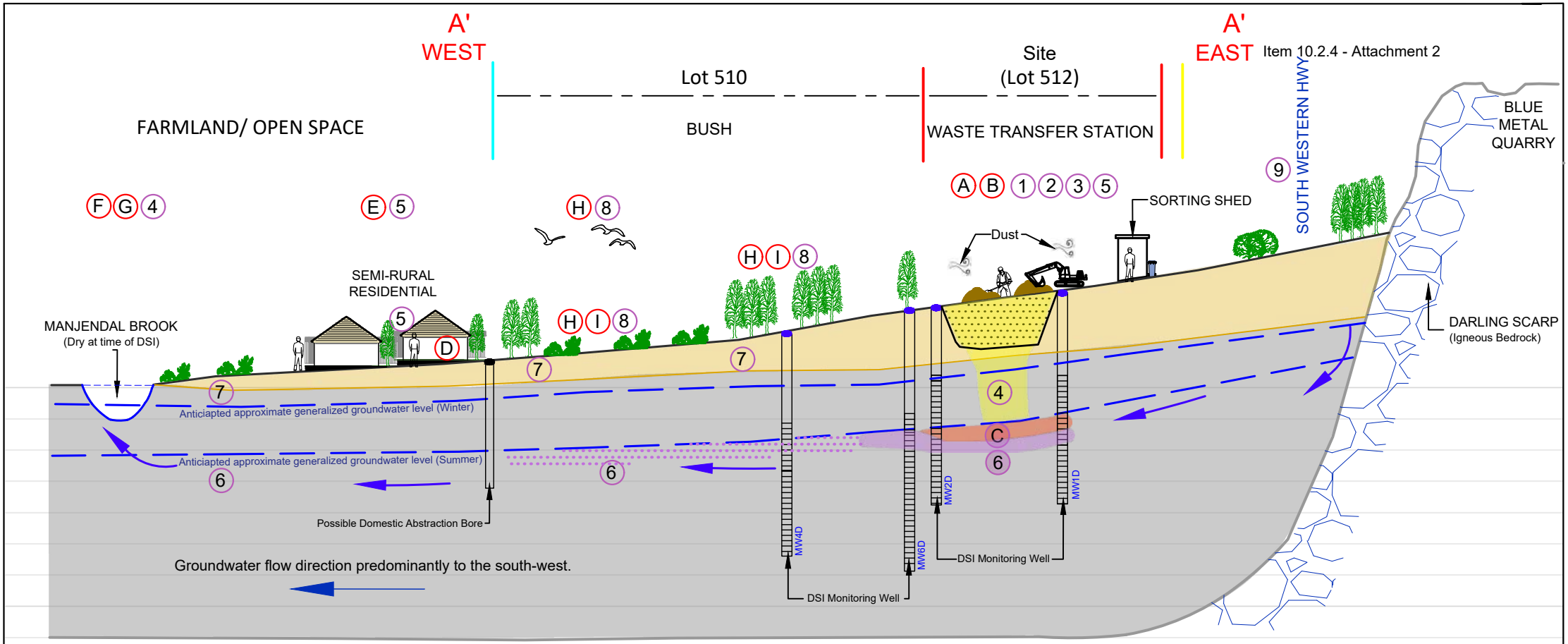

Schematic representation only - not to scale

- Possible Linkage
- Linkage Complete
- SAND
- CLAY
- Historical Landfill (INERT & ACM)
- Inferred Extent of DPH Plume (> NPUG)
- Inferred Extent of Residue Soil Contamination
- Inferred Extent of PFAS Plume (>DWG)
- Inferred Extent of PFAS Impact (>FWG)
- Groundwater Movement

SOURCES	PATHWAYS	RECEPTORS
• Historical Landfill (Inert & ACM) • ACM at Site Surface • Waste Transfer Station	① Direct contact or ingestion of impacted soil/ACM ② Inhalation of vapours from impacted soil ③ Inhalation of dust contaminated with asbestos ④ Leaching (include adsorption and desorption) ⑤ Direct human contact or ingestion of impacted groundwater ⑥ Groundwater transport ⑦ Uptake by plants ⑧ Uptake by terrestrial fauna ⑨ Up-gradient deposition of contaminants	Ⓐ Intrusive maintenance workers Ⓑ Site workers Ⓒ Superficial aquifer Ⓓ Domestic Groundwater Bore users Ⓔ Semi-Rural Residential Ⓕ Marjendal Brook (Water Body) Ⓖ Farmland/ Open Space Ⓗ Terrestrial Fauna Ⓘ Terrestrial Flora

DRG. No.	1449-5-T15		Shire of Serpentine Jarrahdale	**FIGURE 15**
DRAWN:	VL	19/04/2024	40 Watkins Rd, Mundijong WA 6123	
CHECKED:	JB	19/04/2024	**SCHEMATIC CONCEPTUAL SITE MODEL**	
REVISION No. :	A		SECTION A' - A'	
PAPER SIZE:	A4		***Restricted Use:*** *This Figure contains confidential and/or commercial in confidence information. Written authorisation is required from ER Consultants Pty Ltd to disseminate, reuse or reproduce any of its contents.*	ER Consultants Pty Ltd

Table A1
Test Pit Soil Analytical Results
Phase 1 and 2
TRH - BTEX
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions							BTEXN Compounds						
			C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total
		Units	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	20	20	50	50	100	100	100	0.5	0.1	0.1	0.1	0.2	0.1	0.3
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m				NL	NL					NL	NL	NL	NL			NL
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m				NL	NL					NL	3	NL	NL			NL
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space										170						
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind										370						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m				180	120	120	300	2,800			50	85	70			105
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m				215	170	170	1,700	3,300			75	135	165			180
NEPM 2013 Table 1A(1) HILs Rec C Soil																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space				5100	3800		5300	7400		1900	120	18000	27000			15000
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial				26000	20000		27000	38000		11000	430	99000	85000			81000
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+				NL	NL					NL	NL	NL	NL			NL
Field ID	Lab ID	Date														
Test Pit Samples																
TP3_0.3	L24-Fe0009413	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP7_0.3	L24-Fe0009418	30 Jan 2024	<20	<20	130	130	510	220	860	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP16_4.0	L24-Fe0009429	30 Jan 2024	<20	<20	<50	<50	120	<100	120	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP17_1.0	L24-Fe0009431	30 Jan 2024	<20	<20	<50	<50	130	<100	130	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP18_3.0	L24-Fe0009435	30 Jan 2024	<20	<20	<50	<50	180	<100	180	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP19_1.0	L24-Fe0009437	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP19_3.0	L24-Fe0009439	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP20_2.0	L24-Fe0009442	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP20_4.0	L24-Fe0009444	30 Jan 2024	<20	<20	<50	<50	160	<100	160	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP21_2.0	L24-Fe0009447	30 Jan 2024	<20	<20	<50	<50	150	<100	150	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP21_4.0	L24-Fe0009449	30 Jan 2024	<20	<20	<50	<50	100	<100	100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP22_4.0	L24-Fe0009454	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP23_2.0	L24-Fe0009457	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP24_4.0	L24-Fe0009462	30 Jan 2024	<20	<20	<50	<50	180	<100	180	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TP25_1.0	L24-Fe0009464	30 Jan 2024	<20	<20	350	350	910	680	1,940	<0.5	<0.1	0.2	<0.1	<0.2	<0.1	<0.3
TP25_3.0	L24-Fe0009466	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3

Table A1
Test Pit Soil Analytical Results
Phase 1 and 2
TRH - BTEX
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions							BTEXN Compounds						
			C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total
	Units		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		20	20	50	50	100	100	100	0.5	0.1	0.1	0.1	0.2	0.1	0.3
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m				NL	NL					NL	NL	NL	NL			NL
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m				NL	NL					NL	3	NL	NL			NL
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space										170						
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind										370						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m				180	120	120	300	2,800			50	85	70			105
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m				215	170	170	1,700	3,300			75	135	165			180
NEPM 2013 Table 1A(1) HILs Rec C Soil																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space				5100	3800		5300	7400		1900	120	18000	27000			15000
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial				26000	20000		27000	38000		11000	430	99000	85000			81000
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+				NL	NL					NL	NL	NL	NL			NL
Field ID	Lab ID	Date														
Test Pit Samples																
TP26-0.1	L24-Ma0057480	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP26-1.0	L24-Ma0057482	19 Mar 2024	< 20	< 20	< 50	< 50	150	< 100	150	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP27-1.5	L24-Ma0057491	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP28-3.5	L24-Ma0057503	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP29_0.5	L24-Ma0057507	19 Mar 2024	< 20	< 20	< 50	< 50	110	100	210	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP30_1.0	L24-Ma0057513	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP31_0.5	L24-Ma0057517	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP32_0.1	L24-Ma0057521	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP33_1.0	L24-Ma0057528	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP34_0.5	L24-Ma0057532	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP35_0.1	L24-Ma0057536	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
TP36_2.0	L24-Ma0057544	19 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis
EIL: Ecological Investigation Levels
ESL: Ecological Screening Level
HSLs: Health Screening Levels
HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure

Table A2
Soil Bore Soil Analytical Results
Phase 1 and 2
TRH - BTEX
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions							BTEXN Compounds						
			C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total
		Units	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	20	20	50	50	100	100	100	0.5	0.1	0.1	0.1	0.2	0.1	0.3
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m				NL	NL					NL	NL	NL	NL			NL
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m				NL	NL					NL	3	NL	NL			NL
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space										170						
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind										370						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m				180	120	120	300	2,800			50	85	70			105
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m				215	170	170	1,700	3,300			75	135	165			180
NEPM 2013 Table 1A(1) HILs Rec C Soil																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space				5100	3800		5300	7400		1900	120	18000	27000			15000
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial				26000	20000		27000	38000		11000	430	99000	85000			81000
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+				NL	NL					NL	NL	NL	NL			NL
Field ID	Lab ID	Date														
Soil Bore Samples																
SB3_2.0	L24-Ja0036498	12 Jan 2024	< 20	< 20	<50	<50	<100	<100	<100	<0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
SB08_0.5	L24-Ma0057628	22 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
SB09_0.5	L24-Ma0057632	22 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
SB10_1.0-1.5	L24-Ma0057637	22 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
SB11_2.5	L24-Ma0057640	22 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
SB12_1.3	L24-Ma0057642	22 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
SB13_1.5	L24-Ma0057645	22 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
SB15_1.5	L24-Ma0057648	22 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3
SB16_1.5	L24-Ma0057651	22 Mar 2024	< 20	< 20	< 50	< 50	< 100	< 100	< 100	< 0.5	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.3

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis
EIL: Ecological Investigation Levels
ESL: Ecological Screening Level
HSLs: Health Screening Levels
HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure

Table A3
Stock Pile Soil Analytical Results
Phase 1 and 2
TRH - BTEX
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions							BTEXN Compounds						
			C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total
		Units	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	20	20	50	50	100	100	100	0.5	0.1	0.1	0.1	0.2	0.1	0.3
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m				NL	NL					NL	NL	NL	NL			NL
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m				NL	NL					NL	3	NL	NL			NL
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space										170						
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind										370						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m				180	120	120	300	2,800			50	85	70			105
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m				215	170	170	1,700	3,300			75	135	165			180
NEPM 2013 Table 1A(1) HILs Rec C Soil																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space				5100	3800		5300	7400		1900	120	18000	27000			15000
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial				26000	20000		27000	38000		11000	430	99000	85000			81000
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+				NL	NL					NL	NL	NL	NL			NL
Field ID	Lab ID	Date														
Stock Pile Samples																
SP1	L24-Fe0009467	30 Jan 2024	<20	<20	<50	<50	210	150	360	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
SP2	L24-Fe0009468	30 Jan 2024	<20	<20	150	150	410	210	770	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
SP3	L24-Fe0009469	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
SP4	L24-Fe0009470	30 Jan 2024	<20	<20	<50	<50	<100	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
SP5	L24-Fe0009471	30 Jan 2024	<20	<20	50	50	170	<100	220	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis
EIL: Ecological Investigation Levels
ESL: Ecological Screening Level
HSLs: Health Screening Levels
HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure

Table A4
Test Pit Soil Analytical Results
Phase 1 and 2
Metals
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Metals (Total)													
			Arsenic	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Zinc
		Units	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	2	2	10	0.1	1	1	5	1	1	5	0.02	1	2	5
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m																
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space			100*					870*		220*	1100*			180*		510*
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind			160*					1400*		310*	1800*			300*		740*
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m																
NEPM 2013 Table 1A(1) HILs Rec C Soil			300	90	20,000	90	300		300	17,000	600	19,000	80	1,200	700	30,000
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			3,000	500	300,000	900	3,600		4,000	240,000	1,500	60,000	730	6,000	10,000	400,000
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space																
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial																
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+																
Field ID	Lab ID	Date														
Test Pit Samples																
TP16_4.0	L24-Fe0009429	30 Jan 2024	<2	<2	<10	1.5	<1	9.6	<5	8	59	26	0.03	1.7	<2	150
TP17_1.0	L24-Fe0009431	30 Jan 2024	<2	<2	<10	0.4	<1	9.6	<5	16	37	33	0.04	5	<2	50
TP18_3.0	L24-Fe0009435	30 Jan 2024	<2	<2	<10	3.3	<1	19	5.5	110	180	740	0.15	15	<2	3700
TP19_1.0	L24-Fe0009437	30 Jan 2024	<2	<2	<10	<0.1	<1	11	<5	5.1	16	23	0.05	1.1	<2	200
TP19_3.0	L24-Fe0009439	30 Jan 2024	<2	<2	<10	<0.1	<1	19	<5	2.3	29	13	0.03	1.2	<2	38
TP20_2.0	L24-Fe0009442	30 Jan 2024	<2	<2	<10	0.6	<1	10	<5	35	140	22	0.07	1.7	<2	140
TP20_4.0	L24-Fe0009444	30 Jan 2024	<2	<2	<10	3	<1	35	<5	110	400	200	0.08	5.5	<2	1200
TP21_2.0	L24-Fe0009447	30 Jan 2024	<2	<2	<10	0.4	<1	12	<5	7.3	25	23	<0.02	1.4	<2	140
TP21_4.0	L24-Fe0009449	30 Jan 2024	<2	<2	<10	0.2	<1	7.2	<5	25	34	8.9	0.03	<1	<2	49
TP22_4.0	L24-Fe0009454	30 Jan 2024	<2	<2	<10	<0.1	<1	6.3	<5	2	9.2	19	0.04	<1	<2	43
TP23_2.0	L24-Fe0009457	30 Jan 2024	<2	<2	<10	0.2	<1	8.4	<5	15	19	21	0.04	1.1	<2	180
TP24_4.0	L24-Fe0009462	30 Jan 2024	<2	<2	<10	1.3	<1	24	<5	15	24	76	0.06	7.1	<2	80
TP25_1.0	L24-Fe0009464	30 Jan 2024	<2	<2	<10	<0.1	<1	18	<5	8.8	11	68	0.02	2.9	<2	35
TP25_3.0	L24-Fe0009466	30 Jan 2024	<2	<2	<10	0.3	<1	34	<5	110	23	290	0.29	11	<2	130

Table A4
Test Pit Soil Analytical Results
Phase 1 and 2
Metals
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

		Metals (Total)													
		Arsenic	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Zinc
	Units	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	2	2	10	0.1	1	1	5	1	1	5	0.02	1	2	5
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m															
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space		100*					870*		220*	1100*			180*		510*
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind		160*					1400*		310*	1800*			300*		740*
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m															
NEPM 2013 Table 1A(1) HILs Rec C Soil		300	90	20,000	90	300		300	17,000	600	19,000	80	1,200	700	30,000
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		3,000	500	300,000	900	3,600		4,000	240,000	1,500	60,000	730	6,000	10,000	400,000
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space															
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial															
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+															
Field ID	Lab ID	Date													
Test Pit Samples															
TP26-0.1	L24-Ma0057480	19 Mar 2024	< 2	< 2	< 10	0.1	< 1	6.8	< 5	4.1	14	64	0.03	2.3	< 2	12
TP26-1.0	L24-Ma0057482	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	11	< 5	5.1	18	39	0.03	2.6	< 2	12
TP27-1.5	L24-Ma0057491	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	3.4	< 5	< 1	7	< 5	0.03	< 1	< 2	< 5
TP28-3.5	L24-Ma0057503	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	5.5	< 5	2.2	4.8	13	< 0.02	3.2	< 2	6.5
TP29_0.5	L24-Ma0057507	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	7.1	< 5	6.4	7.5	130	< 0.02	2.7	< 2	22
TP30_1.0	L24-Ma0057513	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	4	< 5	< 1	3.8	< 5	< 0.02	< 1	< 2	< 5
TP31_0.5	L24-Ma0057517	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	4.5	< 5	< 1	6.9	100	< 0.02	< 1	< 2	20
TP32_0.1	L24-Ma0057521	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	5.6	< 5	3.6	8	28	0.02	1.6	< 2	6.5
TP33_1.0	L24-Ma0057528	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	6.9	< 5	2.7	19	16	< 0.02	1.2	< 2	7.6
TP34_0.5	L24-Ma0057532	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	6.7	< 5	1.7	11	32	< 0.02	1.2	< 2	5.3
TP35_0.1	L24-Ma0057536	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	4.5	< 5	1.5	14	77	< 0.02	< 1	< 2	6.9
TP36_2.0	L24-Ma0057544	19 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	10	< 5	3.1	34	23	0.02	1.9	< 2	170

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis
*: Soil Specific EIL (NEPM 2013)

EIL: Ecological Investigation Levels
ESL: Ecological Screening Level
HSLs: Health Screening Levels

HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure

Table A5
Soil Bore Soil Analytical Results
Phase 1 and 2
Metals
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Metals (Total)													
			Arsenic	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Zinc
		Units	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	2	2	10	0.1	1	1	5	1	1	5	0.02	1	2	5
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m																
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space			100*					870*		220*	1100*			180*		510*
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind			160*					1400*		310*	1800*			300*		740*
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m																
NEPM 2013 Table 1A(1) HILs Rec C Soil			300	90	20,000	90	300		300	17,000	600	19,000	80	1,200	700	30,000
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			3,000	500	300,000	900	3,600		4,000	240,000	1,500	60,000	730	6,000	10,000	400,000
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space																
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial																
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+																
Field ID	Lab ID	Date														
Soil Bore Samples																
SB3_2.0	L24-Ja0036498	12 Jan 2024	< 2	< 2	< 10	0.4	<1	12	<5	16	70	88	0.03	4.4	<2	240
SB08_0.5	L24-Ma0057628	22 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	10	< 5	7.5	9.2	18	0.03+	1.9	< 2	12+
SB09_0.5	L24-Ma0057632	22 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	11	< 5	26	17	66	0.03	6.4	< 2	46
SB10_1.0-1.5	L24-Ma0057637	22 Mar 2024	5.9	< 2	< 10	1.6	< 1	10	< 5	28	81	2900	0.15	12	< 2	610
SB11_2.5	L24-Ma0057640	22 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	10	< 5	6.8	7	5.5	< 0.02	< 1	< 2	10
SB12_1.3	L24-Ma0057642	22 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	2.3	< 5	< 1	4.4	< 5	< 0.02	< 1	< 2	70
SB13_1.5	L24-Ma0057645	22 Mar 2024	2.5	< 2	< 10	1.1	< 1	15	5.4	27	72	390	< 0.02	20	< 2	270
SB15_1.5	L24-Ma0057648	22 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	< 1	< 5	< 1	1.2	< 5	< 0.02	< 1	< 2	< 5
SB16_1.5	L24-Ma0057651	22 Mar 2024	< 2	< 2	< 10	< 0.1	< 1	3.3	< 5	< 1	9.6	16	0.02	< 1	< 2	120

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis
*: Soil Specific EIL (NEPM 2013)
+ : Primary data value replaced with higher reported replicate data due to exceeded RPD

EIL: Ecological Investigation Levels
ESL: Ecological Screening Level
HSLs: Health Screening Levels

HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure

Table A6
Stock Pile Soil Analytical Results
Phase 1 and 2
Metals
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Metals (Total)													
			Arsenic	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Zinc
		Units	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	2	2	10	0.1	1	1	5	1	1	5	0.02	1	2	5
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m																
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space			100*					870*		220*	1100*			180*		510*
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind			160*					1400*		310*	1800*			300*		740*
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m																
NEPM 2013 Table 1A(1) HILs Rec C Soil			300	90	20,000	90	300		300	17,000	600	19,000	80	1,200	700	30,000
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			3,000	500	300,000	900	3,600		4,000	240,000	1,500	60,000	730	6,000	10,000	400,000
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space																
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial																
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+																
Field ID	Lab ID	Date														
Stock Pile Samples																
SP1	L24-Fe0009467	30 Jan 2024	<2	<2	<10	<0.1	<1	12	<5	14	8.6	72	0.02	4.4	<2	63
SP2	L24-Fe0009468	30 Jan 2024	<2	<2	<10	<0.1	<1	8.8	<5	7.5	7.2	84	<0.02	3.5	<2	47
SP3	L24-Fe0009469	30 Jan 2024	<2	<2	<10	<0.1	<1	5	<5	6	13	51	<0.02	1.3	<2	27
SP4	L24-Fe0009470	30 Jan 2024	<2	<2	<10	<0.1	<1	12	<5	9.1	12	62	0.04	2.2	<2	26
SP5	L24-Fe0009471	30 Jan 2024	<2	<2	<10	0.2	<1	16	<5	42	16	59	0.12	5.6	<2	78

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis
*: Soil Specific EIL (NEPM 2013)

EIL: Ecological Investigation Levels
ESL: Ecological Screening Level
HSLs: Health Screening Levels

HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure

Table A7
Test Pit Soil Analytical Results
Phase 1 and 2
Phenols
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Phenols																			
			3&4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cydohexyl phenol	4-chloro-3-methylphenol	4-Nitrophenol	Cresol Total	Pentachlorophenol	Tetrachlorophenols	Phenol	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)
	Units		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		0.4	1	1	0.5	0.5	5	0.5	0.5	0.2	1	5	20	1	5	0.5	1	10	0.5	1	20
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m																						
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																						
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																						
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m																						
NEPM 2013 Table 1A(1) HILs Rec C Soil																	4,000	120		40,000		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																	25,000	660		240,000		
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space																						
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial																						
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+																						
Field ID	Lab ID	Date																				
Test Pit Samples																						
TP3_0.3	L24-Fe0009413	30 Jan 2024	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
TP7_0.3*	L24-Fe0009418	30 Jan 2024	<10	<10	<10	<5	<5	<50	<5	<5	<5	<10	<50	<150	<10	<50	<10	<10	<10	<5	<10	<150
TP12_0.1	L24-Fe0009423	30 Jan 2024	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
TP16_1.0	L24-Fe0009428	30 Jan 2024	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
TP20_3.0	L24-Fe0009443	30 Jan 2024	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
TP26-0.5	L24-Ma0057481	19 Mar 2024	< 0.4	< 1	< 1	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.2	< 1	< 5	< 20	< 1	< 5	< 0.5	< 1	< 10	< 0.5	< 1	< 20
TP27-2.5	L24-Ma0057493	19 Mar 2024	< 0.4	< 1	< 1	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.2	< 1	< 5	< 20	< 1	< 5	< 0.5	< 1	< 10	< 0.5	< 1	< 20
TP28-3.0	L24-Ma0057502	19 Mar 2024	< 0.4	< 1	< 1	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.2	< 1	< 5	< 20	< 1	< 5	< 0.5	< 1	< 10	< 0.5	< 1	< 20
TP34_1.0	L24-Ma0057533	19 Mar 2024	< 0.4	< 1	< 1	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.2	< 1	< 5	< 20	< 1	< 5	< 0.5	< 1	< 10	< 0.5	< 1	< 20
TP35_2.0	L24-Ma0057539	19 Mar 2024	< 0.4	< 1	< 1	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 0.2	< 1	< 5	< 20	< 1	< 5	< 0.5	< 1	< 10	< 0.5	< 1	< 20

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis
EIL: Ecological Investigation Levels
ESL: Ecological Screening Level
HSLs: Health Screening Levels
HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure
*LOR raised due to matrix interference

Table A8
Test Pit Soil Analytical Results
Phase 1 and 2
PAH
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Polycyclic Aromatic Hydrocarbons (PAHs)																	Herbicides
			Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Dinoseb
	Units		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	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	20
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand >=4m																				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=4m																				
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																170				
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																370				
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m							0.7													
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil >=0m, <2m							0.7													
NEPM 2013 Table 1A(1) HILs Rec C Soil																			300	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																			4,000	
Soil HSL for Direct Contact C (HSL C) - Recreational/Open Space																				
Soil HSL for Direct Contact D (HSL D) - Commercial/Industrial																				
Soil HSLs for Intrusive Maintenance Worker - Sand 4m+																NL				
Field ID	Lab ID	Date																		
Test Pit Samples																				
TP3_0.3	L24-Fe0009413	30 Jan 2024	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20
TP7_0.3*	L24-Fe0009418	30 Jan 2024	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<5*	<150*
TP12_0.1	L24-Fe0009423	30 Jan 2024	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20
TP16_1.0	L24-Fe0009428	30 Jan 2024	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20
TP20_3.0	L24-Fe0009443	30 Jan 2024	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20
TP26-0.5	L24-Ma0057481	19 Mar 2024	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 20
TP27-2.5	L24-Ma0057493	19 Mar 2024	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 20
TP28-3.0	L24-Ma0057502	19 Mar 2024	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 20
TP34_1.0	L24-Ma0057533	19 Mar 2024	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 20
TP35_2.0	L24-Ma0057539	19 Mar 2024	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 20

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis
*LOR raised due to matrix interference

EIL: Ecological Investigation Levels
ESL: Ecological Screening Level
HSLs: Health Screening Levels

HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure

Table A9
Test Pit Soil Analytical Results
Phase 1 and 2
PFAS
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Perfluoroalkane Carboxylic Acids											(n:2) Fluorotelomer Sulfonic Acids			
			Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
	Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	LOR		0.8	0.4	0.2	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5
PFAS NEMP 2020 Ecological direct exposure							10,000										
PFAS NEMP 2020 Ecological indirect exposure																	
PFAS NEMP 2020 Public open space (HIL C)							10,000										
PFAS NEMP 2020 Industrial/ commercial (HIL D)							50,000										
Field ID	Lab ID	Date															
Test Pit Samples																	
TP16_4.0	L24-Fe0009429	30 Jan 2024	<0.8	<0.4	<0.2	<0.8	2.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	2.8	<0.5	<0.5
TP17_1.0	L24-Fe0009431	30 Jan 2024	<0.8	<0.4	0.2	<0.8	4.8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	2.8	<0.5	<0.5
TP18_2.0	L24-Fe0009434	30 Jan 2024	<0.8	<0.4	<0.2	<0.8	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
TP19_3.0	L24-Fe0009439	30 Jan 2024	<0.8	<0.4	<0.2	<0.8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
TP20_1.0	L24-Fe0009441	30 Jan 2024	<0.8	<0.4	<0.2	<0.8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	1.8	<0.5	<0.5
TP21_2.0	L24-Fe0009447	30 Jan 2024	<0.8	<0.4	<0.2	<0.8	2.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
TP22_3.0	L24-Fe0009453	30 Jan 2024	<0.8	<0.4	<0.2	<0.8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
TP23_2.0	L24-Fe0009457	30 Jan 2024	<0.8	<0.4	<0.2	<0.8	1.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	1.2	<0.5	<0.5
TP24_2.0	L24-Fe0009460	30 Jan 2024	<0.8	<0.4	<0.2	<0.8	0.8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
TP24_4.0	L24-Fe0009462	30 Jan 2024	<0.8	<0.4	<0.2	0.9	0.8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
TP25_2.0*	L24-Fe0009465	30 Jan 2024	<8*	<4*	<2*	<8*	<2*	<2*	<2*	<2*	<2*	<2*	<2*	<5*	38	<5*	<5*
		LOR	5	5	5	5	5	5	5	5	5	5	5	5	10	5	5
Test Pit Samples																	
TP26-0.1	L24-Ma0057480	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP26-3.0	L24-Ma0057486	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP27-3.0	L24-Ma0057494	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP28-4.0	L24-Ma0057504	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP29_2.0	L24-Ma0057509	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP30_2.0	L24-Ma0057514	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP31_2.0	L24-Ma0057519	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP32_2.0	L24-Ma0057524	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP33_2.0	L24-Ma0057529	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP34_2.0	L24-Ma0057534	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP35_2.0	L24-Ma0057539	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
TP36_2.0	L24-Ma0057544	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5

Notes:
LOR: Limits of Reportir HILs: Health Investigation Levels
NL: Not Limiting NEMP: National Environmental Management Plan
-: no lab analysis *LOR raised due to matrix spike

Table A9
Test Pit Soil Analytical Results
Phase 1 and 2
PFAS
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Perfluoroalkane Sulfonic Acids						Perfluoroalkyl Sulfonamides								PFAS			
			Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Perfluorooctane sulfonamidoacetic acid (FOSAA)	Sum of PFHxS and PFOS	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	Sum of PFASs (n=30)*	Sum of PFAS (WA DER List)
	Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg		ug/kg	ug/kg	ug/kg	ug/kg
	LOR		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.8	0.4	0.4	5	0.8	0..2
PFAS NEMP 2020 Ecological direct exposure							1000													
PFAS NEMP 2020 Ecological indirect exposure							10													
PFAS NEMP 2020 Public open space (HIL C)					1000		1000										1000			
PFAS NEMP 2020 Industrial/ commercial (HIL D)					20,000		20,000										20,000			
Field ID	Lab ID	Date																		
Test Pit Samples																				
TP16_4.0	L24-Fe0009429	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	1.9	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	0.0036	8.4	<0.4	1.9	-	19	7
TP17_1.0	L24-Fe0009431	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	0.5	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	<0.4	<0.8	<0.4	0.5	-	8.3	8.3
TP18_2.0	L24-Fe0009434	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	0.9	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	<0.4	<0.8	<0.4	0.9	-	1.2	1.2
TP19_3.0	L24-Fe0009439	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	0.4	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	<0.4	<0.8	<0.4	0.4	-	<0.8	0.4
TP20_1.0	L24-Fe0009441	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	1.3	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	<0.4	<0.8	<0.4	1.3	-	3.1	3.1
TP21_2.0	L24-Fe0009447	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	6.2	<0.4	0.4	<0.4	<0.4	<0.8	<0.4	0.5	<0.8	<0.4	6.2	-	0.92	8.3
TP22_3.0	L24-Fe0009453	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	<0.4	<0.8	<0.4	<0.4	-	<0.8	<0.2
TP23_2.0	L24-Fe0009457	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	13	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	6.2	5.1	<0.4	13	-	27	15
TP24_2.0	L24-Fe0009460	30 Jan 2024	<0.4	<0.4	<0.4	<0.4	0.4	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	1.1	4.2	<0.4	0.4	-	6.5	1.2
TP24_4.0	L24-Fe0009462	30 Jan 2024	<0.4	<0.4	3.3	<0.4	0.8	<0.4	<0.4	<0.4	<0.4	<0.8	<0.4	<0.4	<0.8	<0.4	4.1	-	5.8	5.8
TP25_2.0*	L24-Fe0009465	30 Jan 2024	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<8*	<4*	<4*	<8*	<4*	<0.4	-	38	38
		LOR	5	5	5	5	5	5	5	5	10	5	5	10	5		5	5	50	10
Test Pit Samples																				
TP26-0.1	L24-Ma0057480	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP26-3.0	L24-Ma0057486	19 Mar 2024	< 5	< 5	< 5	< 5	5.2	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	5.2	5.2	< 50	< 10
TP27-3.0	L24-Ma0057494	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP28-4.0	L24-Ma0057504	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP29_2.0	L24-Ma0057509	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP30_2.0	L24-Ma0057514	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP31_2.0	L24-Ma0057519	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP32_2.0	L24-Ma0057524	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP33_2.0	L24-Ma0057529	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP34_2.0	L24-Ma0057534	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP35_2.0	L24-Ma0057539	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
TP36_2.0	L24-Ma0057544	19 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10

Notes:
LOR: Limits of Reportir HILs: Health Investigation Levels
NL: Not Limiting NEMP: National Environmental Management Plan
-: no lab analysis *LOR raised due to matrix spike

Table A10
Soil Bore Soil Analytical Results
Phase 1 and 2
PFAS
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Perfluoroalkane Carboxylic Acids											(n:2) Fluorotelomer Sulfonic Acids			
			Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
	Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	LOR		0.8	0.4	0.2	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5
PFAS NEMP 2020 Ecological direct exposure							10,000										
PFAS NEMP 2020 Ecological indirect exposure																	
PFAS NEMP 2020 Public open space (HIL C)							10,000										
PFAS NEMP 2020 Industrial/ commercial (HIL D)							50,000										
Field ID	Lab ID	Date															
Soil Bore Samples																	
SP1*	L24-Fe0009467	30 Jan 2024	<8*	<4*	<2*	<8*	<2*	<2*	<2*	<2*	<2*	<2*	<2*	<5*	<5*	<5*	<5*
SP2*	L24-Fe0009468	30 Jan 2024	<8*	<4*	<2*	<8*	<2*	<2*	<2*	<2*	<2*	<2*	<2*	<5*	<5*	<5*	<5*
SP3*	L24-Fe0009469	30 Jan 2024	<8*	<4*	<2*	<8*	<2*	<2*	<2*	<2*	<2*	<2*	<2*	<5*	5.7	<5*	<5*
SP4*	L24-Fe0009470	30 Jan 2024	<8*	<4*	<2*	<8*	<2*	<2*	<2*	<2*	<2*	<2*	<2*	<5*	<5*	<5*	<5*
SP5*	L24-Fe0009471	30 Jan 2024	<8*	<4*	<2*	<8*	<2*	<2*	<2*	<2*	<2*	<2*	<2*	<5*	<5*	<5*	<5*
		LOR	5	5	5	5	5	5	5	5	5	5	5	5	10	5	5
Soil Bore Samples																	
SB08_0.5	L24-Ma0057628	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
SB10_0.5-1.0	L24-Ma0057636	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
SB11_0.5	L24-Ma0057638	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
SB12_1.3	L24-Ma0057642	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
SB13_1.5	L24-Ma0057645	22 Mar 2024	< 5	< 5	< 5	< 5	6.9	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5
SB16_0.5	L24-Ma0057650	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5

Notes:
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-: no lab analysis *LOR raised due to matrix spike

Table A10
Soil Bore Soil Analytical Results
Phase 1 and 2
PFAS
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Perfluoroalkane Sulfonic Acids						Perfluoroalkyl Sulfonamides								PFAS			
			Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Perfluorooctane sulfonamidoacetic acid (FOSAA)	Sum of PFHxS and PFOS	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	Sum of PFASs (n=30)*	Sum of PFAS (WA DER List)
	Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	LOR		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.8	0.4	0.4	5	0.8	0.2
PFAS NEMP 2020 Ecological direct exposure							1000													
PFAS NEMP 2020 Ecological indirect exposure							10													
PFAS NEMP 2020 Public open space (HIL C)					1000		1000										1000			
PFAS NEMP 2020 Industrial/ commercial (HIL D)					20,000		20,000										20,000			
Field ID	Lab ID	Date																		
Soil Bore Samples																				
SP1*	L24-Fe0009467	30 Jan 2024	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<8*	<4*	<4*	<8*	<4*	<0.4	-	<0.8	<0.2
SP2*	L24-Fe0009468	30 Jan 2024	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<8*	<4*	<4*	<8*	<4*	<0.4	-	<0.8	<0.2
SP3*	L24-Fe0009469	30 Jan 2024	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<8*	<4*	<4*	<8*	<4*	<0.4	-	5.7	5.7
SP4*	L24-Fe0009470	30 Jan 2024	<4*	<4*	<4*	<4*	19	<4*	<4*	<4*	<4*	<8*	<4*	<4*	<8*	<4*	19	-	19	19
SP5*	L24-Fe0009471	30 Jan 2024	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<4*	<8*	<4*	<4*	<8*	<4*	<0.4	-	<0.8	<0.2
		LOR	5	5	5	5	5	5	5	5	10	5	5	10	5	0.4	5	5	50	10
Soil Bore Samples																				
SB08_0.5	L24-Ma0057628	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
SB10_0.5-1.0	L24-Ma0057636	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
SB11_0.5	L24-Ma0057638	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
SB12_1.3	L24-Ma0057642	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10
SB13_1.5	L24-Ma0057645	22 Mar 2024	< 5	< 5	< 5	< 5	40	< 5	< 5	< 5	< 10	< 5	< 5	32	< 5	-	40	46.9	78.9	46.9
SB16_0.5	L24-Ma0057650	22 Mar 2024	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 10	< 5	-	< 5	< 5	< 50	< 10

Notes:
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Table A11
Gravimetric Soil Assessment
Asbestos Containing Material Results
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Asbestos Detected	ACM Weight	Depth ACM detected	TestPit Depth#	TestPit Width	TestPit Length	Volume of Soil Sampled	Bulk Density - SAND	Asbestos Content	ACM weight/weight
			-	kg	m	m	m	m	L	kg/L	%	%
Commercial/Industrial use (DoH 2021)												0.05
TestPit ID	Location	Sample Date										
TP1	Lot 4396 DBCA	30-Jan-24	N	0.000	-	1.5	0.5	1.0	10	1.65	15%	0
TP2	Lot 4396 DBCA	30-Jan-24	Y	0.800	0.10	1.5	0.5	1.0	10	1.65	15%	z a
TP3	Lot 4396 DBCA	30-Jan-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP4	Lot 4396 DBCA	30-Jan-24	N	0.000	-	1.5	0.5	1.0	10	1.65	15%	0
TP5	Lot 4396 DBCA	30-Jan-24	N	0.000	-	1.0	0.5	1.0	10	1.65	15%	0
TP6	Lot 4396 DBCA	30-Jan-24	N	0.000	-	2.0	0.5	1.0	10	1.65	15%	0
TP7	Lot 4396 DBCA	30-Jan-24	N	0.000	-	2.0	0.5	1.0	10	1.65	15%	0
TP8	Lot 4396 DBCA	30-Jan-24	N	0.000	-	1.5	0.5	1.0	10	1.65	15%	0
TP9	Lot 4396 DBCA	30-Jan-24	N	0.000	-	1.5	0.5	1.0	10	1.65	15%	0
TP10	Lot 4396 DBCA	30-Jan-24	N	0.000	-	1.5	0.5	1.0	10	1.65	15%	0
TP11	Lot 4396 DBCA	30-Jan-24	Y	0.026	0.10	1.5	0.5	1.0	10	1.65	15%	0.0236
TP12	Lot 4396 DBCA	30-Jan-24	N	0.000	-	1.5	0.5	1.0	10	1.65	15%	0
TP13	Lot 4396 DBCA	30-Jan-24	Y	0.050	0.10	1.5	0.5	1.0	10	1.65	15%	0.045
TP14	Lot 4396 DBCA	30-Jan-24	N	0.000	-	1.5	0.5	1.0	10	1.65	15%	0
TP15	Green Waste	30-Jan-24	N	0.000	-	4.0	0.5	1.0	10	1.65	15%	0
TP16	Green Waste	30-Jan-24	N	0.000	-	4.0	0.5	1.0	10	1.65	15%	0
TP17	Green Waste	30-Jan-24	Y	0.100	0.10	1.5	0.5	1.0	10	1.65	15%	0.0909
TP18	Green Waste	30-Jan-24	Y	0.300	0.10	3.0	0.5	1.0	10	1.65	15%	0.2727
TP19	Green Waste	30-Jan-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP20	Green Waste	30-Jan-24	Y	0.200	4.00	4.0	0.5	1.0	10	1.65	15%	0.1818
TP21	Green Waste	30-Jan-24	Y	0.300	4.00	4.0	0.5	1.0	10	1.65	15%	0.2727
TP22	Green Waste	30-Jan-24	N	0.000	-	4.0	0.5	1.0	10	1.65	15%	0
TP23	Green Waste	30-Jan-24	N	0.000	-	2.0	0.5	1.0	10	1.65	15%	0
TP24	Green Waste	30-Jan-24	N	0.000	-	4.0	0.5	1.0	10	1.65	15%	0
TP25	Green Waste	30-Jan-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP26	Lot 4396 DBCA	19-Mar-24	N	0.000	-	0.1	0.1	0.1	10	1.65	15%	0
TP27	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.8	0.5	1.0	10	1.65	15%	0
TP28	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP29	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP30	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP31	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP32	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP33	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP34	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP35	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP36	Lot 4396 DBCA	19-Mar-24	N	0.000	-	3.0	0.5	1.0	10	1.65	15%	0
TP37	Windrow 1	29-Apr-24	Y	0.028	0.10	0.3	0.3	0.3	10	1.65	15%	0.0255
TP38	Windrow 1	29-Apr-24	Y	0.015	0.10	0.3	0.3	0.3	10	1.65	15%	0.0136
TP39	Windrow 1	29-Apr-24	Y	0.090	0.10	0.3	0.3	0.3	10	1.65	15%	0.0818
TP40	Windrow 1	29-Apr-24	Y	0.031	0.10	0.3	0.3	0.3	10	1.65	15%	0.0282
TP41	Windrow 1	29-Apr-24	Y	0.010	0.10	0.3	0.3	0.3	10	1.65	15%	0.0091
TP42	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP43	Windrow 2	29-Apr-24	Y	0.010	0.10	0.3	0.3	0.3	10	1.65	15%	0.0091
TP44	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP45	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP46	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP47	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP48	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP49	Windrow 2	29-Apr-24	Y	0.042	0.10	0.3	0.3	0.3	10	1.65	15%	0.0382
TP50	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP51	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP52	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP53	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP54	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP55	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP56	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP57	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP58	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP59	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP60	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
TP61	Windrow 2	29-Apr-24	N	0.000	-	0.3	0.3	0.3	10	1.65	15%	0
SP1	Drain Waste Stockpiles	29-Apr-24	N	0.000	-	3.0	0.3	0.3	10	1.65	115%	0
SP2	Drain Waste Stockpiles	29-Apr-24	N	0.000	-	3.0	0.3	0.3	10	1.65	215%	0
SP3	Drain Waste Stockpiles	29-Apr-24	N	0.000	-	3.0	0.3	0.3	10	1.65	315%	0
SP4	Drain Waste Stockpiles	29-Apr-24	N	0.000	-	4.0	0.3	0.3	10	1.65	415%	0
SP5	Drain Waste Stockpiles	29-Apr-24	N	0.000	-	3.0	0.3	0.3	10	1.65	515%	0

Notes:
Actual test pit dimensions from which 10L sub sample was collected ND = Not Detected NA = Not Analysed

Table A12
Soil Analytical Results
Phase 1 & 2
Asbestos in Soil
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Asbestos											Biota	Mass	NA
			Total ACM (>7mm)	ACM in Soil (as asbestos)	AF in Soil (as asbestos)	Asbestos (Trace)	Asbestos Detected	FA in Soil (as asbestos)	Fibres Identified and estimated Asbestos Content (%)	Total Analytical Fraction	Total Asbestos	Total Dry Mass	Sample Description	Mass Asbestos in FA	Total AF
		Units	g	%w/w	% w/w	Comm.	-	% w/w	Comment	g	g/kg	g	Comment	g	g
		LOR	0.1	0.01	0.001			0.001		0.1	0.01	0.1		0.0005	0.0005
Commercial/Industrial Land-Use				0.05	0.001			0.001							
Field ID	Lab ID	Date													
Test Pit Samples															
Phase 1															
TP1_0.1	L24-Fe0009408	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic	846	<0.01	846	Brown coarse soil and rock	<0.0005	<0.0005
TP2_0.1	L24-Fe0009410	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic	783	<0.01	783	Brown coarse soil and rock	<0.0005	<0.0005
TP4_0.1	L24-Fe0009414	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic	933	<0.01	933	Brown coarse soil and rock	<0.0005	<0.0005
TP7_0.1	L24-Fe0009417	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic	785	<0.01	785	Brown coarse soil and rock	<0.0005	<0.0005
TP9_0.1	L24-Fe0009420	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic	843	<0.01	843	Brown coarse soil and rock	<0.0005	<0.0005
TP10_0.1	L24-Fe0009421	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic	971	<0.01	971	Brown coarse soil and rock	<0.0005	<0.0005
TP11_0.1	L24-Fe0009422	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic SMF	608	<0.01	608	Brown coarse soil and rock	<0.0005	<0.0005
TP13_0.1	L24-Fe0009424	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic	909	<0.01	909	Brown coarse soil and rock	<0.0005	<0.0005
TP14_0.1	L24-Fe0009425	30 Jan 2024	<0.1	<0.05	<0.001	ND	N	<0.001	Organic	664	<0.01	664	Brown coarse soil and rock	<0.0005	<0.0005
TP17_0.1	L24-Fe0009430	30 Jan 2024	2.50	0.059	<0.001	ND	Y	<0.001	Organic	651	0.06	651	Brown coarse soil and rock	<0.0005	<0.0005
TP18_0.1	L24-Fe0009432	30 Jan 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	544	<0.01	544	Brown coarse soil and rock	<0.0005	<0.0005
TP20_0.1	L24-Fe0009440	30 Jan 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	261	<0.01	261	Brown coarse soil and rock	<0.0005	<0.0005
TP21_0.1	L24-Fe0009445	30 Jan 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	963	<0.01	963	Brown coarse soil and rock	<0.0005	<0.0005
TP22_0.1	L24-Fe0009450	30 Jan 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	696	<0.01	696	Brown coarse soil and rock	<0.0005	<0.0005
TP24_0.1	L24-Fe0009458	30 Jan 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	665	<0.01	665	Brown coarse soil and rock	<0.0005	<0.0005
Phase 2															
TP26	L24-Ma0057479	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	591	<0.01	591	Brown coarse grain soil and rock	<0.0005	<0.0005
TP27	L24-Ma0057487	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	704	<0.02	704	Brown coarse grain soil and rock	<0.0005	<0.0005
TP28	L24-Ma0057495	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	692	<0.03	692	Brown coarse grain soil and rock	<0.0005	<0.0005
TP29	L24-Ma0057505	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	830	<0.04	830	Brown coarse grain soil and rock	<0.0005	<0.0005
TP30	L24-Ma0057510	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	757	<0.05	757	Brown coarse grain soil and rock	<0.0005	<0.0005
TP31	L24-Ma0057515	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	604	<0.06	604	Brown coarse grain soil and rock	<0.0005	<0.0005
TP32	L24-Ma0057520	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	678	<0.07	678	Brown coarse grain soil and rock	<0.0005	<0.0005
TP33	L24-Ma0057525	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	447	<0.08	447	Brown coarse grain soil and rock	<0.0005	<0.0005
TP34	L24-Ma0057530	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	628	<0.09	628	Brown coarse grain soil and rock	<0.0005	<0.0005
TP35	L24-Ma0057535	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	536	<0.10	536	Brown coarse grain soil and rock	<0.0005	<0.0005
TP36	L24-Ma0057540	19 Mar 2024	<0.1	<0.01	<0.001	ND	N	<0.001	Organic	671	<0.11	671	Brown coarse grain soil and rock	<0.0005	<0.0005
Stock Pile Samples															
SP1	L24-Fe0009467	30 Jan 2024	<0.1	<0.01	<0.001	1	N	<0.001	Organic	519	<0.1	519	Brown coarse soil and rock	<0.0005	<0.0005
SP2	L24-Fe0009468	30 Jan 2024	<0.1	<0.01	<0.001	1	N	<0.001	Organic	450	<0.1	450	Brown coarse soil and rock	<0.0005	<0.0005
SP3	L24-Fe0009469	30 Jan 2024	<0.1	<0.01	<0.001	1	N	<0.001	Organic	621	<0.1	621	Brown coarse soil and rock	<0.0005	<0.0005
SP4	L24-Fe0009470	30 Jan 2024	<0.1	<0.01	<0.001	1	N	<0.001	Organic	761	<0.1	761	Brown coarse soil and rock	<0.0005	<0.0005
SP5	L24-Fe0009471	30 Jan 2024	<0.1	<0.01	<0.001	1	N	<0.001	Organic	626	<0.1	626	Brown coarse soil and rock	<0.0005	<0.0005

Notes:
LOR: Limits of Reporting
ACM: Asbestos Contaning Material
FA: Fibrous Asbestos
NL: Not Limiting
DoH: Department of Health
AF: Asbestos Fines
-: no lab analysis
ND = Not Detected
# Actual test pit dimensions from which 10L sub sample was collected

Table A13
Soil Analytical Results
Clay/Inorganics Background Levels
29th January 2024
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Particle Size	Inorganics			
			% Clay*	Conductivity (1:5 aqueous extract)	Cation Exchange Capacity	Moisture Content (dried @ 103°C)	pH (1:5 aqueous extract)
		Units	%	µS/cm	meq/100g	%	-
		LOR	2.5	10	0.5	1	0.1
Field ID	Lab ID	Date					
Monitoring Well/Soil Bore Sample							
MW03_1.0	L24-Fe0009472	30 Jan 2024	3.3	110	27	6.4	8
MW03_3.0	L24-Fe0009473	30 Jan 2024	2.5	59	2.3	3.5	7.7
MW03_9.0	L24-Fe0009474	30 Jan 2024	13	110	2.1	8.5	6.3
Average			*6.3*	*93*	*10.5*	*6.1*	*7.3*
Test Pit Sample							
TP3_0.3	L24-Fe0009413	30 Jan 2024	-	-	-	1.8	-
TP7_0.3	L24-Fe0009418	30 Jan 2024	-	-	-	11	-
TP12_0.1	L24-Fe0009423	30 Jan 2024	-	-	-	1.4	-
TP16_1.0	L24-Fe0009428	30 Jan 2024	-	-	-	5.7	-
TP16_4.0	L24-Fe0009429	30 Jan 2024	-	-	-	8.6	-
TP17_1.0	L24-Fe0009431	30 Jan 2024	-	-	-	4.3	-
TP18_2.0	L24-Fe0009434	30 Jan 2024	-	-	-	9.6	-
TP18_3.0	L24-Fe0009435	30 Jan 2024	-	-	-	11	-
TP19_1.0	L24-Fe0009437	30 Jan 2024	-	-	-	8.1	-
TP19_3.0	L24-Fe0009439	30 Jan 2024	-	-	-	6.9	-
TP20_1.0	L24-Fe0009441	30 Jan 2024	-	-	-	6.1	-
TP20_2.0	L24-Fe0009442	30 Jan 2024	-	-	-	5.7	-
TP20_3.0	L24-Fe0009443	30 Jan 2024	-	-	-	12	-
TP20_4.0	L24-Fe0009444	30 Jan 2024	-	-	-	12	-
TP21_2.0	L24-Fe0009447	30 Jan 2024	-	-	-	8.2	-
TP21_4.0	L24-Fe0009449	30 Jan 2024	-	-	-	5.3	-
TP22_3.0	L24-Fe0009453	30 Jan 2024	-	-	-	7.7	-
TP22_4.0	L24-Fe0009454	30 Jan 2024	-	-	-	4.8	-
TP23_2.0	L24-Fe0009457	30 Jan 2024	-	-	-	6.1	-
TP24_2.0	L24-Fe0009460	30 Jan 2024	-	-	-	7.7	-
TP24_4.0	L24-Fe0009462	30 Jan 2024	-	-	-	8.7	-
TP25_1.0	L24-Fe0009464	30 Jan 2024	-	-	-	16	-
TP25_2.0	L24-Fe0009465	30 Jan 2024	-	-	-	11	-
TP25_3.0	L24-Fe0009466	30 Jan 2024	-	-	-	7.9	-
Stock Pile Sample							
SP1	L24-Fe0009467	30 Jan 2024	-	-	-	7.1	-
SP2	L24-Fe0009468	30 Jan 2024	-	-	-	11	-
SP3	L24-Fe0009469	30 Jan 2024	-	-	-	2.3	-
SP4	L24-Fe0009470	30 Jan 2024	-	-	-	3.6	-
SP5	L24-Fe0009471	30 Jan 2024	-	-	-	3.6	-

Notes:
LOR: Limits of Reporting -: no lab analysis NL: Not Limiting

Table B1
Groundwater Gauging Results and Physiochemical Parameters
Phase 1 & 2
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

ID	Date Measured	Sampling Method	Temperature (°C)	Dissolved Oxygen (mg/L)	Electrical Conductivity (uS/cm)	pH	EH (mV)	Bore Depth (mbtoc)	Top of Casing Height (m AHD)	Depth to Water (mbtoc)	Stickup height (m AHD)	Bore Depth (mbgl)	Depth to Water (mbgl)	Relative Groundwater Level (mAHD)	Comments (colour, turbidity, odours, etc)
MW01D	29-Jan-24	Low Flow	22.6	1.18	1,350	6.36	95.9	13.80	67.478	7.57	0.729	13.07	6.84	59.91	Clear, No odour
MW02D	29-Jan-24	Low Flow	23.1	2.93	1,473	5.80	121.6	12.67	62.831	10.13	0.659	12.01	9.47	52.70	Slightly turbid, Brown, No odour
MW02S	27-Mar-24	Low Flow	-	-	-	-	-	7.46	-	-	-	-	-	-	Dry
MW03D	28-Jan-24	Low Flow	25.2	31.80	1,238	5.90	133.7	18.92	68.146	15.19	0.623	18.30	14.57	52.96	Clear, No odour
MW03S	27-Mar-24	Low Flow	-	-	-	-	-	5.10	-	-	-	-	-	-	Dry
MW04D	27-Mar-24	Low Flow	21.3	7.66	516	6.58	42.8	21.77	57.454	16.67	0.610	21.16	16.06	40.78	Slightly turbid, Brown, No odour
MW04S	27-Mar-24	Low Flow	-	-	-	-	-	-	-	-	-	-	-	-	Dry
MW05S	27-Mar-24	Low Flow	-	-	-	-	-	5.33	54.732	-	0.663	4.67	-	-	Dry
MW05D	27-Mar-24	Low Flow	26.8	4.96	1,751	5.88	77.1	16.60	54.793	11.70	0.692	15.91	11.01	43.09	Clear
MW06S	27-Mar-24	Low Flow	-	-	-	-	-	6.30	62.008	-	0.481	5.82	-	-	Dry
MW06D	27-Mar-24	Low Flow	21.3	8.25	1,197	6.22	75.3	20.65	61.566	10.20	0.525	20.13	9.68	51.37	Cloudy, S.Turbid, brown
MW07S	27-Mar-24	Low Flow	-	-	-	-	-	7.00	71.922	-	0.636	6.36	-	-	Dry
MW03_GALT	27-Mar-24	Low Flow	26.7	6.00	144	5.70	35.4	6.11	54.760	4.15	0.705	5.41	3.45	50.61	Clear, Slightly cloudy
MW09_GALT	27-Mar-24	Low Flow	26.2	6.30	166	6.40	77.5	7.74	63.838	5.70	0.681	7.06	5.02	58.14	Cloudy

Notes
*EC multiplied by 0.64
^{0}C = degrees celsius
mg/L = milligrams per litre
uS/cm = microseimen per centimetre
mV = millivolts

Table B2
Water Analytical Results
Phase 1 and 2
TRH, BTEXN
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions							BTEXN Compounds				
			C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene Total
		Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		LOR	0.02	0.02	0.02	0.02	0.05	0.05	0.05	0.001	0.001	0.001	0.001	0.003
WA DWER Non-potable groundwater use guideline (NPUG) (2021)						0.9	0.9				0.01	0.025	0.003	0.02
ANZECC 2000 Irrigation Short Term Trigger Values														
ANZECC 2000 Irrigation Long Term Trigger Values														
ANZECC 2000 SE Aust Triggers - FW Lakes & Reservoirs														
ANZECC 2000 SW Aust Triggers - Rivers and Streams														
ANZECC 2000 SE Aust Triggers - Wetlands														
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand				NL							NL			
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=8m				NL							NL			
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=4m, <8m				6							5			
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=8m				7							5			
Intrusive Maintenance Worker - SAND/ CLAY 4-<8m				NL	NL					NL	NL	NL	NL	NL
Intrusive Maintenance Worker - SAND/ CLAY 8m+				NL	NL					NL	NL	NL	NL	NL
Field ID	Lab ID	Date												
MW01	L24-Ja0052517	29 Jan 2024	<0.02	<0.02	<0.02	<0.02	2.1	<0.05	2.1	<0.001	<0.001	<0.001	<0.001	<0.003
MW02	L24-Ja0052518	29 Jan 2024	<0.02	<0.02	0.2+	0.2+	0.89+	<0.05	1.09+	<0.001	<0.001	<0.001	<0.001	<0.003
MW03	L24-Ja0052519	29 Jan 2024	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001	<0.003
MW04 (D)	L24-Ap0003693	27 Mar 2024	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003
MW05 (D)	L24-Ap0003695	27 Mar 2024	< 0.02	< 0.02	0.09+	0.09+	0.18+	< 0.05	0.27+	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003
MW06 (D)	L24-Ap0003694	27 Mar 2024	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003
MW03_GALT	L24-Ap0003691	27 Mar 2024	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003
MW09_GALT	L24-Ap0003692	27 Mar 2024	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis undertaken
NEPM: National Environmental Protection Measure
HSLs: Health Screening Levels
DWER: Department of Water and Environmental Regulation
+ : Primary data value replaced with higher reported replicate data due to exceeded RPD

Table B3
Water Analytical Results
Phase 1 and 2
Metals
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

		Metals (Total)													
		Arsenic	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Zinc
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOR	0.001	0.001	0.05	0.0001	0.002	0.001	0.001	0.001	0.001	0.005	0.0001	0.001	0.001	0.005
WA DWER Non-potable groundwater use guideline (NPUG) (2021)		0.1	0.6	40	0.02	0.5		0.5	1	0.1	5	0.01	0.2	0.1	3
ANZECC 2000 Irrigation Short Term Trigger Values		2	0.5		0.05	1		0.1	5	5	10	0.002	2	0.05	5
ANZECC 2000 Irrigation Long Term Trigger Values		0.1	0.1	0.5	0.01	0.1		0.05	0.2	2	0.2	0.002	0.2	0.02	2
ANZECC 2000 SE Aust Triggers - FW Lakes & Reservoirs															
ANZECC 2000 SW Aust Triggers - Rivers and Streams															
ANZECC 2000 SE Aust Triggers - Wetlands															
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=4m, <8m															
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=8m															
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=4m, <8m															
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=8m															
Intrusive Maintenance Worker - SAND/ CLAY 4-<8m															
Intrusive Maintenance Worker - SAND/ CLAY 8m+															
Field ID	Lab ID	Date													
MW01	L24-Ja0052517	29 Jan 2024	<0.001	<0.001	0.06	<0.0001	<0.002	<0.001	<0.001	0.002	<0.001	0.16	<0.0001	0.002	0.002	<0.005
MW02	L24-Ja0052518	29 Jan 2024	<0.001	<0.001	<0.05	<0.0001	<0.002	<0.001	0.002	<0.001	<0.001	0.095	<0.0001	0.003	0.001	0.009
MW03	L24-Ja0052519	29 Jan 2024	<0.001	<0.001	0.09	<0.0001	<0.002	<0.001	<0.001	0.002	<0.001	0.12	<0.0001	0.002	0.002	0.005
MW04(D)	L24-Ap0003693	27 Mar 2024	< 0.001	< 0.001	0.2	< 0.0001	-	0.001	0.007	0.003	< 0.001	0.26	< 0.0001	0.004	< 0.001	0.007
MW05(D)	L24-Ap0003695	27 Mar 2024	< 0.001	< 0.001	0.1	< 0.0001	-	< 0.001	0.006	0.003	< 0.001	0.44	< 0.0001	0.007	< 0.001	0.018
MW06(D)	L24-Ap0003694	27 Mar 2024	< 0.001	< 0.001	0.15	< 0.0001	-	< 0.001	0.004	0.007	< 0.001	0.18	< 0.0001	0.004	< 0.001	0.028
MW03_GALT	L24-Ap0003691	27 Mar 2024	< 0.001	< 0.001	< 0.05	< 0.0001	-	< 0.001	< 0.001	< 0.001	< 0.001	0.009	< 0.0001	0.001	< 0.001	0.008
MW09_GALT	L24-Ap0003692	27 Mar 2024	< 0.001	< 0.001	< 0.05	< 0.0001	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.005	< 0.0001	0.001	< 0.001	< 0.005

Notes:

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NL: Not Limiting
-: no lab analysis undertaken

NEPM: National Environmental Protection Measure
HSLs: Health Screening Levels
DWER: Department of Water and Environmental Regulation

Table B4
Water Analytical Results
Phase 1 and 2
Phenols
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

		Phenols																			
		3&4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-Nitrophenol	Cresol Total	Pentachlorophenol	Tetrachlorophenols	Phenol	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOR	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.001	0.001	0.01	0.001	0.001	0.001	0.01	0.1
WA DWER Non-potable groundwater use guideline (NPUG) (2021)				0.2	2				3								0.1				
ANZECC 2000 Irrigation Short Term Trigger Values																					
ANZECC 2000 Irrigation Long Term Trigger Values																					
ANZECC 2000 SE Aust Triggers - FW Lakes & Reservoirs																					
ANZECC 2000 SW Aust Triggers - Rivers and Streams																					
ANZECC 2000 SE Aust Triggers - Wetlands																					
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=4m, <8m																					
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=8m																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=4m, <8m																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=8m																					
Intrusive Maintenance Worker - SAND/ CLAY 4-<8m																					
Intrusive Maintenance Worker - SAND/ CLAY 8m+																					
Field ID	Lab ID	Date																			
MW01	L24-Ja0052517	29 Jan 2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.1
MW02	L24-Ja0052518	29 Jan 2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	0.005	<0.001	<0.01	<0.001	<0.001	<0.001	0.005	<0.1
MW03	L24-Ja0052519	29 Jan 2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.1
MW04(D)	L24-Ap0003693	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.1
MW05(D)	L24-Ap0003695	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.1
MW06(D)	L24-Ap0003694	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.1
MW03_GALT	L24-Ap0003691	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.1
MW09_GALT	L24-Ap0003692	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.003	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.1

Notes:
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NL: Not Limiting
-: no lab analysis undertaken

NEPM: National Environmental Protection Measure
HSLs: Health Screening Levels
DWER: Department of Water and Environmental Regulation

Table B5
Water Analytical Results
Phase 1 and 2
PAH
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

		Polycyclic Aromatic Hydrocarbons (PAHs)																	Herbicides
		Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Dinoseb
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOR	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
WA DWER Non-potable groundwater use guideline (NPUG) (2021)						0.0001													
ANZECC 2000 Irrigation Short Term Trigger Values																			
ANZECC 2000 Irrigation Long Term Trigger Values																			
ANZECC 2000 SE Aust Triggers - FW Lakes & Reservoirs																			
ANZECC 2000 SW Aust Triggers - Rivers and Streams																			
ANZECC 2000 SE Aust Triggers - Wetlands																			
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=4m, <8m																			
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=8m																			
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=4m, <8m																			
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=8m																			
Intrusive Maintenance Worker - SAND/ CLAY 4-<8m																			
Intrusive Maintenance Worker - SAND/ CLAY 8m+																			
Field ID	Lab ID	Date																	
MW01	L24-Ja0052517	29 Jan 2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.002
MW02	L24-Ja0052518	29 Jan 2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
MW03	L24-Ja0052519	29 Jan 2024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
MW04(D)	L24-Ap0003693	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002
MW05(D)	L24-Ap0003695	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002
MW06(D)	L24-Ap0003694	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002
MW03_GALT	L24-Ap0003691	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002
MW09_GALT	L24-Ap0003692	27 Mar 2024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002

Notes:
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NL: Not Limiting
-: no lab analysis undertaken

NEPM: National Environmental Protection Measure
HSLs: Health Screening Levels
DWER: Department of Water and Environmental Regulation

Table B6
Water Analytical Results
Phase 1 and 2
PFAS
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Perfluoroalkane Carboxylic Acids											(n:2) Fluorotelomer Sulfonic Acids			
			Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
	Units		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	0.0002	0.0002	0.0008	0.0002	0.0002	0.0004	0.0004	0.0004	0.0004	0.0002	0.001	0.001	0.0004	0.0004
PFAS NEMP 2020 Recreational Water							10										
PFAS NEMP 2020 Freshwater 99%							19										
PFAS NEMP 2020 Drinking Water							0.56										
PFAS Non-potable groundwater use guideline (NPUG)							5.6										
Field ID	Lab ID	Date															
MW01	L24-Ja0052517	29 Jan 2024	0.051	0.16	0.086	0.1	0.46	<0.002*	<0.004*	0.0067	<0.004*	<0.004*	<0.002*	<0.001	0.042	0.0075	<0.004*
MW02	L24-Ja0052518	29 Jan 2024	0.073	0.24	0.16	0.11	0.24	<0.002*	<0.004*	<0.004*	<0.004*	<0.004*	<0.002*	<0.001	0.021	<0.004*	<0.004*
MW03	L24-Ja0052519	29 Jan 2024	0.004	0.0025	0.0014	0.0013	0.0033	<0.0002	<0.0004	<0.0004	<0.0004	<0.0004	<0.0002	<0.001	0.006	<0.0004	<0.0004
		LOR	0.005	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001
MW04(D)	L24-Ap0003693	27 Mar 2024	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
MW05(D)	L24-Ap0003695	27 Mar 2024	<0.005	0.002	<0.001	<0.005	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
MW06(D)	L24-Ap0003694	27 Mar 2024	<0.005	0.099	0.090	0.063	0.130	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
MW03_GALT	L24-Ap0003691	27 Mar 2024	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
MW09_GALT	L24-Ap0003692	27 Mar 2024	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis undertaken
NEMP: National Environmental Management Plan

*The LORs have been raised due to matrix interference
WA DoH advises that values equivalent to 10 times the DWG can be applied as screening levels for the assessment of non-potable sources (such as garden irrigation). However, in some circumstances, an exposure assessment may need to be undertaken to adjust the tolerable daily intake based on likely exposure under the particular scenario being assessed

Table B6
Water Analytical Results
Phase 1 and 2
PFAS
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Perfluoroalkane Sulfonic Acids							Perfluoroalkyl Sulfonamides								PFAS		
			Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropropanesulfonic acid (PFPrS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Perfluorooctane sulfonamidoacetic acid (FOSAA)	Sum of PFHxS and PFOS	Sum of PFAS	Sum of PFAS (WA DER List)
	Units		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		0.0004	0.0004	-	0.0004	0.0004	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004	0.0005	0.0004	0.0002	0.0002	0.0002
PFAS NEMP 2020 Recreational Water						2		2										2		
PFAS NEMP 2020 Freshwater 99%								0.00023												
PFAS NEMP 2020 Drinking Water																		0.07		
PFAS Non-potable groundwater use guideline (NPUG)																		0.7		
Field ID	Lab ID	Date																		
MW01	L24-Ja0052517	29 Jan 2024	0.018	<0.004*	-	0.32	0.0084	0.062	<0.004*	<0.004*	<0.004*	<0.004*	<0.004*	<0.004*	<0.004*	<0.005*	<0.004*	0.38	1.3	1.3
MW02	L24-Ja0052518	29 Jan 2024	0.046	<0.004*	-	0.34	0.0045	0.018	<0.004*	<0.004*	<0.004*	<0.004*	<0.004*	<0.004*	<0.004*	<0.005*	<0.004*	0.36	1.3	1.2
MW03	L24-Ja0052519	29 Jan 2024	0.013	<0.0004	-	0.011	<0.0004	0.0017	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0005	<0.0004	0.013	0.044	0.044
		LOR	0.001	0.001	0.001	0.001	0.001	0.0001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.001	0.005	0.005
MW04(D)	L24-Ap0003693	27 Mar 2024	<0.001	<0.001	<0.001	<0.001	<0.001	0.00120	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00120	<0.005	<0.005
MW05(D)	L24-Ap0003695	27 Mar 2024	<0.001	<0.001	<0.001	<0.001	<0.001	0.00070	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005
MW06(D)	L24-Ap0003694	27 Mar 2024	0.028	0.025	0.012	0.18	0.003	0.00500	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.185	0.64	0.595
MW03_GALT	L24-Ap0003691	27 Mar 2024	<0.001	<0.001	<0.001	<0.001	<0.001	0.00030	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005
MW09_GALT	L24-Ap0003692	27 Mar 2024	<0.001	<0.001	<0.001	<0.001	<0.001	0.00400	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00400	<0.005	<0.005

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis undertaken
NEMP: National Environmental Management Plan

*The LORs have been raised due to matrix interference
WA DoH advises that values equivalent to 10 times the DWG can be applied as screening levels for the assessment of non-potable sources (such as garden irrigation). However, in some circumstances, an exposure assessment may need to be undertaken to adjust the tolerable daily intake based on likely exposure under the particular scenario being assessed

Table B7
Water Analytical Results
Phase 1 and 2
Inorganics
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

			Inorganics							
			Reactive Phosphorus (Orthophosphate)	Nitrite + Nitrate as N	Ammonia as N	Kjeldahl Nitrogen Total	Nitrate (as N)	Nitrite (as N)	Nitrogen (Total)	Total Phosphorus (Organic Phosphate)
		Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		LOR	0.01	0.01	0.02	0.2	0.01	0.01	0.2	0.01
WA DWER Non-potable groundwater use guideline (NPUG) (2021)							500	30		
ANZECC 2000 Irrigation Short Term Trigger Values										
ANZECC 2000 Irrigation Long Term Trigger Values									5	0.05
ANZECC 2000 SE Aust Triggers - FW Lakes & Reservoirs			0.005						0.35	0.01
ANZECC 2000 SW Aust Triggers - Rivers and Streams			0.04						1.2	0.065
ANZECC 2000 SE Aust Triggers - Wetlands			0.03						1.5	0.06
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=4m, <8m										
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand >=8m										
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=4m, <8m										
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand >=8m										
Intrusive Maintenance Worker - SAND/ CLAY 4-<8m										
Intrusive Maintenance Worker - SAND/ CLAY 8m+										
Field ID	Lab ID	Date								
MW01	L24-Ja0052517	29 Jan 2024	<0.01	2	24	26	2	0.03	28	0.25
MW02	L24-Ja0052518	29 Jan 2024	<0.01	0.05	0.88	1.2	0.04	0.01	1.2	0.11
MW03	L24-Ja0052519	29 Jan 2024	<0.01	45	0.55	<0.2	45	0.1	45	0.09
MW04(D)	L24-Ap0003693	27 Mar 2024	0.04	< 0.01	< 0.02	< 0.2	< 0.01	< 0.01	< 0.2	0.06
MW05(D)	L24-Ap0003695	27 Mar 2024	< 0.01	0.74	0.24	0.3	0.73	< 0.01	1	0.11
MW06(D)	L24-Ap0003694	27 Mar 2024	0.02	15	0.03	1	15	0.08	16	0.08
MW03_GALT	L24-Ap0003691	27 Mar 2024	< 0.01	18	0.18	2	18	< 0.01	20	0.03
MW09_GALT	L24-Ap0003692	27 Mar 2024	< 0.01	0.34	0.38	0.4	0.34	< 0.01	0.7	0.03

Notes:
LOR: Limits of Reporting
NL: Not Limiting
-: no lab analysis undertaken

NEPM: National Environmental Protection Measure
HSLs: Health Screening Levels
DWER: Department of Water and Environmental Regulation

Table C1
Soil Analytical Results
QAQC - Duplicate/Triplicate
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

		Lab ID	L24-Ma0057482	L24-Ma0057670	RPD %		SE262923.001	RPD %	L24-Ma0057521	L24-Ma0057672	RPD %		SE262923.002	RPD %	L24-Ma0057628	L24-Ma0057672	RPD %		SE262923.003	RPD %
		Field ID	TP26_0.1	DUP2			TRIP2		TP32_0.1	DUP3			TRIP3		SB08_0.5	DUP4			TRIP4	
		Date	19 Mar 2024	19 Mar 2024			19 Mar 2024		19 Mar 2024	19 Mar 2024			19 Mar 2024		19 Mar 2024	19 Mar 2024			19 Mar 2024	
		Matrix Type	Soil	Soil			Soil		Soil	Soil			Soil		Soil	Soil			Soil	
	Unit	LOR				LOR						LOR						LOR		
Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions																				
C6-C10 Fraction (F1)	mg/kg	20	< 20	< 20	0	25	<25	0	< 20	< 20	0	25	<25	0	< 20	< 20	0	25	<25	0
C6-C10 (F1 minus BTEX)	mg/kg	20	< 20	< 20	0	25	<25	0	< 20	< 20	0	25	<25	0	< 20	< 20	0	25	<25	0
>C10-C16 Fraction (F2)	mg/kg	50	< 50	< 50	0	25	<25	0	< 50	< 50	0	25	<25	0	< 50	< 50	0	25	<25	0
>C10-C16 Fraction (F2 minus	mg/kg	50	< 50	< 50	0	25	<25	0	< 50	< 50	0	25	<25	0	< 50	< 50	0	25	<25	0
>C16-C34 Fraction (F3)	mg/kg	100	150	<100	40	90	<90	64	< 100	< 100	0	90	<90	0	< 100	< 100	0	90	<90	0
>C34-C40 Fraction (F4)	mg/kg	100	< 100	< 100	0	120	<120	0	< 100	< 100	0	120	<120	0	< 100	< 100	0	120	<120	0
>C10-C40 Fraction (Sum)	mg/kg	100	150	< 100	40	210	<210	0	< 100	< 100	0	210	<210	0	< 100	< 100	0	210	<210	0
BTEXN Compounds																				
Naphthalene (VOC)	mg/kg	0.5	< 0.5	< 0.5	0	0.1	<0.1	0	< 0.5	< 0.5	0	0.1	<0.1	0	< 0.5	< 0.5	0	0.1	<0.1	0
Benzene	mg/kg	0.1	< 0.1	< 0.1	0	0.1	< 0.1	0	< 0.1	< 0.1	0	0.1	< 0.1	0	< 0.1	< 0.1	0	0.1	< 0.1	0
Toluene	mg/kg	0.1	< 0.1	< 0.1	0	0.1	< 0.1	0	< 0.1	< 0.1	0	0.1	< 0.1	0	< 0.1	< 0.1	0	0.1	< 0.1	0
Ethylbenzene	mg/kg	0.1	< 0.1	< 0.1	0	0.1	< 0.1	0	< 0.1	< 0.1	0	0.1	< 0.1	0	< 0.1	< 0.1	0	0.1	< 0.1	0
Xylene Total	mg/kg	0.3	< 0.3	< 0.3	0	0.3	< 0.3	0	< 0.3	< 0.3	0	0.3	< 0.3	0	< 0.3	< 0.3	0	0.3	< 0.3	0
Metals																				
Arsenic	mg/kg	2					-						-		<2	< 2	0		-	
Beryllium	mg/kg	2					-						-		< 2	< 2	0		-	
Boron	mg/kg	10					-						-		< 10	< 10	0		-	
Cadmium	mg/kg	0.1					-						-		< 0.1	< 0.1	0		-	
Chromium (hexavalent)	mg/kg	1					-						-		< 1	< 1	0		-	
Chromium (III+VI)	mg/kg	1					-						-		10	10	0		-	
Cobalt	mg/kg	5					-						-		<5	< 5	0		-	
Copper	mg/kg	1					-						-		7.5	6.5	15		-	
Lead	mg/kg	1					-						-		9.2	12	23		-	
Manganese	mg/kg	5					-						-		18	24	25		-	
Mercury	mg/kg	0.02					-						-		<0.02	0.03	40		-	
Nickel	mg/kg	1					-						-		1.9	1.9	0		-	
Selenium	mg/kg	2					-						-		<2	< 2	0		-	
Zinc	mg/kg	5					-						-		<5	12	58		-	

Notes:
LOR: Limit of Reporting - Eurofins and SGS differ slightly
RPD: Relative Percentage Difference between the two duplicate pieces of analysis
-: No lab analysis undertaken

Where the primary sample result falls within the replicate results reported value of below LOR a value of 0 is assigned for the RPD
Where both samples results are below LOR the RPD is reported as 0
Where one sample is reported below LOR and the other is above, the below limit value is set at LOR for rpd calculation purposes

Table C2
Soil PFAS Results
QAQC - Duplicate
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

	Unit	LOR	Lab ID	L24-Ma0057628	L24-Ma0057652	RPD %
			Field ID	SB08_0.5	DUP 4	
			Date	22 Mar 2024	22 Mar 2024	
			Matrix Type	Soil	Soil	
Perfluoroalkane Carboxylic Acids						
Perfluorobutanoic acid (PFBA)	µg/kg	5		< 5	< 5	0
Perfluorohexanoic acid (PFHxA)	µg/kg	5		< 5	< 5	0
Perfluoropentanoic acid (PFPeA)	µg/kg	5		< 5	< 5	0
Perfluoroheptanoic acid (PFHpA)	µg/kg	5		< 5	< 5	0
Perfluorooctanoic acid (PFOA)	µg/kg	5		< 5	< 5	0
Perfluorodecanoic acid (PFDA)	µg/kg	5		< 5	< 5	0
Perfluorododecanoic acid (PFDoDA)	µg/kg	5		< 5	< 5	0
Perfluorononanoic acid (PFNA)	µg/kg	5		< 5	< 5	0
Perfluorotetradecanoic acid (PFTeDA)	µg/kg	5		< 5	< 5	0
Perfluorotridecanoic acid (PFTrDA)	µg/kg	5		< 5	< 5	0
Perfluoroundecanoic acid (PFUnDA)	µg/kg	5		< 5	< 5	0
(n:2) Fluorotelomer Sulfonic Acids						
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/kg	5		< 5	< 5	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/kg	10		< 10	< 10	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/kg	5		< 5	< 5	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/kg	5		< 5	< 5	0
Perfluoroalkane Sulfonic Acids						
Perfluorooctane sulfonamide (FOSA)	µg/kg	5		< 5	< 5	0
Perfluorobutane sulfonic acid (PFBS)	µg/kg	5		< 5	< 5	0
Perfluoropentane sulfonic acid (PFPeS)	µg/kg	5		< 5	< 5	0
Perfluorohexane sulfonic acid (PFHxS)	µg/kg	5		< 5	< 5	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/kg	5		< 5	< 5	0
Perfluorooctane sulfonic acid (PFOS)	µg/kg	5		< 5	< 5	0
Perfluorodecane sulfonic acid (PFDS)	µg/kg	5		< 5	< 5	0
Perfluoroalkyl Sulfonamides						
Perfluorooctane sulfonamide (FOSA)	µg/kg	5		< 5	< 5	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/kg	5		< 5	< 5	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/kg	10		< 10	< 10	0
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/kg	5		< 5	< 5	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/kg	5		< 5	< 5	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/kg	10		< 10	< 10	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/kg	5		< 5	< 5	0
PFAS						
Perfluorobutane sulfonic acid (PFBS)	µg/kg	5		< 5	< 5	0
Perfluoropentane sulfonic acid (PFPeS)	µg/kg	5		< 5	< 5	0
Perfluorohexane sulfonic acid (PFHxS)	µg/kg	5		< 5	< 5	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/kg	5		< 5	< 5	0
Perfluorooctane sulfonic acid (PFOS)	µg/kg	5		< 5	< 5	0
Perfluorodecane sulfonic acid (PFDS)	µg/kg	5		< 5	< 5	0
Sum of PFHxS and PFOS	µg/kg	5		< 5	< 5	0
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/kg	5		< 5	< 5	0
Sum of PFASs (n=30)*	µg/kg	50		< 50	< 50	0
Sum of PFAS (WA DER List)	µg/kg	10		< 10	< 10	0

Notes:
LOR: Limits of Reporting
-: no lab analysis undertaken
Where both samples results are below LOR the RPD is reported as 0
Where one sample is reported below LOR and the other is above, the below limit value is set at LOR for rpd calculation purposes

Table C3
Soil Analytical Results
QAQC - Blanks
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

	Unit	LOR		
Lab ID			L24-Ma0057655	L24-Ma0057654
Field ID			FB3	RB3
Date			22 Mar 2024	22 Mar 2024
Matrix Type			Water	Water
Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions				
C6-C10 Fraction (F1)	mg/L	0.02	< 0.02	< 0.02
C6-C10 (F1 minus BTEX)	mg/L	0.02	< 0.02	< 0.02
>C10-C16 Fraction (F2)	mg/L	0.02	< 0.02	< 0.02
>C10-C16 Fraction (F2 minus Naphthalene)	mg/L	0.02	< 0.02	< 0.02
>C16-C34 Fraction (F3)	mg/L	0.05	< 0.05	< 0.05
>C34-C40 Fraction (F4)	mg/L	0.05	< 0.05	< 0.05
>C10-C40 Fraction (Sum)	mg/L	0.05	< 0.05	< 0.05
BTEXN Compounds				
Naphthalene (VOC)	mg/L	0.001	< 0.001	< 0.001
Benzene	mg/L	0.001	< 0.001	< 0.001
Toluene	mg/L	0.001	< 0.001	< 0.001
Ethylbenzene	mg/L	0.001	< 0.001	< 0.001
Xylene Total	mg/L	0.003	< 0.003	< 0.003

Notes:
LOR: Limits of Reporting
-: no lab analysis undertaken

Table C4
Groundwater Analytical Results
Phase 1 & 2
QAQC - Duplicate/Triplicate
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

	Unit	Lab ID	L24-Ja0052518	L24-Ja0052520	RPD %		SE259987.001	RPD %	L24-Ap0003695	L24-Ap0003696	RPD %		ME349779.001	RPD %
		Field ID	MW02	DUP1			TRIP1		MW05(D)	DUP1			TRIP1	
		Date	29 Jan 2024	29 Jan 2024			29 Jan 2024		27 Mar 2024	27 Mar 2024			29 Mar 2024	
		Matrix Type	Water	Water			Water		Water	Water			Water	
		LOR				LOR						LOR		
Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions														
C6-C10 Fraction (F1)	mg/L	0.02	<0.02	<0.02	0	0.02	<0.02	0	< 0.02	< 0.02	0	0.01	<0.01	0
C6-C10 (F1 minus BTEX)	mg/L	0.02	<0.02	<0.02	0	0.02	<0.02	0	< 0.02	< 0.02	0	0.01	<0.01	0
>C10-C16 Fraction (F2)	mg/L	0.02	0.1	0.2	67	0.02	0.2	67	< 0.02	< 0.02	0	0.01	0.09	127
>C10-C16 Fraction (F2 minus Naphthalene)	mg/L	0.02	0.1	0.2	67	0.02	0.2	67	< 0.02	< 0.02	0	0.01	0.09	127
>C16-C34 Fraction (F3)	mg/L	0.05	0.39	0.89	78	0.05	<0.05	155	< 0.05	< 0.05	0	0.05	0.18	113
>C34-C40 Fraction (F4)	mg/L	0.05	<0.05	<0.05	0	0.05	<0.05	0	< 0.05	< 0.05	0	0.05	<0.05	0
>C10-C40 Fraction (Sum)	mg/L	0.05	0.49	1.09	76	0.05	0.68	32	< 0.05	< 0.05	0	0.05	0.27	138
BTEXN Compounds														
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	0	0.0005	<0.0005	0	< 0.001	< 0.001	0	0.001	<0.001	0
Benzene	mg/L	0.001	<0.001	<0.001	0	0.0005	<0.0005	0	< 0.001	< 0.001	0	0.001	<0.001	0
Toluene	mg/L	0.001	<0.001	<0.001	0	0.0005	<0.0005	0	< 0.001	< 0.001	0	0.001	<0.001	0
Ethylbenzene	mg/L	0.001	<0.001	<0.001	0	0.0005	<0.0005	0	< 0.001	< 0.001	0	0.001	<0.001	0
Xylene Total	mg/L	0.003	<0.003	<0.003	0	0.0015	<0.0015	0	< 0.003	< 0.003	0	0.001	<0.001	0

Notes:
LOR: Limit of Reporting - Eurofins and SGS differ slightly
RPD: Relative Percentage Difference between the two duplicate pieces of analysis
-: No lab analysis undertaken
Where both samples results are below LOR the RPD is reported as 0
Where one sample is reported below LOR and the other is above, the below limit value is set at LOR for rpd calculation purposes

Table C5
Groundwater PFAS Results
QAQC - Blanks
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

	Unit	LOR	Lab ID	L24-Ja0052521	L24-Ja0052522
			Field ID	RB1	FB1
			Date	29 Jan 2024	29 Jan 2024
			Matrix Type	Water	Water
Perfluoroalkane Carboxylic Acids					
Perfluorobutanoic acid (PFBA)	µg/L	0.001		<0.001	<0.001
Perfluorohexanoic acid (PFHxA)	µg/L	0.0002		<0.0002	<0.0002
Perfluoropentanoic acid (PFPeA)	µg/L	0.0002		<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	µg/L	0.0008		<0.0008	<0.0008
Perfluorooctanoic acid (PFOA)	µg/L	0.0002		<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	µg/L	0.0002		<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	µg/L	0.0004		<0.0004	<0.0004
Perfluorononanoic acid (PFNA)	µg/L	0.0004		<0.0004	<0.0004
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.0004		<0.0004	<0.0004
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.0004		<0.0004	<0.0004
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.0002		<0.0002	<0.0002
(n:2) Fluorotelomer Sulfonic Acids					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001		<0.001	<0.001
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.001		<0.001	<0.001
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.0004		<0.0004	<0.0004
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.0004		<0.0004	<0.0004
Perfluoroalkane Sulfonic Acids					
Perfluorooctane sulfonamide (FOSA)	µg/L	0.0004		<0.0004	<0.0004
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.0004		<0.0004	<0.0004
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.0004		<0.0004	<0.0004
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.0004		<0.0004	<0.0004
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.0004		<0.0004	<0.0004
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0004		<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.0004		<0.0004	<0.0004
Perfluoroalkyl Sulfonamides					
Perfluorooctane sulfonamide (FOSA)	µg/L	0.0004		<0.0004	<0.0004
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.0004		<0.0004	<0.0004
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.0004		<0.0004	<0.0004
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.0004		<0.0004	<0.0004
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.0004		<0.0004	<0.0004
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.0004		<0.0004	<0.0004
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.0005		<0.0005	<0.0005
PFAS					
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.0004		<0.0004	<0.0004
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.0004		<0.0004	<0.0004
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.0004		<0.0004	<0.0004
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.0004		<0.0004	<0.0004
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0002		<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.0004		<0.0004	<0.0004
Sum of PFHxS and PFOS	µg/L	0.0002		<0.0002	<0.0002
Sum of PFAS	µg/L	0.0002		<0.0002	<0.0002
Sum of PFAS (WA DER List)	µg/L	0.0002		<0.0002	<0.0002

Notes:
LOR: Limits of Reporting
-: no lab analysis undertaken

Table C6
Groundwater Analytical Results
Phase 1 & 2
QAQC - Blanks
1449-6 Detailed Site Investigation
40 Watkins Rd, Mundijong

	Unit	Lab ID	L24-Ja0052522	L24-Ja0052521	L24-Ap0003697	L24-Ap0003698	L24-Ap0003699	L24-Ap0003700
		Field ID	FB1	RB1	FB1	RB1	FB2	RB2
		Date	29 Jan 2024	29 Jan 2024	27 Mar 2024	27 Mar 2024	27 Mar 2024	27 Mar 2024
		Matrix Type	Water	Water	Water	Water	Water	Water
		LOR						
Total Recoverable Hydrocarbons (TRH) - 2013 NEPM Fractions								
C6-C10 Fraction (F1)	mg/L	0.02	<0.02	<0.02	< 0.02	< 0.02	< 0.02	< 0.02
C6-C10 (F1 minus BTEX)	mg/L	0.02	<0.02	<0.02	< 0.02	< 0.02	< 0.02	< 0.02
>C10-C16 Fraction (F2)	mg/L	0.02	<0.02	<0.02	< 0.02	< 0.02	< 0.02	< 0.02
>C10-C16 Fraction (F2 minus Naphthalene)	mg/L	0.02	<0.02	<0.02	< 0.02	< 0.02	< 0.02	< 0.02
>C16-C34 Fraction (F3)	mg/L	0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05
>C34-C40 Fraction (F4)	mg/L	0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05
>C10-C40 Fraction (Sum)	mg/L	0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05
BTEXN Compounds								
Naphthalene (VOC)	mg/L	0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001
Benzene	mg/L	0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/L	0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/L	0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001
Xylene Total	mg/L	0.003	<0.003	<0.003	< 0.003	< 0.003	< 0.003	< 0.003

Notes:
LOR: Limits of Reporting
-: no lab analysis undertaken