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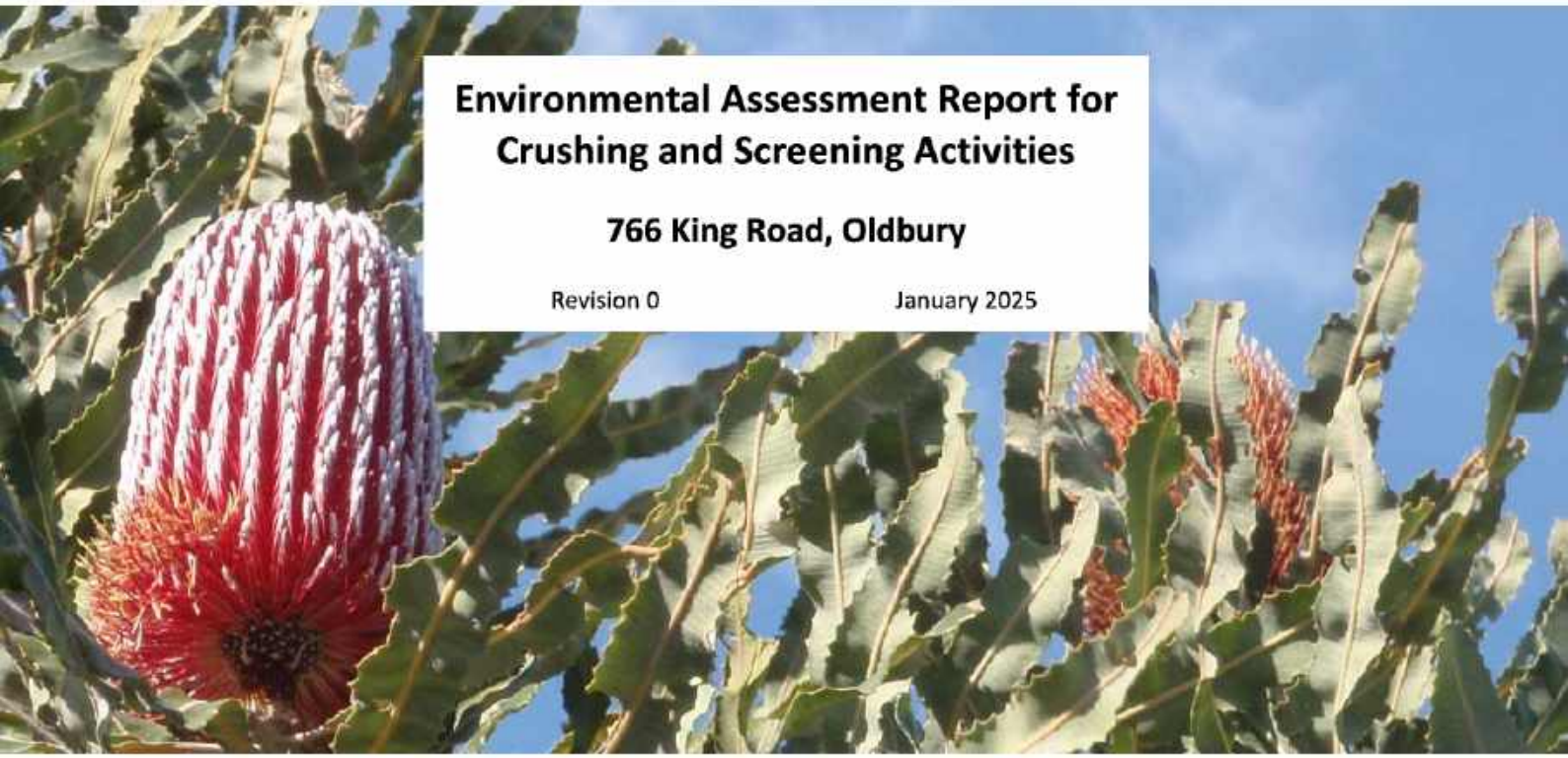

Environmental Assessment Report for Crushing and Screening Activities

766 King Road, Oldbury

Revision 0 January 2025

CALIBRE | COMMITMENT | COLLABORATION

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1 Introduction

1.1 Overview

Coterra Environment on behalf of Hope Valley Wood Waste Pty Ltd (HVWW) as the occupier of 766 King Road has prepared this Environmental Assessment Report as supporting information to an *Environmental Protection Act 1986* (EP Act) works approval application. HVWW is proposing to remediate its site and enlarge the transport depot on site. In the process of doing so, it would make the premises prescribed. Consequently, a works approval is required.

The applicant for the works approval is HVWW and a copy of the current company extract is set out in Appendix 1.

The location of the premises at 766 King Road, Oldbury in the Shire of Serpentine Jarrahdale is shown and set out in Figure 1 through to Figure 5. A copy of the certificate of title for the land is attached as Appendix 2.

HVWW propose to remediate the construction and demolition waste on site (about 25,000m^3) by crushing and screening it to make fill material. This fill will be used to raise low lying land to the west of the existing transport depot, making the depot larger.

The abovementioned site activity would involve the use of mobile crushing and screening equipment supported by utility plant and equipment (excavators, dump trucks and frontend loaders etc.).

The site activity has a short time frame of 12 to 16 weeks and does not involve the construction of site infrastructure, just the use of mobile equipment readily assembled on site and put into service.

In accordance with the provisions of the *EP Act*, the proposed site activity would make the site prescribed under category 13 as listed in Schedule 1 to the *Environmental Protection Regulations 1987* (the Regulations) as detailed in Table 1-1 below.:

Table 1-1: Schedule 1 Activities of the *Environmental Protection Regulations 1987*

Category number	Description of Category (Activity)	Threshold capacity requiring approval
13	Crushing of building material: premises on which waste building or demolition material (for example, bricks, stones or concrete) is crushed or cleaned.	1,000 tonnes or more per year,

In accordance with the provisions of the EP Act, a works approval is required for the abovementioned activity prior to and for the construction phase of the project. A licence should be held at the operational stage. Given the short-term duration of the project (a few months), HVWW is seeking approval to operate the crushing and screening equipment under time limited operational conditions to be attached to the works approval and not under the provisions of a subsequent and separate licence.

1.2 Premises Background

The location of the premises is shown on Figure 1 through to Figure 6. An aerial image of the site is provided below in Plate 1-1.

Plate 1-1: Current Site Aerial Image December 2024
Source: Portion of Figure 2 of this report

Prior to 2015 the premises was predominantly cleared farmland used for agricultural purposes. An aerial image of the site in 2014 is provided in Plate 1-2 below. During 2015 the eastern portion of the land was raised to create a transport depot and wood processing yard as shown in Plate 1-3. Raised bunds (about 4m high) were created on the eastern, southern and northern portions of the transport depot to screen site activities. These site works were completed in accordance with Development Authority OCM019.02.15 granted by the Shire of Serpentine Jarrahdale on 23 February 2015.

Vegetation has been planted in the 4m high bunds to create a natural aesthetic view of the sites.

Plate 1-2: Site Aerial Image November 2014
Source: MNG Access Maps accessed 12/12/24

Plate 1-3: Site Aerial Image August 2015
Source: MNG Access Maps accessed 12/12/24

From 2015 until about 2019 the occupier amongst other site operations, stockpiled about 25,000m^3 of commercial and demolition (C&D) material. This material stockpile is shown Plate 1-1 through to Plate 1-5 below. Acceptance and storage of C&D material did not accord with the Shire's Development Approval and the Shire has until recent times, been working to see that it is removed from the site.

Plate 1-4: Site Transport Depot, Enlarged Aerial Image December 2024
Source: MNG Access Satellite Imagery – Accessed 12 /12/2024

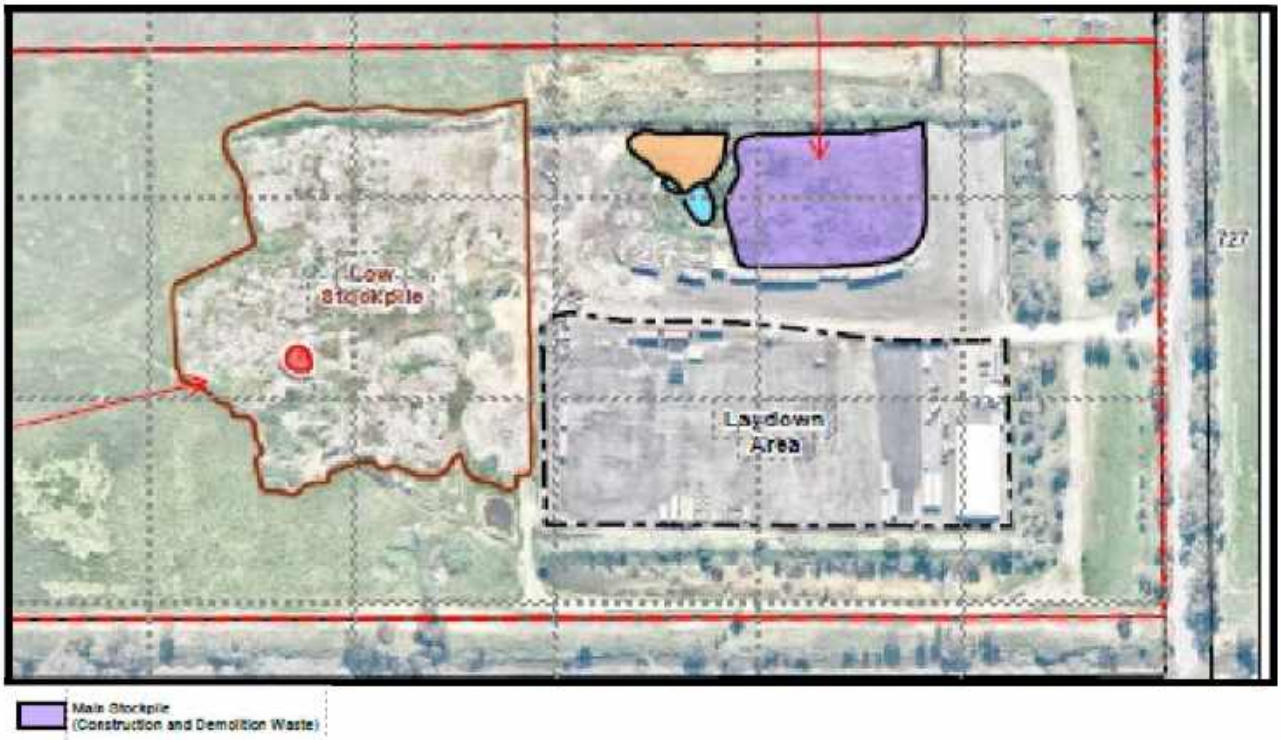

Plate 1-5: C&D Material Stockpile Location

Source: Portion of Figure 6 of this report

Mr Jonnie Morton through the Thomas Road Property Pty Ltd (TRPP) acquired the premises in June 2023 and was not involved in any of the former site activities. The focus of Mr Morton's activities is to remediate the site and expand the transport depot in an environmentally responsible and economic manner.

The premises are currently used in accordance with the site's Development Approval, as a transport depot and a facility that grinds/mulches timber.

1.3 Site contamination Status

As a result of the abovementioned former site activities, the premises were classified as *'possibly contaminated – investigation required'* during 2019 by the Department of Water and Environmental Regulation (DWER) under the provisions of the *Contaminated Sites Act 2003*. Small amounts of asbestos were detected.

Site investigations are currently underway. These include extensive sampling of stockpiled material and installation of four groundwater bores to assess groundwater quality.

1.4 Premises Remediation Plan and Development

In summary, the remediation plan for the site is based on recovering resources from stockpiled C&D material and using this resource on or off-site as described in Table 1-2 below. If in the event that materials is identified as being contaminated or potentially contaminated with unwanted materials or materials that might be harmful, these materials will be separated and consigned to an appropriately classified landfill. Fill materials will be added to the land and supervised by Civil Engineers and applied in a controlled manner for good civil stability of the filled areas.

Table 1-2: Resource Recovery Usage Plan

Material Description	Resources to be Recovered	Usage Plan
C&D stockpile	Steel	Sold to a scrap metal merchant
	Timber	Ground to make mulch
	Sand	To be used as fill material either on or off site
	Concrete and bricks or pieces of these	Crushed and screened and then to be used as fill either on or off site

A more detailed and earlier remediation plan is set out in Section 3, Site Remediation Plan.

The proposed layout and general arrangement of the remediated site is provided in Figure 7 with portion of that Figure shown in the following Plate below:

Plate 1-6: Remediated site layout and general arrangements on project completion
Source: Portion of Figure 7 of this report

1.5 Location of Crushing and Screening Equipment

Mobile crushing and screening equipment is to be located next to the stockpile of C&D material as shown on Figure 5.

1.6 The Applicant and the Premises Occupier

Hope Valley Wood Waste Pty Ltd is currently the occupier of 766 King Road and it holds a lease for the site from title holder of the land, TRPP. The sole Director of HVWW, Mr John Morton (Jonnie) also controls TRPP as a sole Director and he represents both companies.

1.7 Approval Requirements

1.7.1 Shire of Serpentine Jarrahdale Planning Approval

The project to enlarge the transport depot will need planning approval from the Shire of Serpentine Jarrahdale. In this regard, an application to amend the existing Development Approval was lodged with the Shire on 1 May 2024 and it is currently being deliberated with Shire Officers. It is expected to go before the February 2025 Council meeting for approval with the (expected) support of Shire Officers.

1.7.2 EPA Separation distances

The Western Australian Environmental Protection Authority (EPA) provides guidance on the assessment of environmental factors associated with industrial developments in its 2005 Guidance, *Separation Distances between Industrial and Sensitive Land Uses*. In this Guidance it lists noise and dust as matters that need to be considered at crushing and screening facilities, as set out in Table 1-3 below.

Table 1-3: EPA Separation distances between Industrial and Sensitive Land Uses

Industry	Description of industry	Key Government agencies for advice	Impacts					Buffer distance (m) and qualifying notes
			Gaseous	Noise	Dust	Odour	Risk	
Crushing of Building materials	Crushing or cleaning of waste demolition material	Local Gov DWER		✓	✓			1,000m

The above sets out that the premises should ideally have a separation of 1,000m to the nearest dwelling. Figure 5 sets out that there are five dwellings within a radial distance of 1,000 to the site with the nearest dwelling being about 350m to the southeast of the proposed activity area. To the south at a distance of about 400m is the King Road Brewery that also operates a restaurant. The brewery and its associated restaurant are predominantly occupied in the evening and the weekend.

The Guidelines note that where the separation distance between industrial and sensitive land uses is less than the generic distance, studies must be presented to show that there will not be unacceptable impacts.

1.7.3 DWER Works Approval and Licence

Under Part V, section 52 of the EP Act an individual or an entity that causes premises to become prescribed is required to obtain a works approval (for construction) and a licence or registration (for the operational phase).

The purpose of a works approval is to allow the Department of Water and Environmental Regulation (DWER) to assess the environmental acceptability of a development (or an upgrade program) against its policies, guidelines and standards. Works approvals usually contain conditions to ensure the premises can operate in

an environmentally acceptable manner and that the works themselves do not cause unacceptable environmental impacts.

1.7.4 Particulars of the Works Approval Application

As the proposed site activity will make the premises prescribed, a works approval should be held and accordingly, this application is made. The proposed activity does not involve the construction of permanent infrastructure, just the use of mobile equipment mobilised to site and operated. As such, commissioning of the equipment would not be needed.

The provisional timing for the project is to commence activities in about April 2025 and process site materials in 3 or 4 campaigns for a week or two at a time. This will allow for stockpiles of materials to be created and tested to ensure that acceptable materials have been produced for civil fill. The applicant is not proposing to bring or allow wastes to be brought to the site, just process the existing stockpiled materials.

Site works should be completed by the end 2025 though it would be prudent to grant the standard duration of 3 years in the works approval to be granted as a contingency allowance for unavoidable delays.

The various components of the crushing and screening equipment will be either self-powered by diesel engines coupled to direct drives or through hydraulically powered equipment. Some equipment may be electrically powered and if this the case, a small site-based diesel-electric generator (20 40 kVA) will be used.

As the duration of the site's prescribed activities might only be in the order of 3 months, the applicant is seeking approval within the works approval to operate the mobile crushing and screening equipment during a time-limited operational phase, not exceeding 150 days (non-consecutive days in total duration). This would forego the requirement to hold a licence which would otherwise normally be required. The applicant considers this approach to be a better use of the Department's and HVWW resources to issue one, rather than two regulatory approvals for a short-term project with minimal impacts.

The particulars sought in the works approval are summaries in Table 1-4 below:

Table 1-4: Particulars sought in the works approval to be granted

Number	Works Approval Particular	Request
1	Infrastructure	No permanent site infrastructure is to be constructed. Mobile equipment will be mobilised to site and operated.
2	Environmental compliance report	Not required. As above.
3	Duration	3 years
4	Commissioning	Not required. Mobile and modular equipment will be brought to site and operated. Commissioning is not envisaged nor required.
5	Time limited operations	150 non-consecutive days in total
6	Materials to be processed	Site based materials only. No waste material to be brought onto the premises from elsewhere. Please note that HVWW may bring clean fill and other inert materials (road base, aggregate, recovered asphalt material, asphalt etc) onto the site for civil purposes.

1.8 Purpose of this Document

This document has been prepared to accompany an application for an EP Act works approval.

2 Existing Environment

2.1 Climate

Perth experiences a Mediterranean climate with cool, wet winters and warm, dry summers. The closest Bureau of Meteorology weather station to the site is the Jandakot Station (No. 009172), located approximately 20 km north of the site (BoM, 2024).

2.1.1 Rainfall and Temperature

Jandakot experiences an average annual rainfall of 809.9 mm (Plate 2-1). Drier weather conditions are experienced in summer months, with the lowest mean rainfall experienced in December (9.9 mm), and higher rainfall experienced throughout winter months, with the highest mean rainfall recorded in July (174.0 mm) (BoM, 2024).

The mean maximum temperature is highest in February (31.7°C), and lowest mean minimum temperatures are recorded in July (18.1°C) (BoM, 2024).

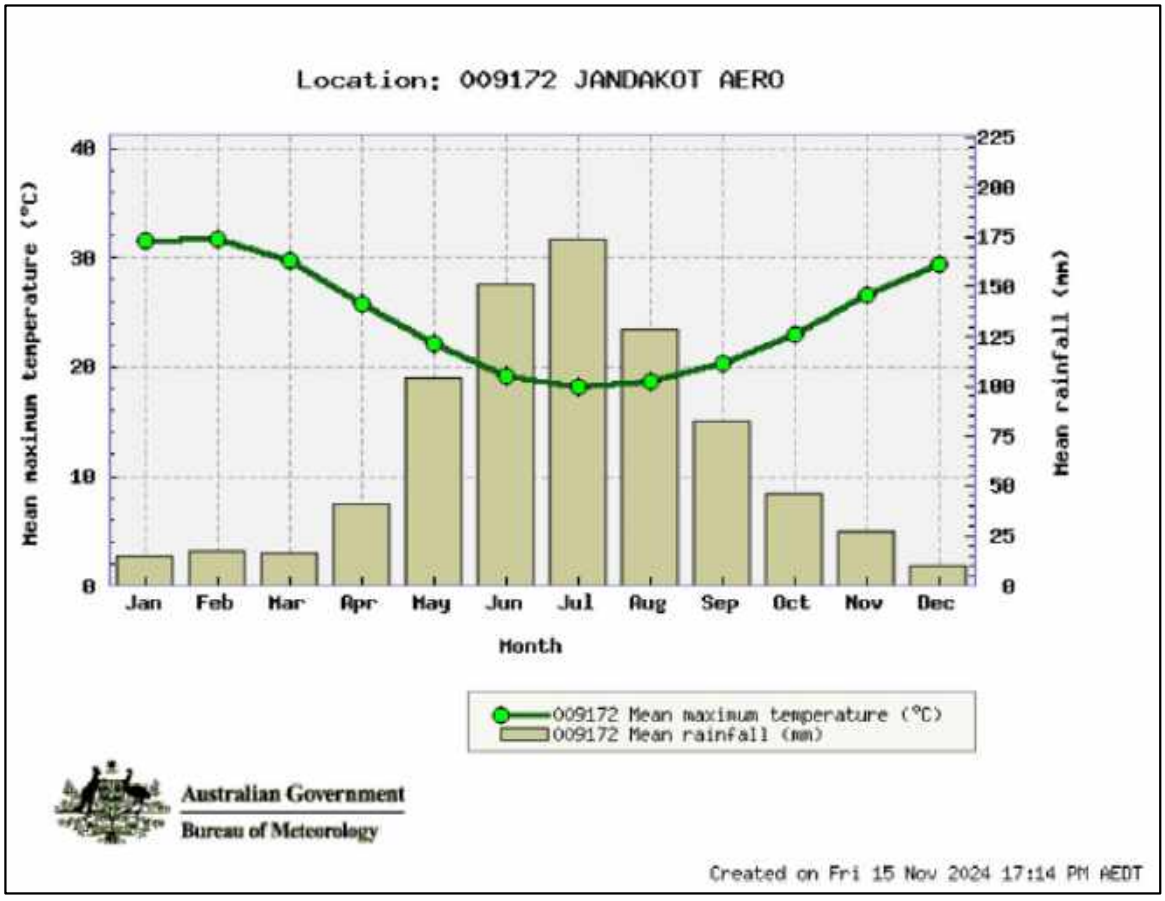

Plate 2-1: Mean temperature and mean rainfall

Source: BoM, 2024

2.1.2 Wind

Predominant summer wind conditions include morning easterly winds (Plate 2-2) and afternoon south-westerly winds (Plate 2-3). Winter wind directions predominantly come from a northerly direction in the mornings (Plate 2-4) and westerly direction in winter afternoons (Plate 2-5) (BoM, 2024).

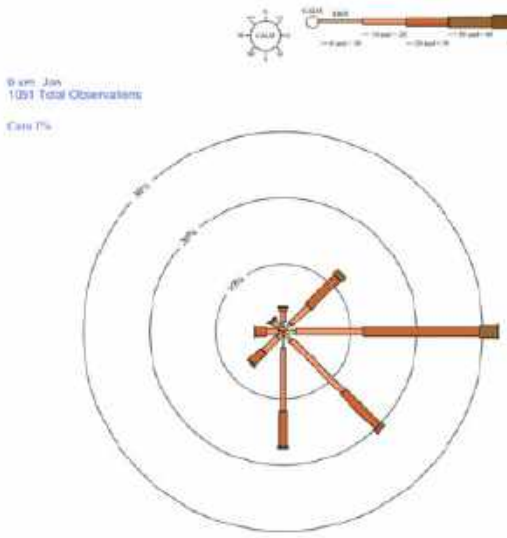

Plate 2-2: January 9am Windrose

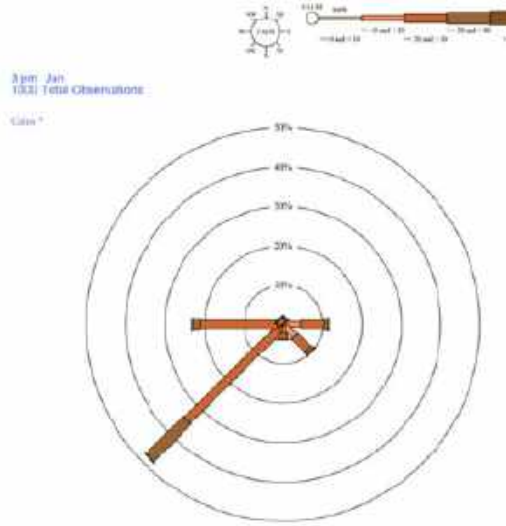

Plate 2-3: January 3pm Windrose

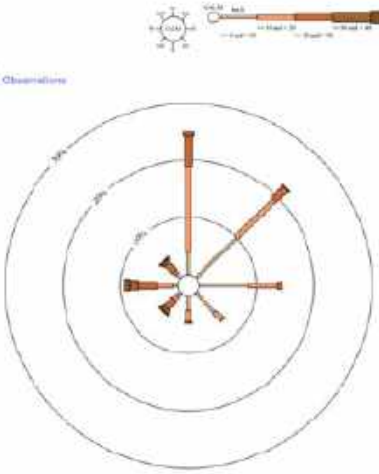

Plate 2-4: July 9am Windrose

Plate 2-5: July 3pm Windrose

Source: BoM, 2024

2.2 Topography, Geology and Soils

2.2.1 Topography

Topography at the site is flat with elevations ranging from 10 metres Australian Height Datum (mAHD) to 11 m AHD (MNG, 2024).

2.2.2 Soils and Geology

The Department of Primary Industries and Regional Development (DPIRD) maps soils on site as part of the Pinjarra System (unit 213Pj), described as (DPIRD, 2024):

- Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark, sheoak and rudis.

The site contains two soil sub-systems (DPIRD, 2024):

- Pinjarra P1d Phase (unit 213Pj_P1d): Flat to very gently undulating plain with deep acidic mottled yellow duplex (or effective duplexes) soils. Shallow pale sand to sandy loam over clay; imperfect to poorly drained and moderately susceptible to salinity
- Pinjarra P3 Phase (unit 13Pj_P3): Flat to very gently undulating plain with deep, imperfect to poorly drained acidic gradational yellow or grey-brown earths and mottled yellow duplex soils, with loam to clay loam surface horizons

The DPIRD soil system mapping at the site outlines the below land degradation risk levels for the mapped soils at the site (DPIRD, 2024; Table 2-1).

Table 2-1: Land Degradation Risk Categories

Rick Category	Unit 213Pj_P1d	Unit 13Pj_P3
Water erosion	0% of map unit has a very high to extreme hazard	0% of map unit has a very high to extreme hazard
Wind erosion	15% of map unit has a high to extreme hazard	0% of map unit has a high to extreme hazard
Flood hazard	0% of the map unit has a moderate to high hazard	0% of the map unit has a moderate to high hazard
Salinity risk	50% of map unit has a moderate hazard	5% of map unit has a moderate hazard
Waterlogging and inundation	100% of map unit has a moderate to very high risk	100% of map unit has a moderate to very high risk

Source: DPIRD, 2024

2.2.3 Acid Sulphate Soils

The site is mapped as containing 'Moderate to Low Risk' of Acid Sulphate Soils (ASS) occurring within 3 m of natural soil surface, but high to moderate risk of ASS beyond 3 m of natural soil surface (Landgate, 2024).

A review of DWER's guidance as to when ASS investigations should be undertaken (i.e., when there is potential for ASS impacts) for the proposed development is outlined below (Table 2-2; DER, 2015). This review indicates that ASS disturbance is not predicted. As such, no ASS management is currently proposed.

Table 2-2: DWER Guidance on when investigations should be undertaken for ASS

Actions referred to in DER Guidance (DER, 2015)	Comments
ASS disturbing subdivision or development that is subject to conditional approval requiring the investigation and management of ASSs	It is unlikely that the DA will require an ASS Management Plan.
Soil or sediment disturbance of 100m^3 or more in an area depicted on an ASS risk map as Class I 'high to moderate risk of ASS occurring within 3m of natural soil surface' (e.g. construction of roads, foundations, installation of underground infrastructure, drainage works, land forming works, dams and aquaculture ponds or sand or gravel extraction)	The site does not contain Class I ASS risk areas.
Soil or sediment disturbance of 100m^3 or more with excavation from below the natural watertable in an area depicted on an ASS risk map as Class II 'moderate to low risk of ASS occurring within 3m of natural soil surface but high to moderate risk of ASS beyond 3m of natural soil surface'.	Soil or sediment disturbance below the watertable within the Class II zone is not proposed.
Lowering of the watertable, whether temporary or permanent (e.g. for groundwater abstraction, dewatering, installation of new drainage,	No dewatering is proposed.

Actions referred to in DER Guidance (DER, 2015)	Comments
modification to existing drainage), in areas depicted in an ASS risk map as Class I 'high to moderate risk of AASS or PASS occurrence' or Class II 'moderate to low risk of AASS or PASS occurrence within 3m of natural soil surface'.	
Any dredging operations	Not applicable. No dredging proposed.
Extractive industry works (e.g. mineral sand mining) in any of the areas listed in Table 1	Not applicable. No extractive industry works proposed.
Flood mitigation works, including construction of levees and flood gates, in any of the areas listed in Table 1.	Not applicable. No flood mitigation works proposed.

2.3 Hydrology

2.3.1 Surface Water and Wetlands

The site does not contain any surface water features. The Birriga Main Drain runs parallel to the northwestern border of the site, however it does not intercept the site (Landgate, 2024).

The site lies within the mapped extent of the Multiple Use Wetland (MUW) UFI 16,021, which spans a total of 27,602.08 ha. A portion of the northwestern corner of the site is overlapped by about 0.05 ha of the Conservation Category Wetland (CCW) UFI 14,742, which spans a total area of about 5.45 ha. The proposed facility is located about 750m to the east of the mapped CCW and a 50 m buffer to the CCW will be maintained for all site works/ product distribution.

2.3.2 Groundwater

The site is not within the mapped area of depth to groundwater and therefore groundwater levels cannot be predicted at a desktop level.

2.4 Flora and Vegetation

Pre-European vegetation at the site was historically mapped as being part of the Pinjarra 968 vegetation association. This association is described as 'Medium woodland; jarrah, marri & wandoo' (GoWA, 2019a).

The vegetation complex at the site is mapped as the Guildford Complex and is described as 'A mixture of open forest to tall open forest of *Corymbia calophylla* (Marri) - *Eucalyptus wandoo* (Wandoo) - *Eucalyptus marginata* (Jarrah) and woodland of *Eucalyptus wandoo* (Wandoo) (with rare occurrences of *Eucalyptus lane-poolei* (Salmon White Gum)). Minor components include *Eucalyptus rudis* (Flooded Gum) - *Melaleuca rhaphiophylla (Swamp Paperbark)* (GoWA, 2019b).

The site was historically cleared for agricultural purposes prior to 1965, with few scattered isolated trees remaining. Presently, vegetation at the site consists of weedy regrowth, notably grasses and **Ricinus communis* (Castor Oil Plant) which has grown between rubbish stockpiles (Plate 2-6; Plate 2-7).

Plate 2-6: Regrowth of weeds at site

Plate 2-7: Vegetation around stockpiles

Source: Coterra Environment, 2024

2.5 Fauna and Habitat

As the vegetation at site is largely weed species, it is not expected that any fauna is reliant on the vegetation at site and, if present, utilise the site in a transitory nature only.

The remnant trees located in the farm paddock will not be removed as part of the proposed works and therefore impacts to fauna will be little to none.

2.6 Heritage

2.6.1 Aboriginal Heritage

The site does not contain any known Aboriginal heritage sites. The closest known Aboriginal heritage site is located approximately 4 km northwest of the site and is associated with the Historic Place ID 3,554 (Woolcoot Road Swamp, Artefacts/ Scatter/ Camp/ Other) (Landgate, 2024).

2.6.2 European Heritage

A search of the Heritage Council InHerit database did not identify any European heritage sites within or adjacent to the site. The closest heritage site is Manjedal Brook (Place No. 8,482), located approximately 4 km northeast of the site (Heritage Council, 2024).

2.7 Bushfire

The entirety of the site is mapped as a Bushfire Prone area. These areas are defined as being subject to, or likely subject to bushfire attack and are identified by the presence of and proximity to bushfire prone vegetation and includes both the area containing bushfire prone vegetation and a 100 m buffer zone immediately surrounding it (Landgate, 2024).

3 Site Remediation Plan

3.1 Purpose of the remediation plan

This Plan describes the approach to be taken to manage the existing stockpile of C&D material that was left on the site by a previous occupier.

The plan has been developed in consultation with Aurora Environmental and is based on detailed contaminated sites investigations to establish the nature of the stockpiled material and ensure that the proposed management response meets the requirements of both DWER and also the Shire of Serpentine Jarrahdale. This Plan describes the approach to be taken to manage existing stockpiled C&D material.

3.2 Background to the plan

The current owner purchased the site aware of its environmental constraints with a view to using the site for plant and equipment laydown and storage (i.e., commercial / industrial purpose). During the site's previous occupation, uncontrolled C&D materials were imported to the site. It is for this reason that the site was classified under the Contaminated Sites Act 2003 (CS Act) as 'Possibly Contaminated – Investigation Required' by DWER. Very minor amounts of asbestos were identified in the C&D material.

A previous development application was made in 2023 to the Shire of Serpentine – Jarrahdale (the Shire) to manage the C&D material and remediate the site, through off-site disposal through this course of action did not occur due to its prohibitive cost.

The Shire approved the works subject to conditions. These included the development of a suitable remediation plan and environmental management plans acceptable to the DWER and the Department of Health (DoH).

Prior to TRPP purchasing the site, Aurora Environmental and TRPP held detailed discussions with the Shire and DWER regarding possible alternative management approaches for the C&D material including the possibility of on-site containment instead of the previously proposed offsite disposal. DWER and Shire indicated that a new Development Application process would be required and that similar conditions would likely apply, but it was considered that onsite management could be supported if suitable controls and regulatory approvals were in place.

It was agreed that the characteristics of the stockpiled material would be characterised by Aurora Environmental in accordance with the requirements of the Contaminated Sites Act. If the stockpiled material proved to be of satisfactory quality to allow re-use on site, the material would be crushed, screened and inspected prior to it being placed on site under geotechnical supervision. The investigations conducted by Aurora Environmental have demonstrated that the material is in fact suitable for re-use on site. A summary of the contamination investigations is presented in Section 3.3.

HVWW now wishes to adopt the following broad management approach:

The main stockpile of C&D material will be processed by:

- Magnetic separation of ferrous metals
- Separation of timber waste for recycling
- Screening to separate fines materials and magnetic separation of fine ferrous materials
- Crushing and screening of larger material component pieces to produce a crushed material suitable for placement and compaction on site.

Section 3.4 sets out in further detail the process and processing equipment to be used.

It is estimated that the large C&D stockpile contains up to 25,000m^3 of material and after processing, this volume would be approximately 20,000m^3 bank of material once placed on the ground and compacted. HVWW propose that the material is placed in the western area of the site as subsurface fill with a nominal thickness of 1-1.5 m. Once compacted, the fill would be covered with at least 300mm thickness of clean sand or limestone sub-base and a nominal 40 mm of recycled asphalt material as has been used elsewhere on the site. HVWW will source commercially available sand and limestone and bring them on to the site.

In addition to the main C&D material, there are a number of smaller stockpiles of miscellaneous fill material on the western part of the site, The volume of material in these stockpiles is estimated to be less than 2,000m^3. This material will be raked to remove vegetation which will be mulched/recycled and then screened with a rake bucket on an excavator and also placed as subsurface fill.

3.3 Environmental investigation of C&D material

Aurora Environmental has undertaken extensive investigations into the quality of material in both the main C&D stockpile and the western stockpiles. These investigations have been completed in accordance with DWER Contaminated Sites guidelines and the key findings are:

- Chemical contaminants (metals, hydrocarbons, volatile hydrocarbons and pesticides are all within the guidelines for Commercial and Industrial land uses.
- One test pit in the large C&D material stockpile exhibited slightly elevated levels of arsenic and zinc, albeit still within the allowable limits for commercial and industrial land use.
- No asbestos or asbestos containing material were observed in the main C&D waste stockpile.
- Several fragments of asbestos containing materials were observed in the Western stockpiles and these were removed. The frequency/concentrations of these finds were consistent with the proposed commercial and industrial land use.

Aurora concluded that the stockpiled material was suitable to be retained on the site as fill covered by a layer of clean material as proposed by HVWW. Copies of the Aurora Environmental reports are included with this plan as Appendix 4 and Appendix 5.

Aurora also made the following additional recommendations to ensure that the work associated with relocating the stockpiled material proceeds without causing unacceptable impacts and also to support the site being reclassified by DWER as “Remediated for Restricted Use (Commercial and Industrial)”:

- A Preliminary Site Investigation (PSI) is to be completed to support the reclassification.
- Four shallow groundwater wells have been installed to assess groundwater quality and flow directions
- An environmental management plan is developed to guide the rehabilitation process. This plan is to address dust and noise control, monitoring of works and management of unexpected finds of material such asbestos.
- On completion of the works, a final report is to be submitted to DWER requesting re-classification of the site as described previously.

Work has commenced in preparing the PSI and the groundwater monitoring bores were installed during November 2024.

3.4 Proposed Approach for Managing the C&D Stockpile

The main aim is to safely process the existing material to produce suitable fill materials that will allow the construction of a nominal 2 Ha of additional hardstand area in accordance with the current development

approval footprint. This hardstand area will be constructed by placing at least 300 mm of clean fill over the fill derived from the C&D material and topped with a nominal 40mm of asphalt. Detailed drawings of the fill area will be presented with the Works Approval application.

A nominal 2 Ha area at the western end of the site which will be used to place and compact the process C&D fill. As there is a nominal 25,000m^3 (bank) of fill, this will mean that the compacted fill will be in a layer approximately 1m thick.

The approach to be adopted will be:

1. Sand and vegetation in the area to be used to accept the fill will be excavated to a nominal depth of 1.4m. This excess spoil will either be used to form visual bunds or as part of the clean fill cap.
2. Before commencing works on the C&D material stockpile, the area surrounding Test Pit 27 where slightly elevated levels of arsenic and zinc were detected will be excavated and this material will be tested before being directed to a suitable licensed landfill. It is estimated that this may involve disposal of 20-50 m^3 of material. This work is being done out of an abundance of caution as testing indicates the material is still suitable for commercial and industrial land use. After the material is removed, additional samples will be taken from the walls of the excavation that has been created to verify the more contaminated material has been effectively removed.
3. Ferrous metals will be removed from the stockpile using powerful magnets as much as reasonably possible.
4. Timber will be progressively segregated for recycling as much as reasonably possible as it is an unwanted material in civil work.
5. Excavators will extract material from the stockpile and run it through the crushing and screening plant. Two main products will be produced:
    - Smaller sized material, predominantly sand
    - Crushed bricks and concrete.
6. Stockpiled materials will be tested to ensure that they meet the quality criteria set out in section 3.4.1
7. Once tested, recovered materials will be back filled into the western or new section of the depot under the supervision and control of a Civil Engineer to ensure that the new areas have the required civil properties.

The smaller stockpiles on the western part of the site will be managed as follows:

1. Any residual vegetation will be removed.
2. The stockpile material will be screened in a waste bucket before being placed in the prepared excavation as fill.
3. These works will be supervised by an Environmental Scientist to ensure any asbestos containing materials are removed for off-site disposal to an approved landfill.

3.4.1 Recovered materials quality control

Recovered materials will be set out in weekly stockpiles and assessed to ensure that they meet the quality control criteria below:

- No visible asbestos containing materials.
- No other potentially hazardous material such as chemical drums.
- No soils exhibiting visible staining or unusual odorous emissions.

Given the extensive testing completed by Aurora, and lack of evidence of chemical contamination , no additional chemical testing is proposed unless visual or olfactory evidence suggest testing in warranted.

Testing and confirmation that recovered materials meet the above criteria may take up to one week to turn around if analytical testing is required. On this basis the site might set out several stockpiles of materials awaiting testing.

If recovered materials do not meet the quality control criteria they will be removed from site to an appropriately classified landfill or subjected to further processing.

3.5 Environmental Management of the Site Remediation

The key environmental concerns for the proposed operation are:

- Dust Control
- Noise control
- Management of waste or unexpected finds
- Stormwater Management

3.5.1 Dust Management

The key management approach for dust will be the use of water to wet down stockpiled material before it is handled, processed or tipped. This will be achieved by the use of fixed water sprays and water carts. The water cart will also wet unsealed internal access tracks and roads as required to control dust from vehicle movements.

All concrete entering the crusher will be thoroughly wetted at the inlet conveyor as experience shows this is the most effective method for controlling dust emissions when crushing concrete.

Works relating to excavating or processing fill will be halted at times when high winds make dust control problematic.

Crushing and screening of the C&D material is to be undertaken in the western portion of the premises that lies within a 4m bunded compound which will mitigate any dust emissions.

Senior representatives of HVWW and TRPP will be on-site throughout to ensure that dust is effectively controlled.

3.5.2 Noise Management

The following controls are proposed to limit noise emissions and ensure compliance with the Environmental Protection (Noise) Regulations:

- Crushing and screening equipment will be shielded by a 3 x container high noise wall to the south and east. The location is also within the 4m high bunded compound of the transport depot area as shown in Figure 5.
- Crushing and screening activities are of a short duration (150 days maximum)
- Works will only be undertaken during the hours 0700 -1800 Monday to Friday**.**
- All equipment used will be modern and well maintained.
- Noise emissions from the crushing and screening equipment will be assessed by a site survey in the first week of operation and any necessary mitigation measures will be implemented to ensure that compliance is maintained with the Noise Regulations.
- Any noise complaints will be promptly investigated by HVWW and a suitable response implemented if site works are found to be the cause of the complaint.

3.5.3 Management of Waste and Unexpected Finds

Aurora Environmental's 2023 and 2024 investigations suggest that the stockpiled materials are inert with little or no chemical contamination and a few sparse detections of asbestos cement material in the lower stockpiles on the western side of the site. Based on these findings, it is open to leave the stockpiled material on the surface of the site provided the land use is not changed to a more sensitive use than commercial industrial. Aurora's findings are quite robust as the fill sampling densities were higher than normally adopted for stockpile investigations of this type.

Notwithstanding Aurora's findings, it is not possible to make absolutely definitive statements that no asbestos containing materials are present in the core of the large stockpiles. As a result, prior to works commencing, the following controls will be implemented:

- An unexpected finds procedure will be developed which describes possible hazardous materials, how to identify them and what actions to take should suspicious materials be detected.
- All personnel working on the site will undergo an induction which describes the controls in the unexpected finds procedure.
- An experienced environmental scientist will monitor the operations on a regular basis.
- Suitable enclosed bins will be provided on site to store unexpected finds pending off-site disposal.
- In the unlikely event that extensive contamination is detected within the deeper part of the stockpile, work will be halted while a review of work procedures is conducted and if necessary, air monitoring may be implemented.

3.5.4 Stormwater Management

The stockpiled materials have been present on the site for several years without evidence of erosion or contamination. An updated stormwater design for the site has been prepared as part of the Development Approval and this design is based on provided onsite detention for stormwater in accordance with relevant design codes.

If evidence is noted of silty surface flows around work area during or after rainfall, then temporary bunds will be constructed to retain the stormwater in the working area.

3.5.5 Complaint Management

Given the size and location of the site, it is considered unlikely that complaints will occur as a result of the site works. Notwithstanding, HVWW will personally advise neighbours regarding the works and their expected duration and provide contact details for senior representatives in the event that off-site impacts are detected.

HVWW commits to investigate and respond to any complaints within a maximum of 48 hours of them being received and if the manner is serious to respond within 12 hours with a commitment to stop works if necessary to ameliorate the issue.

3.5.6 Project Timing

It is currently anticipated that the remediation works will commence in the second quarter of 2025 and will require 12 -24 months to be completed. Crushing and screening activities will only occur for up to 150 days of this period of time.

3.5.7 Reporting

A detailed report describing the works undertaken, including survey plans showing the location and extent of fill on the site will be prepared and submitted to DWER (Contaminated Sites) in support of having the site reclassified. A copy of this report and the DWER's response will be provided to the Shire of Serpentine Jarrahdale in due course.

3.6 Processing equipment for C&D material

This section sets out the processing equipment to be sued on site during the crushing and screening activities and the remediation works.

Table 3-1 Processing Equipment for the C&D material

Equipment	Task	Materials produced	Testing	Recovered Materials - Uses
Excavator - to recover C&D material	• Pre-sort materials, removing oversize concrete, steel timber etc. • Load the reclaimer with C&D material	Oversize materials. Large pieces of steel.		Recovered material may be consigned to a scrap metal merchant. Timber will be added to the wood waste stockpile.
Excavator with concrete pulverizer or rock-breaker	Reduce the size of materials so it can be feed into the reclaimer			
Reclaimer	Size separate materials • Remove the small size materials (<50mm fraction) • Remove the large size materials and feed it directly into the jaw crusher	Small size materials (<50mm) to the stockpile	Material to be tested before use	Recovered material (sand) is to be used as general fill
Jaw Crusher	Reduce the size of materials (bricks and concrete) to the specified size (<150mm)	Scrap steel from magnetic separation using an "Overband Magnet."		Scrap metal will be consigned to a scrap metal merchant.
Mobile stacker	Stack materials	Crushed bricks and concrete	Material to be tested before use	Recovered material is to be used as general fill
Frontend loader	Load a truck or an articulated dump truck (moxy)			
Truck or moxy	Haul materials to site			
Frontend loader of bulldozer	Push materials into civil form			
Roller	Prepare soil layers to give civil and geotechnical properties to the laydown yard.			

3.7 Processing hazards, controls and risks

Table 3-2: Summary of processing hazards, controls and risks

Processing hazard	Hazard intensity, likelihood and duration	Controls	Risk
Noise	• Week-day and day time operations only. • Short term duration – up to 150 days in total of crushing and screening activities	• 4m high bund wall to the northern, eastern and southern boundary of the premises. • A 3x container high noise wall is to be constructed near to the crushing and screening equipment, within the abovementioned bunded area • Field survey of noise emissions	Low, only one rural residential dwelling within 500m of the site.
Dust	• Week-day and day time operations only.	• Fixed water sprays will be fitted to the reclaimer at the start of the process. • A water cart and water spraying system will be used to dampen any dusty materials. • 4m high bund walls are in place on three sides of the activity area. • All concrete entering the crusher will be thoroughly wetted at the inlet conveyor. • If in the event that visible dust is moving off-site towards a near neighbour, processing of materials will cease. • Works relating to excavating or processing fill will be halted at times when high winds make dust control problematic.	Low, only one rural residential dwelling within 500m of the site.
Hydrocarbon spill	• Only small volumes of diesel held in mobile equipment. • Only small volumes held in refuelling equipment	Equipment and machinery will be inspected regularly for any leaks.	Low
Asbestos - processing Asbestos in processed materials Hazardous contaminants in processed materials	• Removal of material in known 'hot spots' • Materials will be visually inspected before it is processed.	• Material stockpiles will be tested for asbestos before use. • Materials stockpiles will be tested before use to conform with Class 1 inert material. • Non-conforming materials will be consigned to an appropriately classified landfill. • An experienced Environmental Scientist will monitor the operations on a regular basis.	Low
Stormwater	Existing stockpiles have been present for several years. No evidence of erosion or contamination occurring.	• Visual inspection of site drains • If evidence is noted of silty surface flows around work area during or after rainfall, then temporary bunds will be constructed to retain the stormwater in the working area.	

4 Consultation

Consultation with a range of stakeholders has been undertaken in recent time including:

- the Shire of Serpentine Jarrahdale
- DWER Contaminated Sites Branch
- DWER Part V and
- The King Road Brewery

5 References

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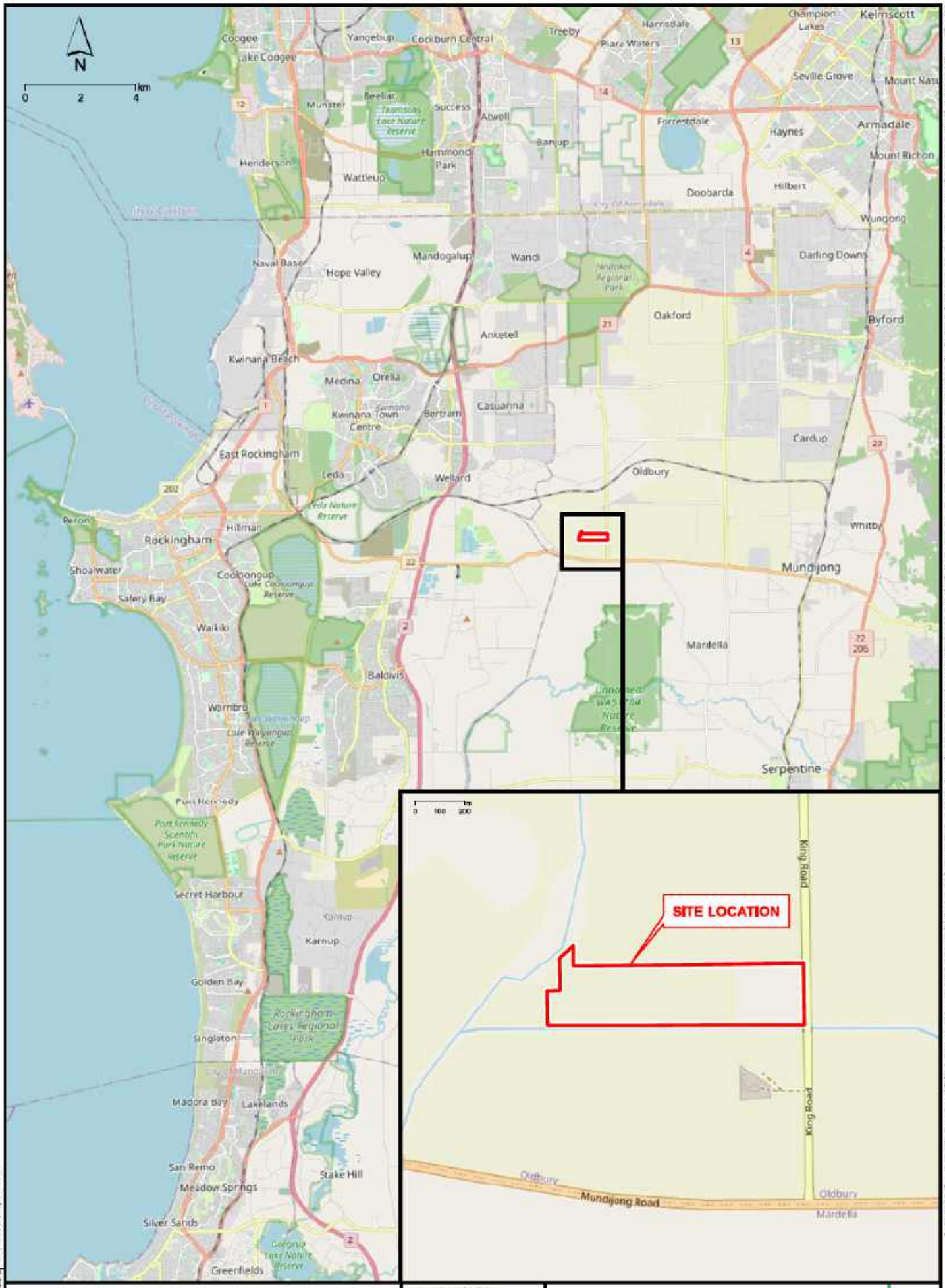
Figures

Figure 1 Site Location



COTERRA ENVIRONMENT

Job: HVWOLD01
Doc: 001
Date: 27/11/2024
Ph: (08) 9381 5513
Fax: (08) 9381 5514
E: info@coterra.com.au

Hope Valley Wood Waste
WORKS APPROVAL SUPPORTING INFORMATION
766 KING ROAD, OLDBURY W.A.

SITE LOCATION

Figure 1

Figure 2 Site Aerial Image

Source: Cadastre - Landgate
Orthophoto - NearMaps, 28.10.2024

ENVIRONMAPS

COTERRA ENVIRONMENT

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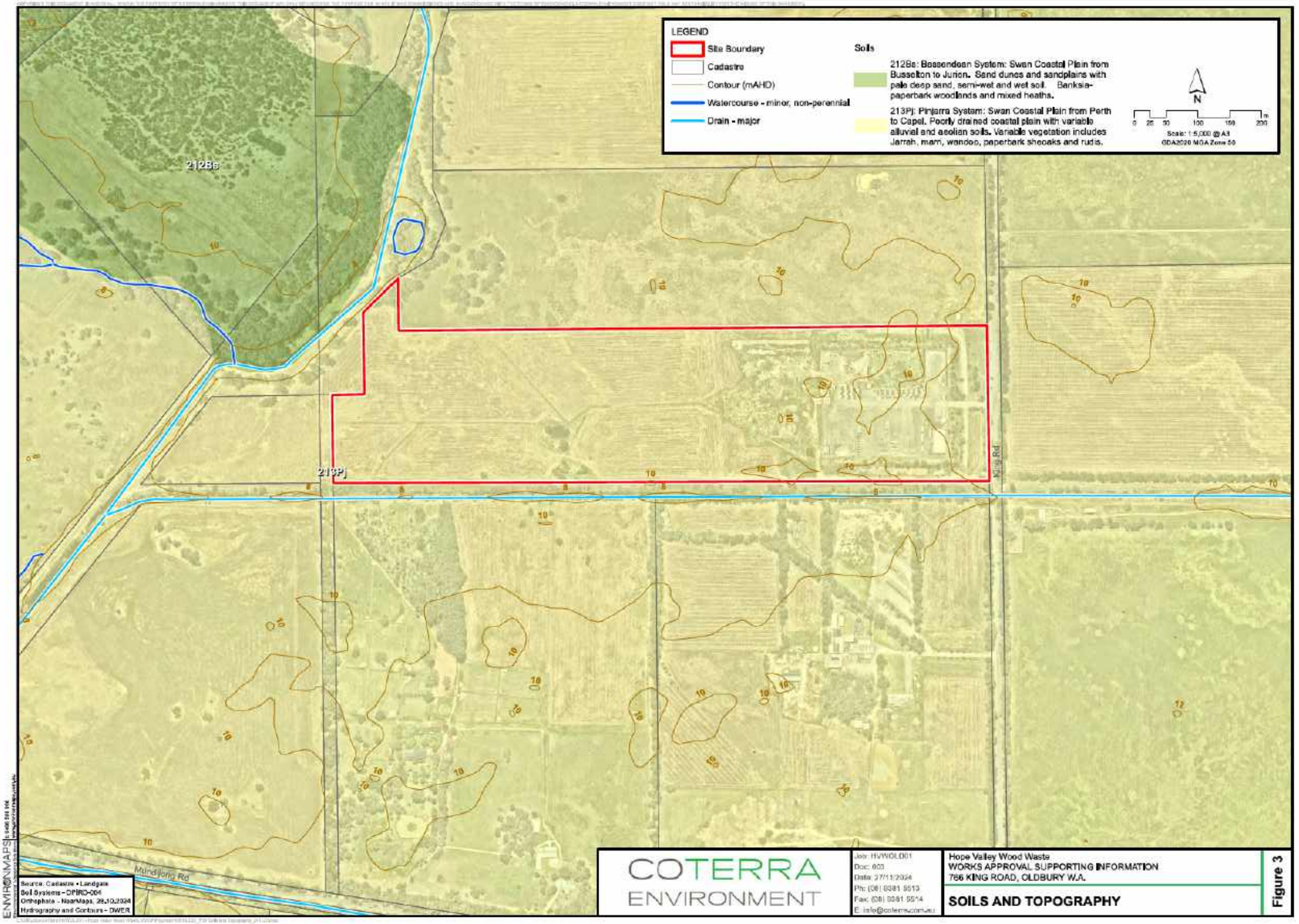
Hope Valley Wood Waste
WORKS APPROVAL SUPPORTING INFORMATION
766 KING ROAD, OLDBURY W.A.

AERIAL

Figure 2

Figure 3 Site Soil and Topography


LEGEND
Site Boundary
Cadastre
Contour (mAHD)
Watercourse - minor, non-perennial
Drain - major
Soils
212Bs: Bassendean System: Swan Coastal Plain from Busselton to Jurien. Sand dunes and sandplains with pale deep sand, semi-wet and wet soil. Banksia-paperbark woodlands and mixed heaths.
213Pj: Pinjarra System: Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rushes.
N
0 25 50 100 150 200 m
Scale: 1:5,000 @ A3
GDA2020 MGA Zone 50
212Bs
213Pj
King Rd
Mundijong Rd
Source: Cadastre - Landgate
Soil Systems - DPIRD-004
Orthophoto - NearMaps, 28.10.2024
Hydrography and Contours - DWER
ENVIRONMAPS
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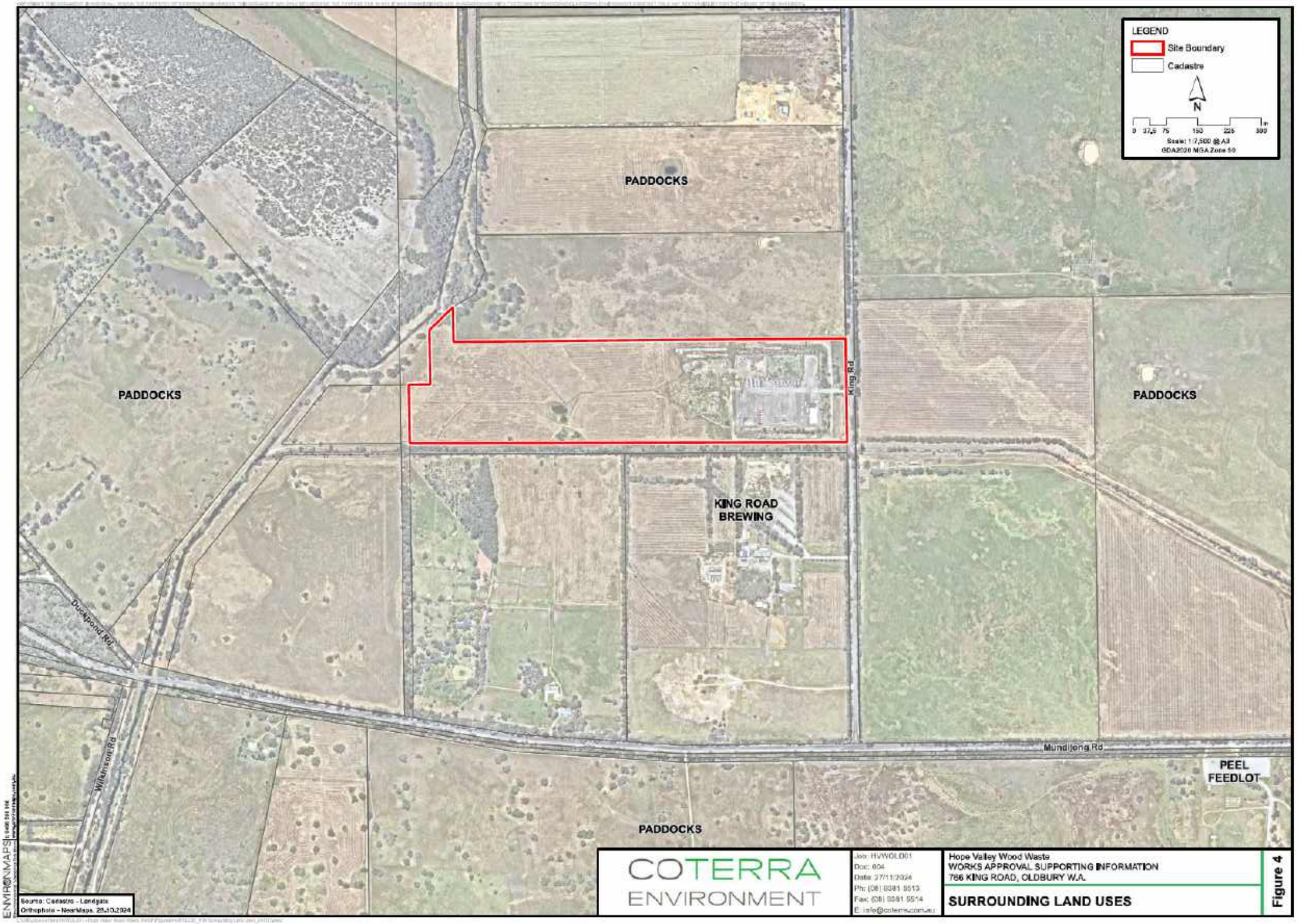
Hope Valley Wood Waste
WORKS APPROVAL SUPPORTING INFORMATION
766 KING ROAD, OLDBURY W.A.
SOILS AND TOPOGRAPHY
Figure 3

Figure 4 Surrounding Land Uses



ENVIRONMAPS

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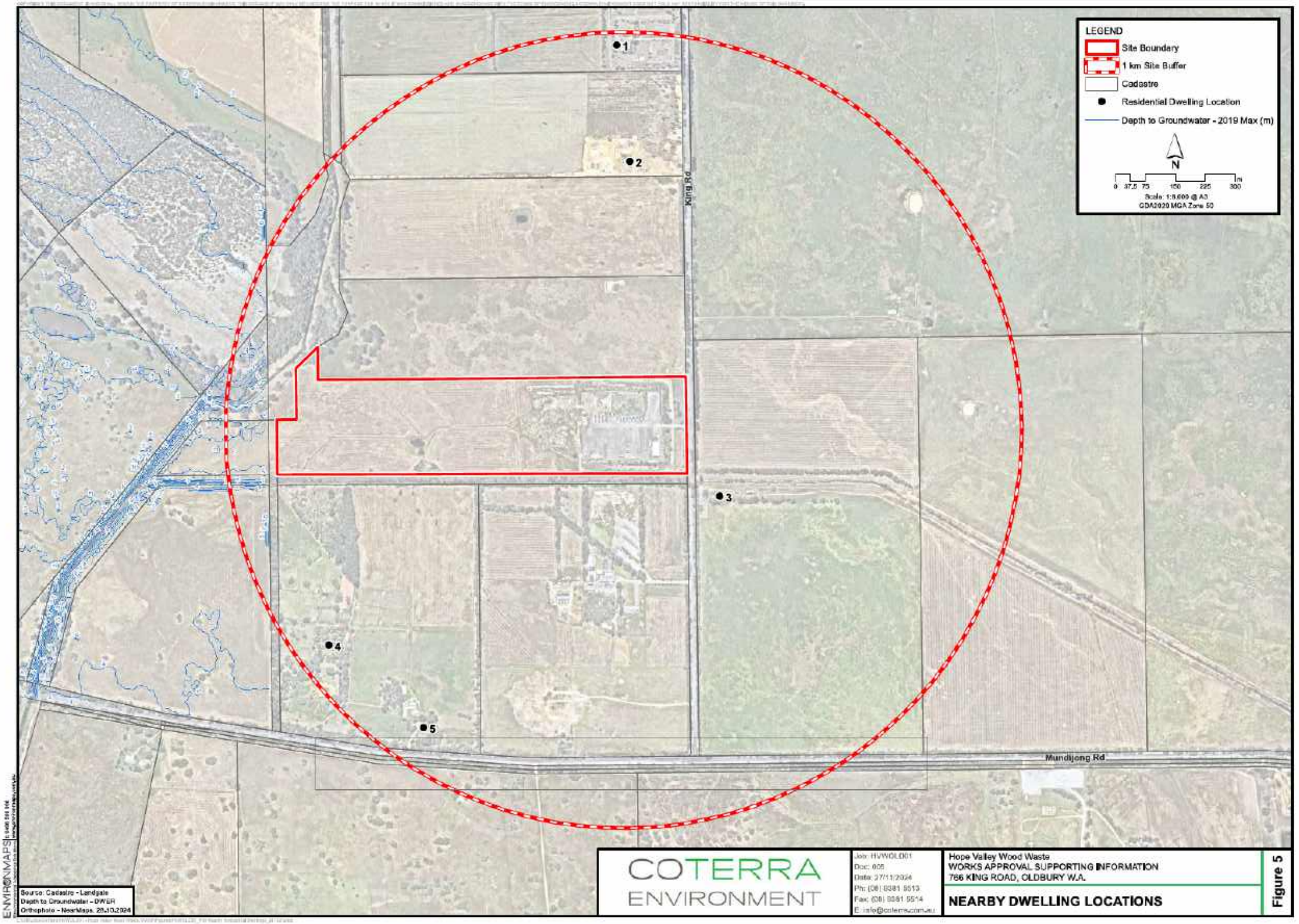
766 KING ROAD, OLDBURY W.A.

SURROUNDING LAND USES

Figure 4

Figure 5 Nearby Residential Dwellings



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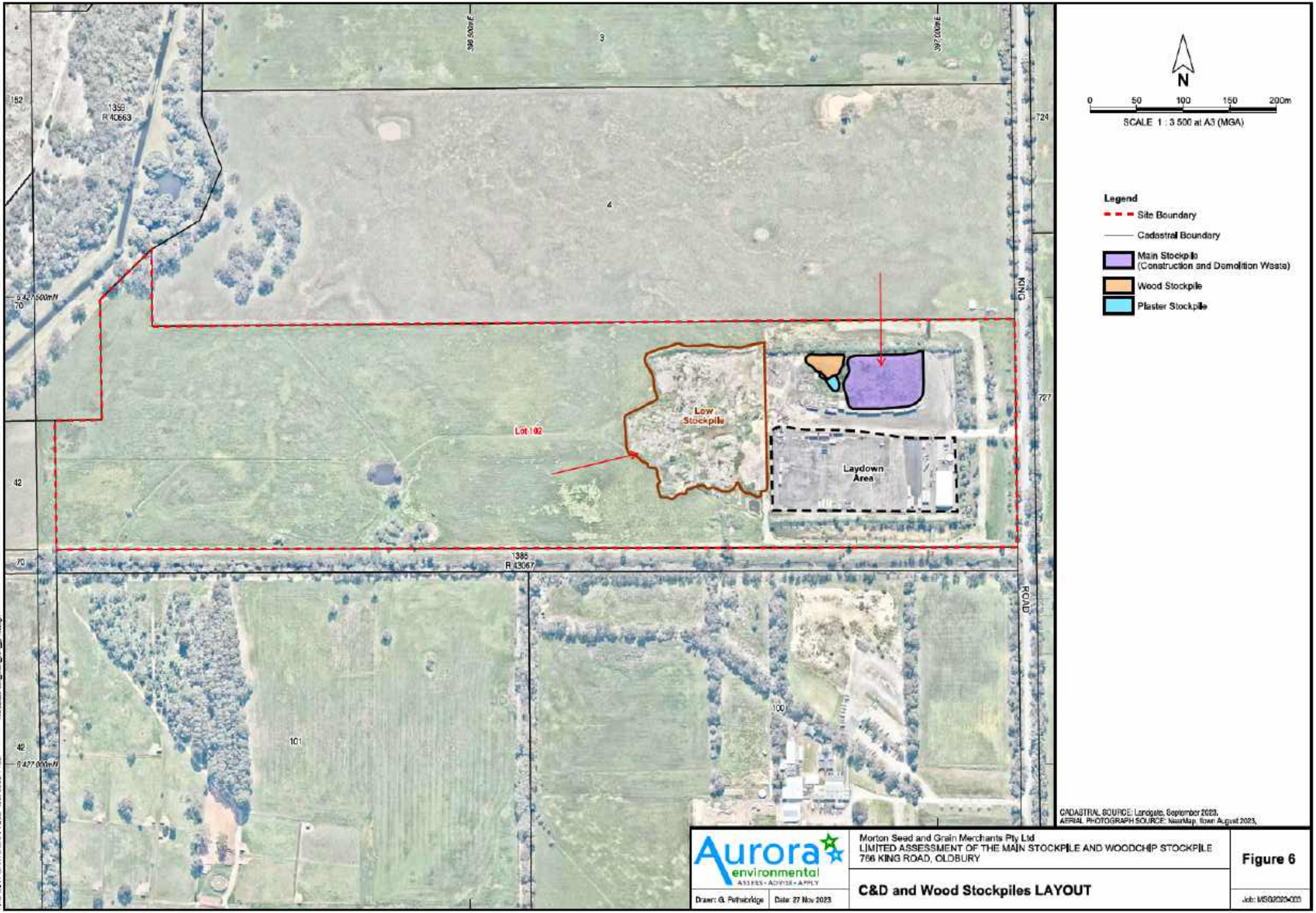
Hope Valley Wood Waste
WORKS APPROVAL SUPPORTING INFORMATION
766 KING ROAD, OLDBURY W.A.

NEARBY DWELLING LOCATIONS

Figure 5

Figure 6 C&D and Woodwaste Stockpiles



CADASTRAL SOURCE: Landgate, September 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown August 2023.

Aurora environmental ASSESS • ADVISE • APPLY

Morton Seed and Grain Merchants Pty Ltd
LIMITED ASSESSMENT OF THE MAIN STOCKPILE AND WOODCHIP STOCKPILE
766 KING ROAD, OLDBURY

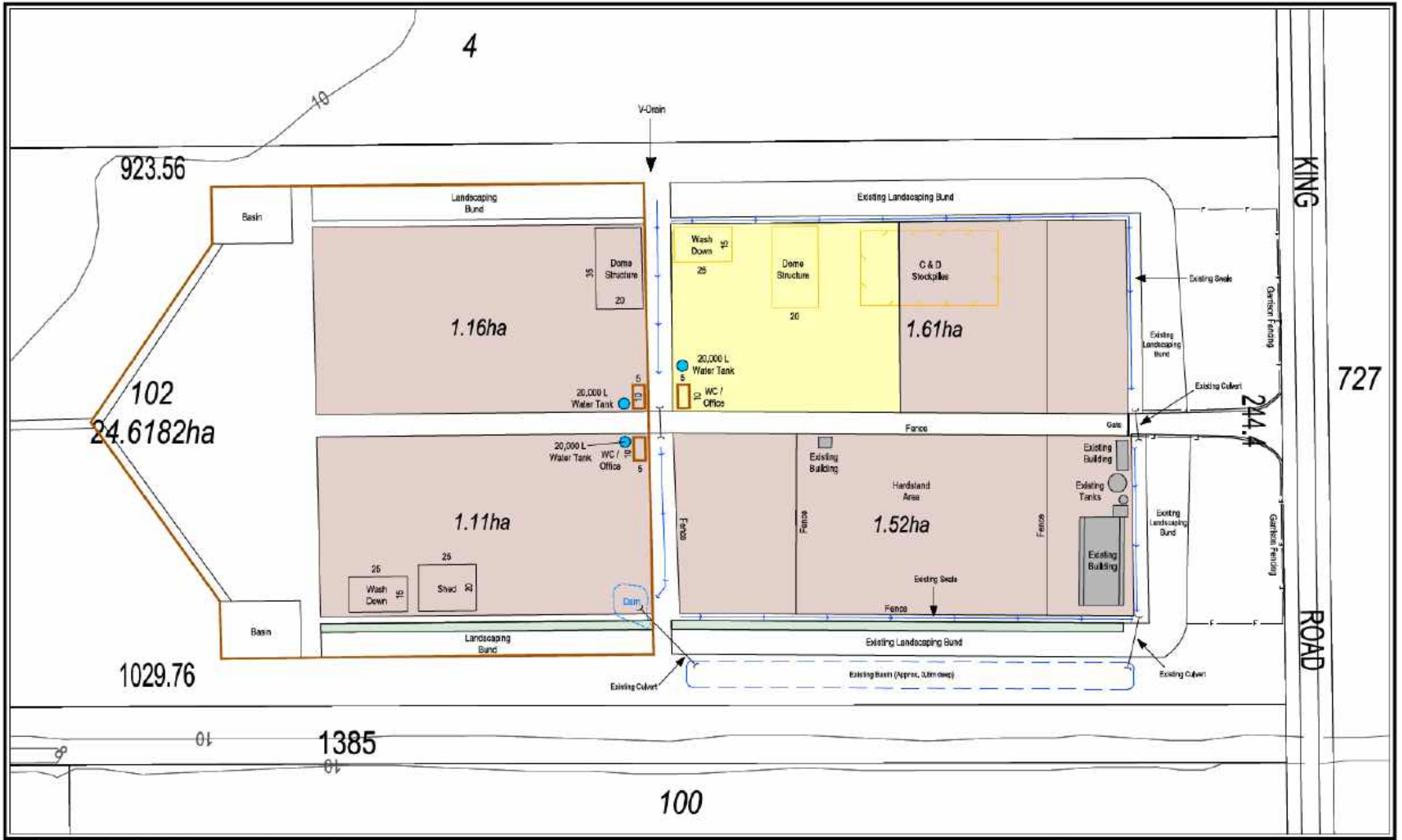
Figure 6

C&D and Wood Stockpiles LAYOUT

Drawn: G. Petherbridge | Date: 27 Nov 2023 | Job: MSG2023-003

FINPOINT CARTOGRAPHICS 08 9562 7136 MSG2023-003_MSA_004_gis-r02.dgn

Figure 7 Remediated Site General Arrangement and Layout



0 10 20 30 40 50 60 70m

SCALE 1:1000
ORIGINAL PLAN SIZE: A3

STATEWEST PLANNING

NORTH

Statewest Planning
Midland House
09 Great Northern Highway, Midland
PO Box 1377, Midland WA 6936
t. 9274 1360 m. 0410 932 732
e. simon.ohara@statewestplanning.com.au

NOTE:
1. Areas and dimensions are subject to survey.

DATE: 11.06.2024

- Solar Panels
- C & D Works
- Stage 2 Area
- Tree grinding facility and associated mulching, green waste, recycling and soil blending – 8000m²
- Transport Depot and associated structures

AMENDED DEVELOPMENT APPROVAL

LOT 102 (#766) KING ROAD
OLDBURY
Shire of Serpentine - Jarrahdale

Appendix 1 ASIC Current Company Extract

ASIC
Australian Securities & Investments Commission

Current Company Extract

Name: HOPE VALLEY WOOD WASTE PTY LTD
ACN: 627 823 876

Date/Time: 11 December 2024 AEST 05:15:44 PM

This extract contains information derived from the Australian Securities and Investments Commission's (ASIC) database under section 1274A of the Corporations Act 2001.

Please advise ASIC of any error or omission which you may identify.

EXTRACT

Organisation Details		Document Number
Current Organisation Details		
Name:	HOPE VALLEY WOOD WASTE PTY LTD	0EBV70924
ACN:	627 823 876	
ABN:	70627823876	
Registered in:	Western Australia	
Registration date:	30/07/2018	
Next review date:	30/07/2025	
Name start date:	30/07/2018	
Status:	Registered	
Company type:	Australian Proprietary Company	
Class:	Limited By Shares	
Subclass:	Proprietary Company	

Address Details		Document Number
Current		
Registered address:	[redacted]	6EOM75958
Start date:	16/10/2023	
Principal Place Of Business address:	[redacted]	5EEP42258
Start date:	27/10/2021	

Contact Address	
Section 146A of the Corporations Act 2001 states 'A contact address is the address to which communications and notices are sent from ASIC to the company'.	
Current	
Address:	PO BOX 8281, SUBIACO EAST WA 6008
Start date:	15/09/2023

Officeholders and Other Roles		Document Number
Director		
Name:	[redacted]	5EEC00163
Address:		
Born:		
Appointment date:		
Secretary		
Name:		5EEC00163
Address:		
Born:		
Appointment date:		

Share Information
Share Structure

Class	Description	Number issued	Total amount paid	Total amount unpaid	Document number
ORD	ORDINARY SHARES	1000	100.00	0.00	0EBV70924

Members

Note: For each class of shares issued by a proprietary company, ASIC records the details of the top twenty members of the class (based on shareholdings). The details of any other members holding the same number of shares as the twentieth ranked member will also be recorded by ASIC on the database. Where available, historical records show that a member has ceased to be ranked amongst the top twenty members. This may, but does not necessarily mean, that they have ceased to be a member of the company.

Name: MORTON INTERNATIONAL PTY LTD
ACN: 127 864 242
Address: [redacted]

Class	Number held	Beneficially held	Paid	Document number
ORD	1000	no	FULLY	5EEO30464

Documents

Note: Where no Date Processed is shown, the document in question has not been processed. In these instances care should be taken in using information that may be updated by the document when it is processed. Where the Date Processed is shown but there is a zero under No Pages, the document has been processed but a copy is not yet available.

Date received	Form type	Date processed	Number of pages	Effective date	Document number
09/10/2023	484B Change To Company Details Change Of Registered Address	09/10/2023	2	15/09/2023	6EOM75958
10/04/2024	991 Notification Of Location Of Books Stored On Computer	12/04/2024	2	10/04/2024	032022435

End of Extract of 2 Pages

Appendix 2 Certificate of Title for 766 King Road, Oldbury

WESTERN AUSTRALIA

TITLE NUMBER	
Volume	Folio
1931	**434**

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

[redacted]

LAND DESCRIPTION:

LOT 102 ON DIAGRAM 82617

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

THOMAS ROAD PROPERTY PTY LTD OF 766 KING ROAD OLDBURY WA 6121
(T P543944) REGISTERED 9/5/2023

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. O146108 MEMORIAL. CONTAMINATED SITES ACT 2003 REGISTERED 8/5/2019.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	1931-434 (102/D82617)
PREVIOUS TITLE:	1898-131
PROPERTY STREET ADDRESS:	766 KING RD, OLDBURY.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF SERPENTINE-JARRAHDALE

Appendix 3 Environmental Features Memorandum

Our Ref: HVWOLD01
Date: 12 December 2024

COTERRA ENVIRONMENT

Level 1, 98 Colin Street
West Perth WA 6005

T (08) 9381 5513

www.coterra.com.au
info@coterra.com.au

APPENDIX 3

TO:	Morton Seed & Grain Pty Ltd
ATTENTION:	[redacted]
FROM:	
PROJECT NAME:	
SUBJECT:	Environmental Assessment Report Supporting Plates

Further to the information provided in the Environmental Assessment Report (Coterra, 2024) prepared for Lot 102 (No. 766) King Road, Oldbury (the site), please find a summary memorandum of the relevant environmental features mapped across the site.

Key environmental features include:

- A portion of the site is mapped as an Environmentally Sensitive Area (Plate 1) – this mapping does not impede of the development area
- A Threatened Ecological Community (TEC) is mapped over part of the site (Plate 2) – on-ground conditions (vegetation) of the site do not correlate to any TECs
- The site does not contain any Threatened or Priority flora or fauna records (Plate 3; Plate 4)
- The site does not contain any known Aboriginal or other heritage sites (Plate 5; Plate 6)
- The site is not within a Public Drinking Water Source Area (PDWSA; Plate 7)
- A portion of the site is mapped as containing a Conservation Category Wetland (CCW); however this area will not impede on the development area. The remainder of the site is mapped as a Multiple Use Wetland (MUW; Plate 8)
- The Acid Sulphate Soil (ASS) risk at the site is Moderate to Low risk (Plate 9)

No constraints have been identified that need to be avoided in the site's remediation plan.

Plate 1: Environmentally Sensitive Areas

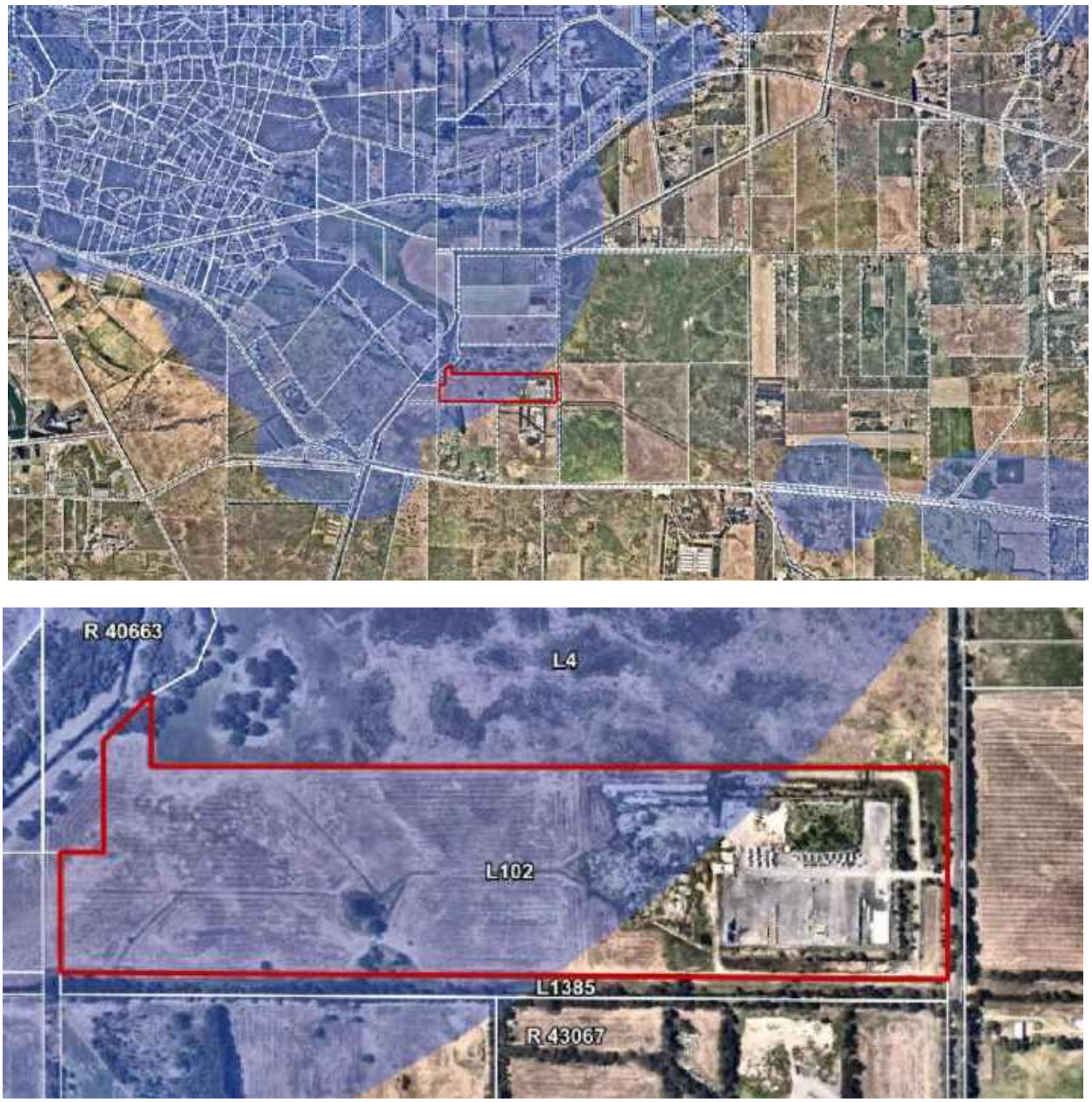


Plate 2: Threatened Ecological Communities

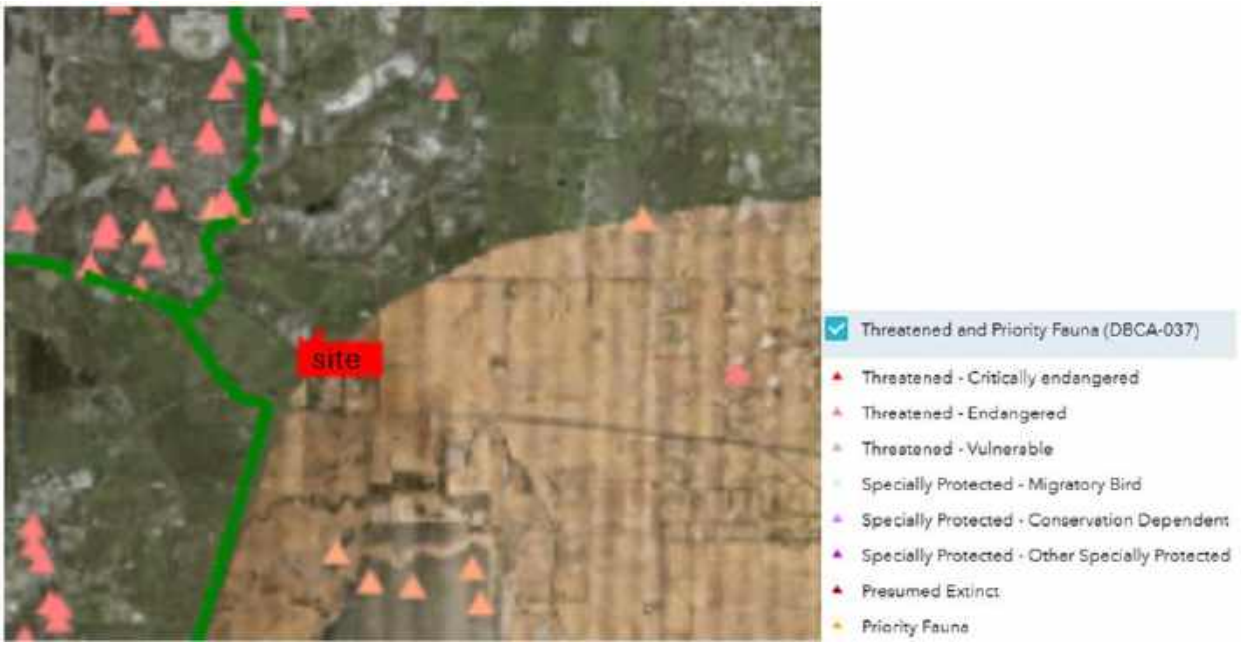


Plate 3: Threatened and Priority Fauna

Plate 4: Threatened and Priority Flora

Plate 5: Aboriginal Heritage Sites

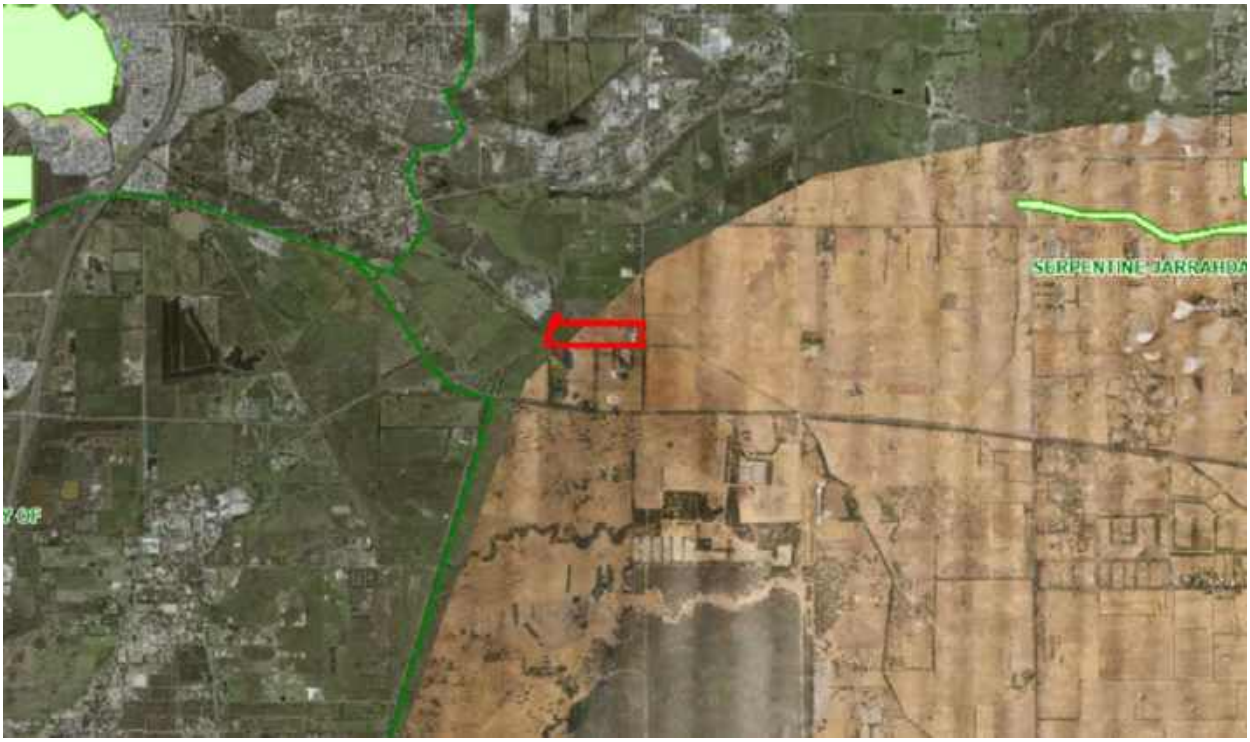


Plate 6: Other Heritage Sites

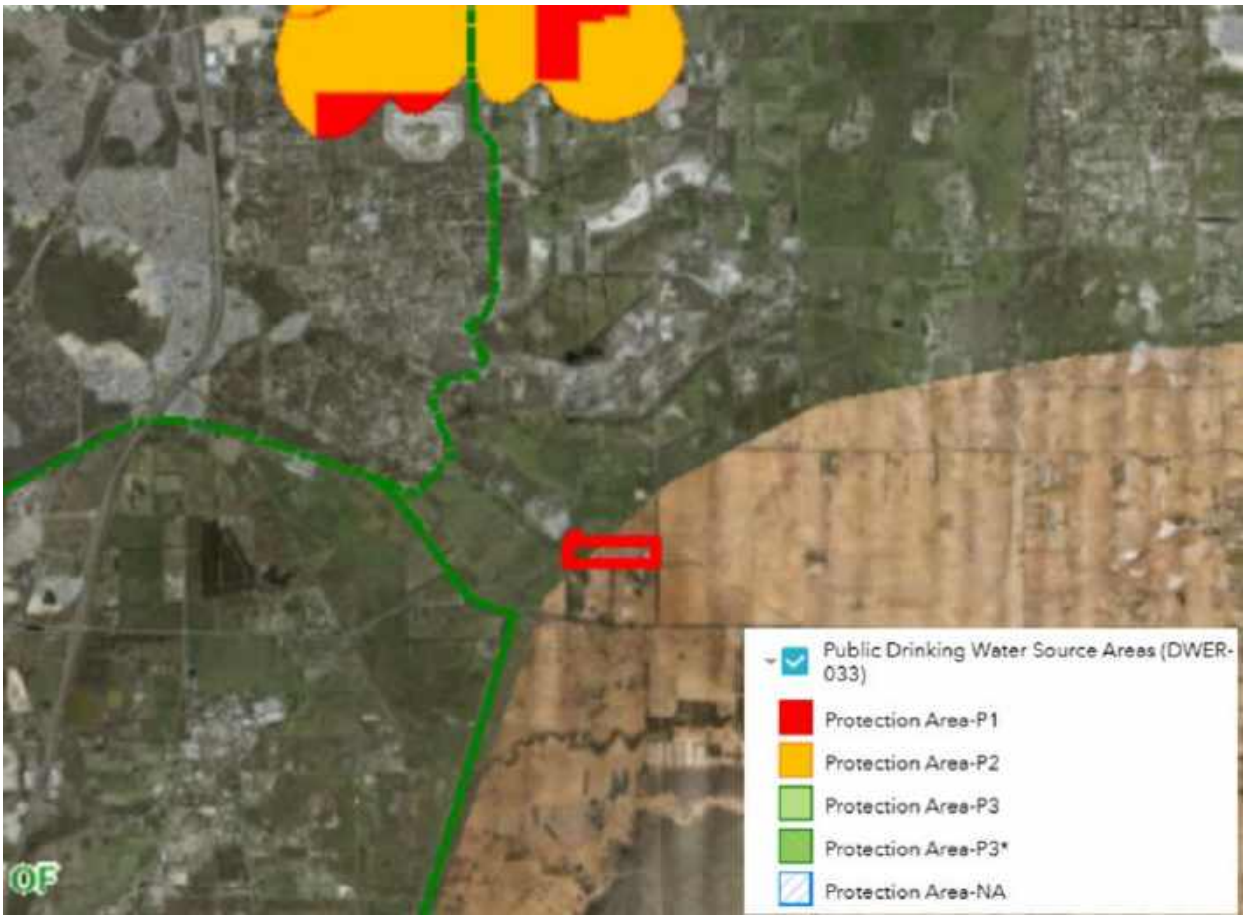


Plate 7: Public Drinking Water Source Areas

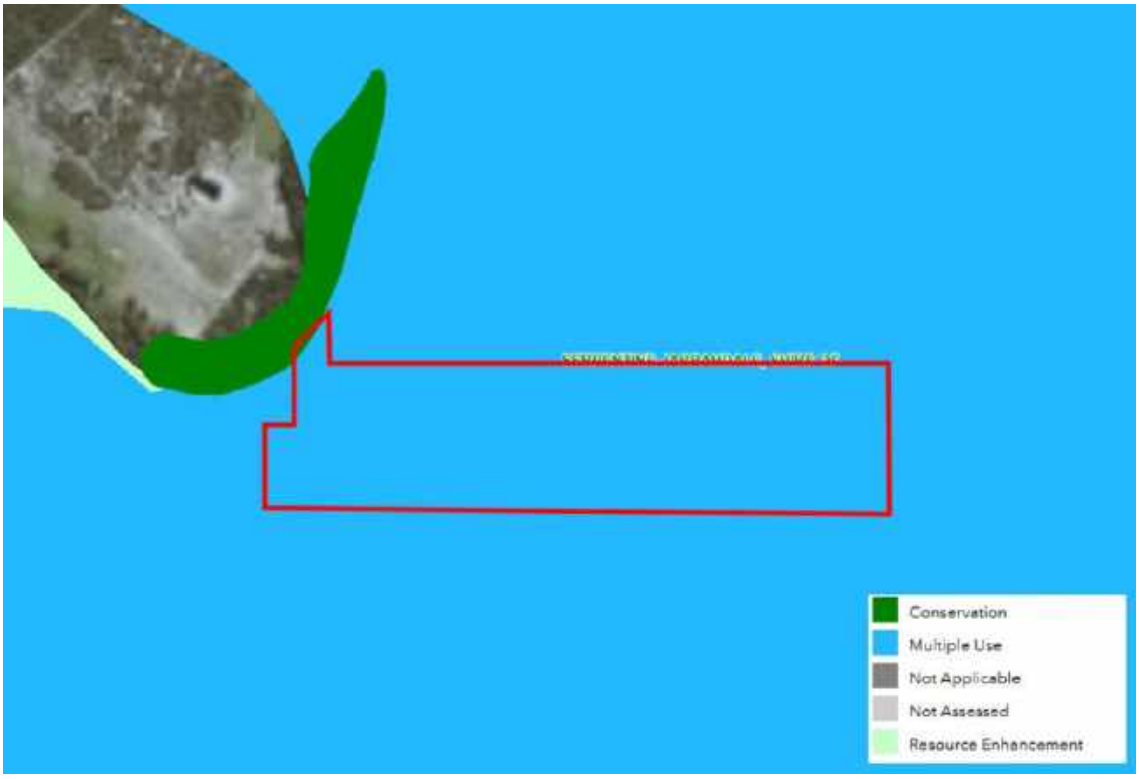


Plate 8: Hydrological Features

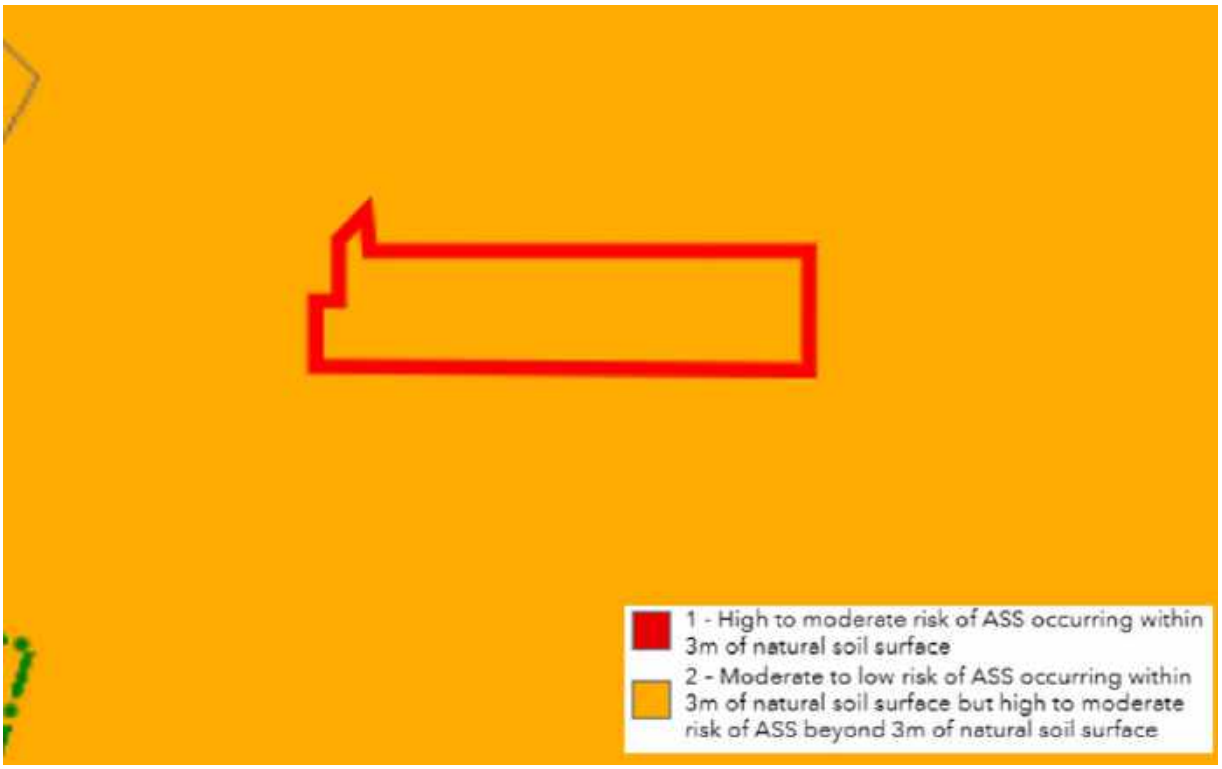


Plate 9: Acid Sulphate Soils

Source: Landgate, 2024
MNG, 2024

Appendix 4 Aurora Environmental 2024, Limited Assessment of the Main Stockpile and Wood Stockpile

Perth
Dilhorn House, 2 Bulwer Street
Perth WA 6000
T (08) 9227 2600
F (08) 9227 2699

15 March 2024

Morton Property Trust
950 Rockingham Road, Wattleup WA 6166

Attention: Jonnie Morton

Dear [redacted]

RE: 766 King Road, Oldbury: Limited Assessment of the Main Stockpile and Wood Stockpile

This letter presents the findings from works undertaken by Aurora Environmental (Aurora) for an assessment of the main stockpile and woodchip stockpile at 766 King Road, Oldbury (the Site). The Site's location is presented in Figure 1. The assessment was limited to the main stockpile of construction and demolition (C&D) waste materials and the wood stockpile as defined in Figure 2. Based on previous limited inspections by Aurora, the main stockpile appeared to contain inert material, mainly brick and concrete rubble and the wood stockpile exclusively contained timber materials.

1. INTRODUCTION AND BACKGROUND

Morton Property Trust purchased the Site aware of its environmental constraints with a view to using the Site for plant and equipment laydown and storage (i.e., commercial / industrial purpose). During the Site's previous ownership period, uncontrolled C&D waste materials were imported to the Site by a former tenant. It is for this reason that the Site was classified under the Contaminated Sites Act 2003 (CS Act) as 'Possibly contaminated – investigation required' by the Department of Water and Environmental Regulation (DWER). There was a previous development application made to the Shire of Serpentine – Jarrahdale (the Shire) to manage the C&D waste materials and remediate the Site, predominantly through off-site disposal.

The Shire approved the works subject to conditions. These included the development of a suitable remediation plan and environmental management plans acceptable to the DWER and the Department of Health (DoH) and the DWER issuing a Works Approval and Category 13 and 62 licences under the Environmental Protection Act 1986 (EP Act).

Prior to Morton Property Trust purchasing the Site, Aurora was involved in discussion with the Shire and the DWER regarding possible alternative management of C&D waste materials including through options for onsite containment instead of the previously proposed offsite disposal. The DWER and Shire indicated that a new development application process would be required and that similar conditions would likely apply, but it was considered that onsite management could be supported if suitable controls and regulatory approvals were in place.

Prior to Morton Property Trust purchasing the Site, Aurora was involved in discussion with the Shire and the DWER regarding possible alternative management of C&D waste materials including through options for onsite containment instead of the previously proposed offsite disposal. The DWER and Shire indicated that a new development application process would be required and that similar conditions would likely apply, but it was considered that onsite management could be supported if suitable controls and regulatory approvals were in place.

It is understood that Morton Property Trust wished to characterise the main stockpile to assess potential management options for the material and to confirm the wood stockpile doesn't contain other materials, including C&D waste. Morton Property Trust has informed Aurora that the constructed hardstand would include a 0.5m thick surface capping layer of imported clean fill to provide a compacted and suitable surface for machinery and equipment laydown.

A survey was completed of the Site in 2020 and the volume of the main stockpile was estimated to be 19,466m^3. The wood stockpile and an adjoining stockpile of plaster waste were estimated to have a combined volume of 5,638m^3.

Aurora previously completed a similar assessment (Aurora, 2023) of the low stockpiles of C&D waste located to the west and southwest of the main stockpile. This letter report doesn't re-present the assessment of the low stockpiles.

1.1 OBJECTIVES

Main Stockpile

The objective was to assess the potential for the main stockpile material to be contaminated and understand the suitability of the material to be crushed and used to create hardstand at the Site. The assessment is considered warranted as the main stockpile material appears to be consistent with C&D waste, the material may contain asbestos or other potential sources of contamination.

Wood Stockpile

The objective was to visually assess the potential for the wood stockpile to contain potential C&D waste and other sources of contamination prior to the material being relocated to the bund walls surrounding the Site. The assessment is considered warranted as the origins of the wood stockpile are unknown.

1.2 SCOPE OF WORK

Main Stockpile

The following scope of work was undertaken.

> Aurora supervised the installation of 30 test pits excavated into the main stockpile (excavator and operator were provided by Morton Property Trust). The test pits extended to a maximum depth of 3.0m below the stockpile surface at safely accessible locations. A soil sample was collected from each soil profile encountered in each test pit at a minimum rate of one sample per vertical metre or where there was a distinct change in the soil profile. A total of 50 soil samples (including quality control samples) were selected for laboratory analysis of organochlorine pesticides (OCPs), Total Recoverable Hydrocarbons (TRH), benzene, toluene, ethyl benzene, xylenes, and naphthalene (BTEXN) and eight heavy metals. These analytes are

contaminants of potential concern (COPC) for fill of unknown origin, as identified by the DWER (2021).

The contents of the test pits were logged and photographed. Any suspected asbestos Containing Material (ACM) or evidence of other potential forms of contamination, such as drums, batteries, chemicals or malodorous materials or copper chrome arsenate (CCA) treated timber were noted. Two samples of fibre cement material were analysed for asbestos identification.

This letter report was prepared to document the assessment of analytical results to health and ecological assessment criteria for the commercial / industrial land use and clear concluding statements on the presence of potential for contamination in the main stockpile and the suitability for it to be retained onsite to construct hardstand.

Wood Stockpile

Aurora supervised the installation of eight test pits excavated into the wood stockpile (excavator and operator were provided by Morton Property Trust). The test pits extended to a maximum depth of 3.0m below the stockpile surface at safely accessible locations. The wood was visually assessed for the presence of C&D waste and other potential sources of contamination, including CCA treated timber and each test pit was photographed. No samples were taken as part of this assessment.

Preparation of this letter report to document the visual assessment and clear concluding statements on the presence of potential contamination sources within the stockpile and the suitability of the material to be relocated to the bund walls along the Site's boundaries.

2. METHODOLOGY AND OBSERVATIONS

This section describes the activities undertaken and observations made, whilst undertaking the test pitting investigations into the main and wood stockpiles. On 24 October to 26 October 2023, an Aurora Environmental Scientist undertook the investigative works. The Environmental Scientist had received in-house training on asbestos material identification by a Licensed Asbestos Assessor (LAA) and previously conducted similar assessments. Prior to the commencement of the test pitting, an initial inspection of the main and wood stockpile was completed. During the inspection, the surface of the main stockpile was overgrown with weeds and the wood stockpile was noted to dissect the plaster stockpile located south of the wood stockpile and southwest of the main stockpile. Photographs of the stockpiles and the general layout of the Site are included in Attachment 1.

Main Stockpile

The 30 test pits were mechanically excavated using a 20t excavator. The locations of the test pits are presented in Figures 3 and 4. The test pits were positioned with the aim of providing even coverage of the stockpile with the limitation of safely being able to access the slopes and portions of the top. The test pit depths extended to a maximum of 3m below the surface of the stockpile. It was not possible to safely extend test pits through the entire profile of the stockpile as its maximum thickness is approximately 6-8m. The logs from the test pit installation for the main stockpile are presented in Attachment 2 and contain photographs of the materials encountered in the test pits.

The main stockpile generally contained sandy soil and a variety of C&D waste materials. The fill material within the main stockpile comprised grey / brown sand, fine grained, poorly graded, homogenous.

A variety of waste materials were observed consisting of mostly inert C&D wastes (concrete, brick, metal, wood and tile) and other domestic waste, such as textiles and plastics. Other wastes noted in the inspection included isolated fragments of potential ACM (PACM) and consequently representative samples were collected. No staining or odours indicating contamination were noted in the test pits. There were no items such as batteries, drums, CCA treated timber observed in the test pits or across the surface.

PACM was observed in two test pit locations. All PACM fragments observed during the investigation were fibre cement fragments, with no bulk amounts of sheeting observed. Fragments of PACM were observed in TP10 and TP25. Two representative bulk asbestos samples were collected from PACM encountered in the two test pits described above and submitted for laboratory analysis for asbestos identification.

Soil samples for laboratory analysis were collected from each test pit based on visual observations made within the soil profile during excavation. Samples were placed directly into laboratory supplied glass jars and stored in a cooled esky until transfer to the laboratory. Samples were transported with accompanying Chain of Custody (CoC) documentation to a National Association of Testing Authorities (NATA) accredited laboratory for analysis. All samples from the fill material encountered in the main stockpile were submitted for OCPs, TRH, BTEXN and heavy metals. Three pairs of duplicate and triplicates were submitted for quality control purposes. One sample (TP27_1.5-2.0) was subjected to follow up analysis for chromium (VI).

Wood Stockpile

During the inspection of the wood stockpile, majority of the wood material appeared to be from former buildings and appeared to be a mixture of wooden beams and chipboard with some painted material. It was noted in the southeastern portion of wood stockpile there was plaster noted at approximately 3m below the surface of the stockpile at test pit locations WC01 and WC07 (refer to Photographs 2 and 8). This was most likely due to the wood stockpile being placed onto the toe of the adjoining stockpile of plaster waste located south of the wood stockpile. There were no staining or odours noted within the test pits nor was there any CCA treated timber observed.

3. ASSESSMENT CRITERIA

The adopted assessment criteria were based on future commercial/industrial land use at the Site. On this basis, analytical results were compared to the following assessment criteria, as presented in Schedule B1 of National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (NEPC, 1999) and the DWER Assessment and Management of Contaminated Sites (2021).

For the purposes of the main stockpile assessment, the following assessment criteria was applied:

- Ecological Investigation Levels (EIL)/Ecological Screening Levels (ESL) – Commercial/Industrial land use.

Health Investigation Levels (HIL)/Health Screening Levels (HSL) – Commercial/Industrial land use.

Soil analytical data from the assessment of the low stockpiles on the Site (Aurora, 2023) were used to derive the site-specific EILs.

4. ANALYTICAL RESULTS

Analytical results for the main stockpile are presented in Tables 1 – 3. Laboratory analytical certificates and CoC documentation are contained within Appendix 4.

4.1 HEAVY METALS

Concentrations of heavy metals were generally above the laboratory Limit of Reporting (LOR) and / or the adopted assessment criteria. Tabulated metals results are included in Table 1 and summary of the results are included below. The laboratory confirmed results for copper, arsenic and chromium (total) in sample TP27_1.5-2.0.

Concentrations of arsenic ranged from below the LOR of 2mg/kg within TP24_1.4-1.5 to 280mg/kg within TP27_1.5-2.0. The concentration of arsenic within sample TP27_1.5-2.0 was the only result above the EIL for Commercial/Industrial land use.

Concentrations of cadmium ranged from below the LOR of 0.1mg/kg in several samples to 1.8mg/kg within sample TP22_0-0.1. No concentrations of cadmium were above the adopted assessment criteria.

Concentrations of copper ranged from 2.2mg/kg within TP08_0-0.1 to 140mg/kg within TP27_1.5-2.0. The concentration of copper within sample TP27_1.5-2.0 was the only result above the EIL for Commercial/Industrial land use.

Concentrations of chromium (total) ranged from 5.1mg/kg within TP07_2.9-3.0 and TP24_1.4-1.5 to 490mg/kg within TP27_1.5-2.0. The concentration of chromium (total) within sample TP27_1.5-2.0 was the only result above the EIL for Commercial/Industrial land use. Additional analysis for chromium (IV) was requested on 17 November 2023 for sample TP27_1.5-2.0 due to concentrations of chromium (total), copper and arsenic being above the EIL and jointly they indicated that the soil may have been impacted by CCA and therefore the potential presence of chromium (VI). The concentrations of chromium (IV) within TP27_1.5-2.0 was below the LOR(1mg/kg).

Concentrations of lead ranged from 3.1mg/kg within TP08_0-0.1 to 80mg/kg within TP22_0-0.1. No concentrations of lead were above the adopted assessment criteria.

Concentrations of mercury ranged from 0.03mg/kg within TP08_0-0.1, TP08_0.4-0.5, TP09_0.8-1.0, TP10_1.4-1.5, TP24_0.8-1.0, TP24_1.4-1.5 and TP30_2.4-2.5 to 1.2mg/kg within TP01_1.8-1.9. No concentrations of mercury were above the adopted assessment criteria.

Concentrations of nickel ranged from below the LOR of 1mg/kg within TP06_0.4-0.5, TP08_0.4-0.5, TP09_0.8-1.0 and TP30_2.4-2.5 to 4.5mg/kg within TP12_0-0.1. No concentrations of nickel were above the adopted assessment criteria.

Concentrations of zinc ranged from below the LOR of 5mg/kg within TP24_1.4-1.5 to 630mg/kg within TP22_0-0.1. Concentrations of zinc were above the above the EIL for Commercial/Industrial land use within TP01_1.8-1.9, TP04_0.0-0.1, TP04_1.4-1.5, TP14_0.8-1.0, TP19_2.4-2.5, TP20_0-0.1, TP21_0.4-0.5, TP22_0-0.1, TP23_0.4-0.5 and TP26_0.8-1.0.

The median zinc concentration was 115mg/kg, approximately half of the EIL (210mg/kg). The standard deviation was 136 mg/kg, approximately 65% of the EIL and the maximum result of 630mg/kg was 300% of the EIL

4.2 PETROLEUM HYDROCARBONS

Tabulated TRH and BTEXN results are presented in Table 2, Attachment 3.

All concentrations of TRH F1 and F2 and BTEXN generally below the LOR. Concentrations of TRH F3 above the LOR ranged up to 480mg/kg) within TP12_1.4-1.5. Concentrations of TRH F4 above the LOR ranged up to 190mg/kg, also in TP12_1.4-1.5. No adopted assessment criteria for TRH and BTEXN were exceeded.

4.3 ORGANOCHLORINE PESTICIDES

Tabulated OCP results are included in Table 3, Attachment 3.

Concentrations of all OCPs were found to be below the laboratory LOR, with the exception of dieldrin, endosulfan I, and chlordanes (total). The maximum detectable concentration was of dieldrin at 0.68mg/kg within TP05_1.8-2.0. No adopted assessment criteria were exceeded.

4.4 BULK ASBESTOS IDENTIFICATION

The two representative samples of fibre cement PACM were found to not contain asbestos by the laboratory. The results from the laboratory analysis are presented in Attachment 4.

5. DISCUSSION

Main Stockpile

The objectives of the sampling were to assess the potential for the main stockpile material to be contaminated and provide appropriate management options for the stockpiled material. The soil sampling conducted found the stockpile contained low levels of petroleum hydrocarbons and OCPs below commercial/industrial assessment criteria.

Whilst concentrations of most heavy metals were also below adopted commercial/industrial assessment criteria, zinc, arsenic, chromium (total) and copper concentrations were identified in soil samples in at least one sample above the site-specific commercial/industrial EIL. There were nine out 47 samples with a zinc concentration above the commercial/industrial EIL. The presence of zinc in soil is inferred to result from galvanised metal materials in the C&D waste materials and has been encountered by Aurora previously in similar materials on other sites. The distribution of samples with elevated zinc concentrations were considered further by Aurora. It was noted that TP01, TP18, TP19, TP20, TP21 were located in the northeastern portion of the main stockpile and TP04, TP22, TP23 and TP26 were located in the southwestern portion. The type of materials encountered in these test pits were generally consistent with materials from elsewhere in the stockpile. The presence and concentrations of zinc in the soil within the main stockpile is not considered to pose a potentially

unacceptable risk to terrestrial ecological receptors in the scenario when the material is re-used to construct a hardstand area for plant and equipment laydown due to the predicted future absence of ecological receptors. However, it is considered that the presence of zinc in the soil (in the stockpile) and the potential for zinc to leach from soil and metal materials and impact groundwater quality should be further assessed before completing an assessment of the material's suitability to be retained onsite and used for a constructed hardstand area.

The soil samples from TP27_1.5-2.0 contained concentrations of arsenic, chromium (total) and copper above the commercial/industrial EILs which initially indicted the soil may have been impacted with CCA from burnt or damaged CCA-treated timber. Although there was no clear evidence of ash or CCA-treated timber from TP27 and the underlying sample (TP27_2.4-2.5) contained much lower concentrations, it was decided to check the results and analyse TP27_1.5-2.0 for chromium (VI). The absence of chromium (VI) in this sample and other evidence suggests that the presence of arsenic, chromium (total) and copper is not clearly related to a source of CCA. TP26 and TP28 were located relatively close to the west and east of TP27. Notwithstanding this, its considered prudent to undertake some further targeted investigation around TP27 for copper, chromium (total VI) and arsenic to complete the assessment of this portion of the main stockpile. The laboratory also confirmed the reported concentrations of arsenic, chromium (total) and copper in TP27_1.5-2.0.

During the investigation, the only two PACM fragments found within test pits were confirmed to not contain asbestos through laboratory analysis. It is considered that the main stockpile is not contaminated with asbestos. However, due to the unknown origin of the material located within the main stockpile, its size and majority of the material being C&D waste, it is plausible that ACM may be encountered within the stockpile during movement of material. Consequently, appropriate supervision and management should be conducted to identify and remove any ACM which may be present.

Wood Stockpile

During the investigation, there was no observation of potential sources of contamination in the wood stockpile, including the presence of treated timber or C&D waste materials noted within the wood stockpile. The material is suitable to be used to extend bunding around the perimeter of the Site. However, this should be conducted with awareness that any materials other than untreated wood/timber which are found should be inspected and assessed for their potential to be a source of contamination.

6. CONCLUSION AND RECOMMENDATIONS

Based on the results of the investigation works undertaken, the following conclusions are made.

The main stockpile does not appear to contain asbestos, petroleum hydrocarbons or OCPs at levels which would constitute contamination on a commercial/industrial site. Limited soil samples contain elevated concentrations of zinc, copper, chromium (total) and arsenic above commercial/industrial EILs. However, these may not necessarily represent an unacceptable risk to ecological receptors and make the materials unsuitable to be retained onsite and re-used to construct a hardstand area (under a 0.5m clean fill capping layer). Further targeted soil investigation and a groundwater investigation are considered prudent to complete assessment of the stockpile materials and their suitability to be reused in this manner.

The wood stockpile appears to contain only inert wood and timber materials and therefore is suitable to be re-located on the Site.

It is recommended that further targeted soil investigation is conducted in the northeastern and southwestern portions of the main stockpile and within the vicinity of TP27 in order to collect and assess additional data on the presence, leachability and distribution of heavy metals and support final assessment of the material's suitability to be re-used to construct a hardstand area on the Site.

Further to the above, as the main stockpile has been located at the Site for approximately four to five years and concentrations of zinc are above the EIL throughout the main stockpile, a groundwater investigation is recommended to assess whether groundwater in the vicinity of the main stockpile has been impacted.

During movement of the main stockpile and the wood stockpile, it is recommended there remains awareness of the potential for asbestos and other possibly contaminated materials to be uncovered given the practical limitations to the investigation undertaken. It is recommended that disturbance of these stockpiles is managed under the environmental management plan that Aurora has previously recommended be prepared and implemented for the low stockpiles which are present at the Site and are known to contain minor amounts of asbestos.

For and on behalf of Aurora Environmental,

Figures:

1. Site Locations
2. Site Layout
3. Main Stockpile Test Pit Locations
4. Wood Stockpile Test Pit Locations

Attachments:

1. Photograph Log
2. Test Pit Logs
3. Tabulated Analytical Results
4. Laboratory Reports

REFERENCES

Aurora (2023) 766 King Road, Oldbury: Limited Stockpile Assessment. Letter dated 27 September 2023.

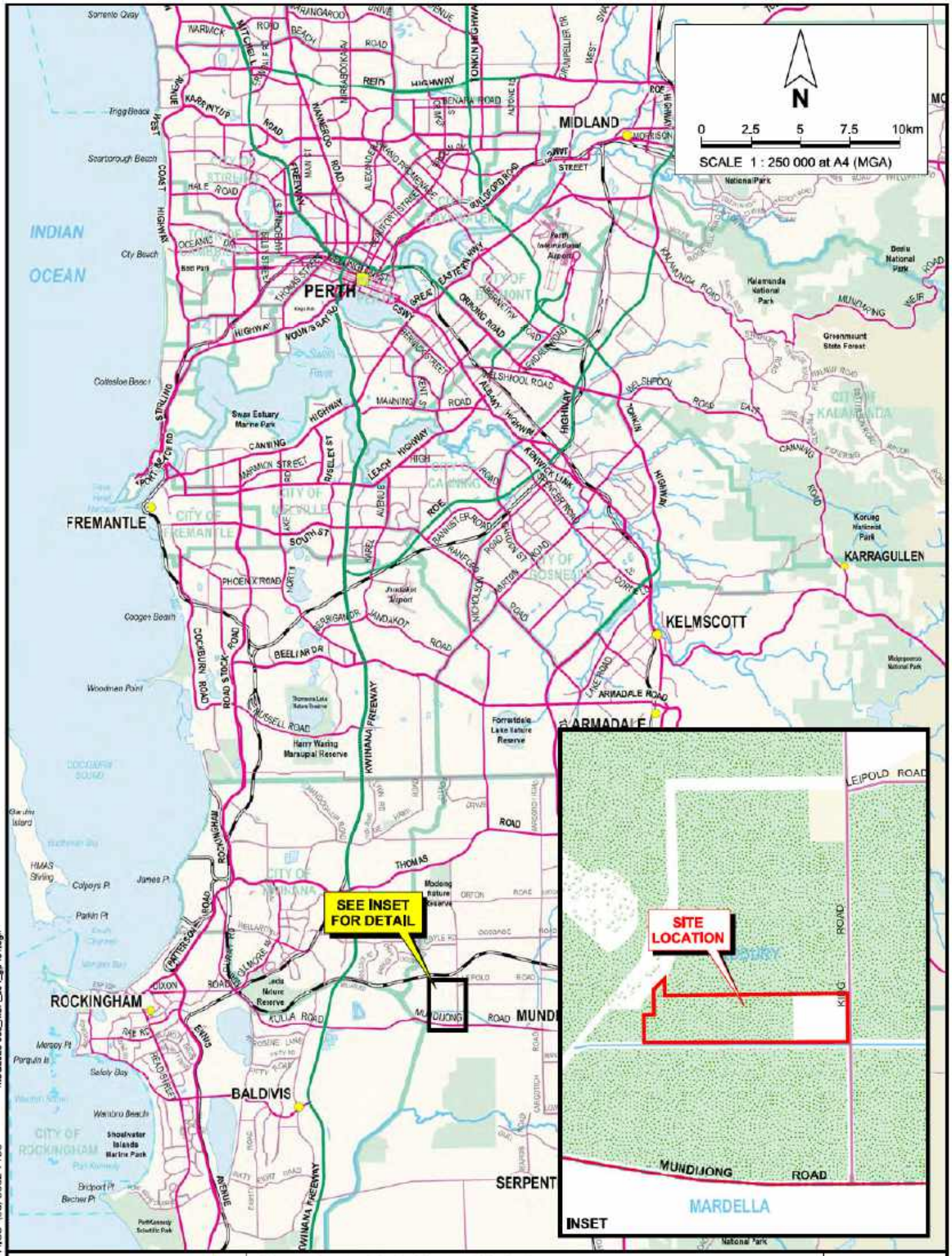
Department of Water and Environmental Regulation (2021a). Assessment and Management of Contaminated Sites – Contaminated Sites Management Series.

Department of Water and Environmental Regulation (2021b). Managing Asbestos at Construction and Demolition Waste Recycling Facilities.

National Environment Protection Committee (1999). National Environmental Protection (Assessment of Site Contamination) Measure, as amended 2013.

DISCLAIMER

Figures



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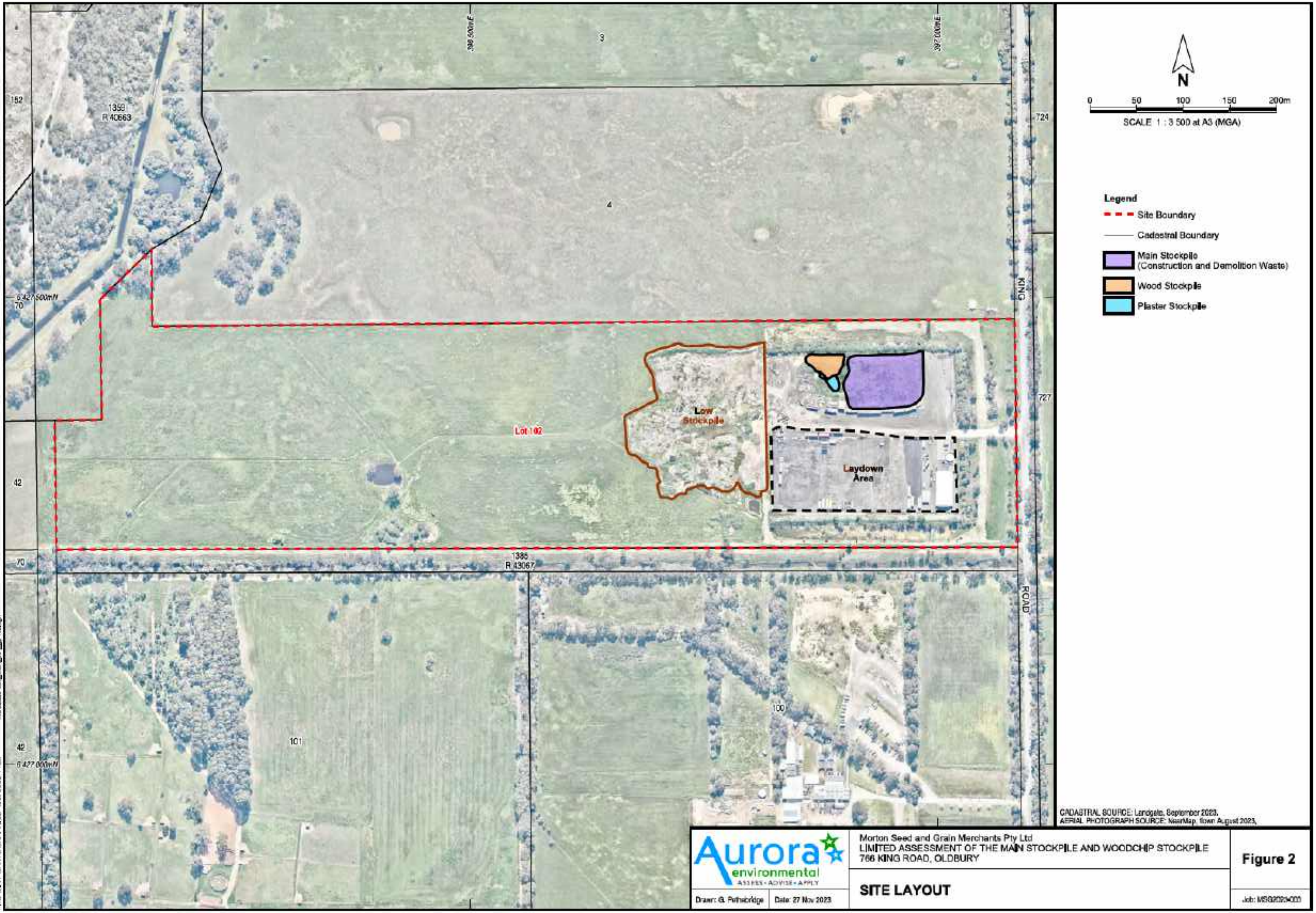
Morton Seed and Grain Merchants Pty Ltd
LIMITED ASSESSMENT OF THE MAIN STOCKPILE AND WOODCHIP STOCKPILE
766 KING ROAD, OLDBURY

Figure 1

SITE LOCATION

Drawn: G. Pethebridge | Date: 27 Nov 2023 | Job: MSG2023-003

PINPOINT CARTOGRAPHICS (08) 9562 7136 MSG2023-003_MSA_004_gpr01.dgn



CADASTRAL SOURCE: Landgate, September 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown August 2023.

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766 KING ROAD, OLDBURY

Figure 2

SITE LAYOUT

Drawn: G. Pethebridge | Date: 27 Nov 2023 | Job: MSG2023-003

PINPOINT CARTOGRAPHICS 08 9562 7136 MSG2023-003_MSA_004_gn-iss.dgn

N

SCALE 1 : 300 at A3 (MGA)

Legend

- Main Stockpile
- Test Pit Location
- Analyte Exceeds EIL -Commercial/Industrial Criteria

Analytes

Zn	Zinc (mg/kg)
Cr	Chromium (mg/kg)
Cu	Copper (mg/kg)

AERIAL PHOTOGRAPH SOURCE: NearMap, flown August 2023,

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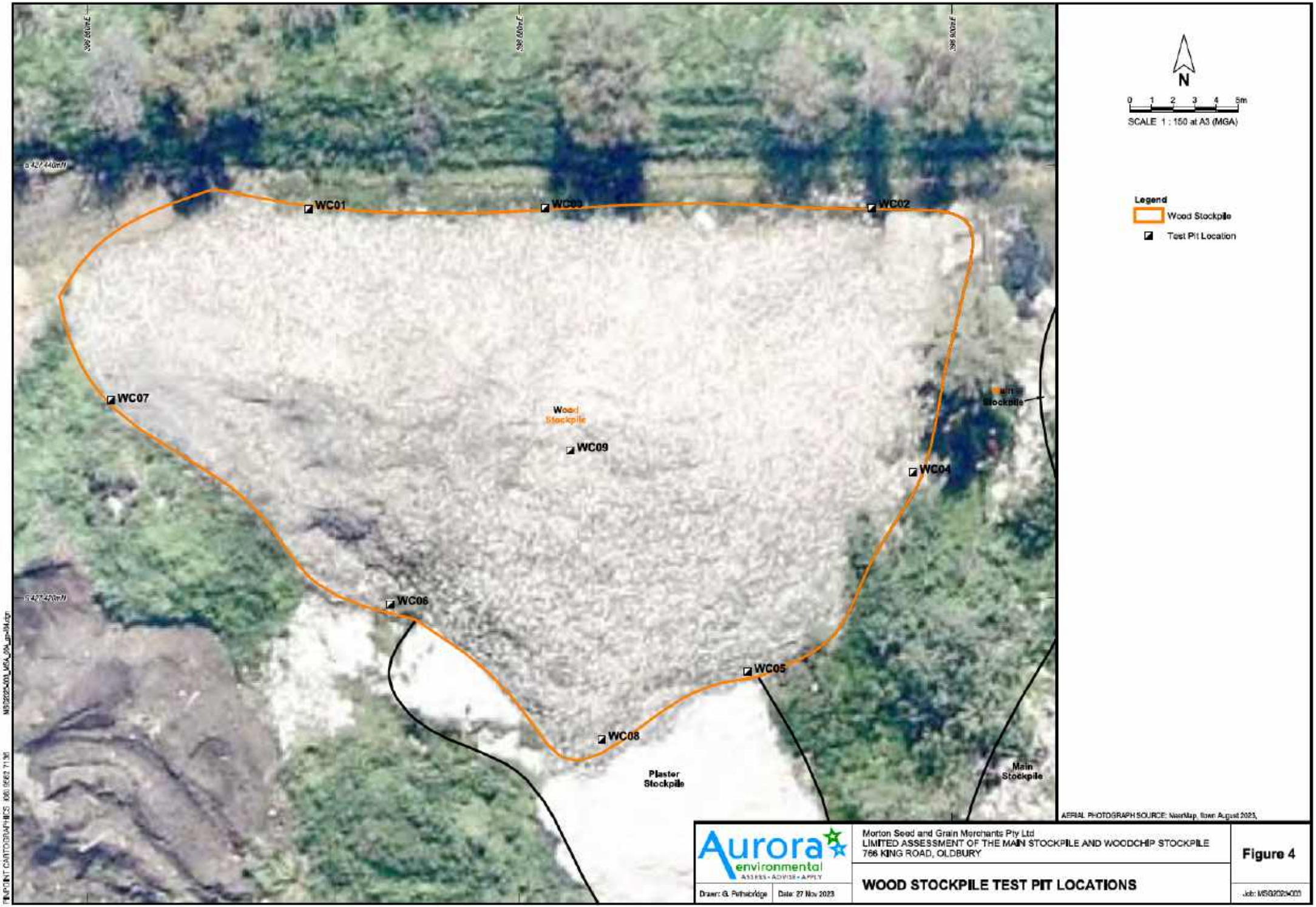
MAIN STOCKPILE TEST PIT LOCATIONS

Figure 3

Drawn: G. Petheridge | Date: 29 Nov 2023 | Job: MSG2023-003

FINPOINT CARTOGRAPHICS 08 9562 7136 MSG2023-003_MSA_004_g


N
0 1 2 3 4 5m
SCALE 1 : 150 at A3 (MGA)
Legend
Wood Stockpile
Test Pit Location
WC01
WC03
WC02
WC07
WC09
WC04
WC06
WC05
WC08
Wood Stockpile
Plaster Stockpile
Main Stockpile
AERIAL PHOTOGRAPH SOURCE: NearMap, flown August 2023.
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ASSESS • ADVISE • APPLY
Drawn: G. Pethebridge
Date: 27 Nov 2023
Morton Seed and Grain Merchants Pty Ltd
LIMITED ASSESSMENT OF THE MAIN STOCKPILE AND WOODCHIP STOCKPILE
766 KING ROAD, OLDBURY
WOOD STOCKPILE TEST PIT LOCATIONS
Figure 4

Attachment 1

Photograph Log

Photograph 1: Wood Stockpile located on the north western operational portion of the Site.

Photograph 2: Wood material located within test pit WC01 (refer to Figure 4).

Photograph 3: Wood material located within test pit location WC02 (refer to Figure 4).

Photograph 4: Wood material located within test pit location WC03 (refer to figure 4).

Photograph 5: Wood material found within test pit location WC04 (refer to Figure 4).

Photograph 6: Wood material found within test pit location WC05 (refer to Figure 4).

Photograph 7: Wood material found within test pit location WC06 (refer to Figure 4).

Photograph 8: Wood material found within test pit location WC07 (refer to Figure 4).

Photograph 9: Wood material found within test pit location WC08 (refer to Figure 4).

Photograph 10: Wood material found within test pit location WC09 (refer to Figure 4).

Photograph 11: Laydown area located south of the main stockpile and wood stockpile.

Photograph 12: Hardstand located on the south eastern portion of the Site.

Photograph 13: Main Stockpile located on the northern operational portion of the Site.

Photograph 14: Laydown area located east of the Main Stockpile

Photograph 15: Site office and hanger located on the south eastern portion of the Site.

Attachment 2

Test Pit Logs

Soil Bore No: TP01						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0.2 – 2.0	Fill	SAND: Grey/brown SAND, fine grained, poorly graded, homogenous, dry	Y Y	N N	0-0.1 0.4-0.5 1.8-1.9	Brick, concrete, metal sheeting, wood (frames). C & D waste similar throughout the soil profile and generally uniform.
Terminated at 2m below stockpile surface level due to collapse.						

Soil Bore No: TP02						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole:2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0 – 2.0	Fill	SAND: Grey/brown SAND, fine grained, poorly graded, homogenous, dry	Y Y	N N	0.4-0.5 1.4 – 1.5	Brick, concrete, rubble, wood (building timber), plastic black tarp/cloth at 0.5mbgl Material such as brick, concrete, rubble and wood similar throughout soil profile
Terminated at 2m below stockpile surface level due to collapse.						

Soil Bore No: TP03						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: TD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.6m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.6	Fill	SAND: Grey/brown SAND, fine grained, poorly graded, homogenous, dry	Y	N	1.4-1.5	Concrete, brick, wood (timber for building), grass on surface, plastic. Rubble and C & D waste generally homogenous throughout soil profile.
Terminated at 2.6m below stockpile surface level due to collapse.						

Soil Bore No: TP04						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.0	Fill	SAND: Grey/brown SAND, fine grained, poorly graded, homogenous, dry	Y	N	0-0.1 1.4-1.5	Brick / concrete rubble / plastic, wood. C & D waste generally homogenous
Terminated at 2m below stockpile surface level due to collapse.						

Soil Bore No: TP05

Client: Morton Property Trust	Date Commenced: 24/10/23
Project: Main Stockpile Assessment	Date Completed: 24/10/23
Location: 766 King Rd, Oldbury	Logged By: GP
Project Number: MSG2023-003	Checked By: BD
Excavation Co: Morton Property Trust	Excavation Method: Test Pitting
Operator: Jonnie Morton	Weather: Sunny
Water Strike if Any: NA	Total Depth of Hole: 2.0m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.0		SAND: Grey/brown, fine to medium grained, poorly graded, homogenous, dry.	Y Y	N N	0-0.1 1.8-2.0	Brick, concrete, metal sheeting wood (building materials). C & D waste was generally throughout the soil profile and unform.

Terminated at 2m below stockpile surface level due to collapse.

Soil Bore No: TP06

Client: Morton Property Trust	Date Commenced: 24/10/23
Project: Main Stockpile Assessment	Date Completed: 24/10/23
Location: 766 King Rd, Oldbury	Logged By: GP
Project Number: MSG2023-003	Checked By: TD
Excavation Co: Morton Property Trust	Excavation Method: Test Pitting
Operator: Jonnie Morton	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 2.5m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.5		SAND: Grey/brown, fine to medium grained, poorly graded, homogenous, dry. .	Y Y	N N	0.4-0.5 2.4-2.5	Brick, concrete, metal sheeting wood (building materials). C & D waste was generally throughout the soil profile and unform.

Terminated at 2.5m below stockpile surface level due to collapse.

Soil Bore No: TP07						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: TD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 3m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-0.8	Fill	SAND: Grey/brown, fine to medium grained, poorly graded, homogenous, dry.	Y	N		Brick, concrete, metal sheeting wood (building materials). C & D waste was similar throughout the soil profile and uniform.
0.8-0.9	Fill	SAND: Orange, fine to medium grained, poorly graded, homogenous, dry.	Y	N	0.8-1.0	
0.9-2.9	Fill	SAND: Grey/brown, fine to medium grained, poorly graded, homogenous, dry.	Y	N		
2.9-3.0	Fill	SAND: Orange, fine to medium grained, poorly graded, homogenous, dry.	Y	N	2.9-3.0	
Terminated at 3.0mbtos with target depth reached.						

Soil Bore No: TP08						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: TD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: -					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y Y Y	N N N	0-0.1 0.4-0.5 0.8-1.0	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 2m below stockpile surface due to collapse.						

Soil Bore No: TP09						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: TD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: -					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y Y Y	N N N	0-0.1 0.4-0.5 0.8-1.0	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 2m below stockpile surface level due to collapse.						

Soil Bore No: TP10						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: TD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: -					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y Y	N Y	0-0.1 1.4-1.5	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform. 1 x fibre cement PACM fragment 3cm x 2cm bonded and in good condition at 1.4-1.5mbtos
Terminated at 2m below stockpile surface level due to collapse.						

Soil Bore No: TP11						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: TD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: -					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y	N	0.4-0.5 1.8-2.0	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 2m below stockpile level due to collapse.						

Soil Bore No: TP12

Client: Morton Property Trust	Date Commenced: 24/10/23
Project: Main Stockpile Assessment	Date Completed: 24/10/23
Location: 766 King Rd, Oldbury	Logged By: GP
Project Number: MSG2023-003	Checked By: TD
Excavation Co: Morton Property Trust	Excavation Method: Test Pitting
Operator: Jonnie Morton	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1.5m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.5	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y Y	N N	0-0.1 1.4-1.5	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.

Terminated at 1.5m below stockpile surface level due to collapse.

Soil Bore No: TP13

Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003	Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: TD
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: -	Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y	N	0-0.1 0.4-0.5	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.

Terminated at 2m below stockpile surface level due to collapse.

Soil Bore No: TP14						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y	N	0.8-1.0	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 2m below stockpile surface level due to collapse.						

Soil Bore No: TP15						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 24/10/23 Date Completed: 24/10/23 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA			Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 3.0m below the surface of the stockpile.			
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-3.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y Y	N N	1.4-1.5 2.8-3.0	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 3m below stockpile surface level – Target Reached						

Soil Bore No: TP16						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/23 Date Completed: 25/10/23 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA			Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole:		2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y	N	0-0.1	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 2m below stockpile surface level due to collapse.						

Soil Bore No: TP17						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.5m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-1.5	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y Y	N N	0.4-0.5 0.8-1.0	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 1.5m below stockpile surface level due to collapse.						

Soil Bore No: TP18						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.0m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.0	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y	N	1.4-1.5	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 2m below stockpile surface level due to collapse.						

Soil Bore No: TP19

Client: Morton Property Trust	Date Commenced: 25/10/2023
Project: Main Stockpile Assessment	Date Completed: 25/10/2023
Location: 766 King Rd, Oldbury	Logged By: GP
Project Number: MSG2023-003	Checked By: BD
Excavation Co: Morton Property Trust	Excavation Method: Test Pitting
Operator: Jonnie Morton	Weather: Sunny
Water Strike if Any: NA	Total Depth of Hole: 2.6m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.6	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y	N	1.8-2.0 2.4-2.5	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.

Terminated at 2.6m below stockpile surface level due to collapse

Soil Bore No: TP20						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.5m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.5	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y	N	0-0.1	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 2.5m below stockpile surface level due to collapse.						

Soil Bore No: TP21						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.5m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.5	Fill	SAND: Brown/grey, fine grained, poorly graded, homogenous, subangular, dry	Y Y	N N	0.4-0.5 0.8-1.0	Brick, concrete, metal, wood (building materials). C & D waste was similar throughout the soil profile and uniform.
Terminated at 2.5m below stockpile surface level due to collapse.						

Soil Bore No: TP22

Client: Morton Property Trust	Date Commenced: 25/10/2023
Project: Main Stockpile Assessment	Date Completed: 25/10/2023
Location: 766 King Rd, Oldbury	Logged By: GP
Project Number: MSG2023-003	Checked By: BD
Excavation Co: Morton Property Trust	Excavation Method: Test Pitting
Operator: Jonnie Morton	Weather: Sunny
Water Strike if Any: NA	Total Depth of Hole: 2.5m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.5	Fill	SAND: Dark brown, fine to medium grained, poorly graded, homogenous	Y	N	0-0.1	Timber and natural wood, plastic, concrete. C & D waste uniform throughout.

Terminated at 2.5m below stockpile surface level due to collapse.

Soil Bore No: TP23

Client: Morton Property Trust	Date Commenced: 25/10/2023
Project: Low Stockpile Assessment	Date Completed: 25/10/2023
Location: 766 King Rd, Oldbury	Logged By: GP
Project Number: MSG2023-003	Checked By: BD
Excavation Co: Morton Property Trust	Excavation Method: Test Pitting
Operator: Jonnie Morton	Weather: Sunny
Water Strike if Any: NA	Total Depth of Hole: 2.5m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.5	Fill	SAND: Dark brown, fine to medium grained, poorly graded, homogenous	Y Y Y	N N N	0-0.1 0.4-0.5 2.4-2.5	Timber and natural wood, plastic, concrete. C & D waste uniform throughout.
Terminated at 2.5m below stockpile surface level due to collapse.						

Soil Bore No: TP24						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.5m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.5	Fill	SAND: Dark brown, fine to medium grained, poorly graded, homogenous	Y Y	N N	0.8-1.0 1.4-1.5	Timber and natural wood, plastic, concrete. C & D waste uniform throughout. Orange lense of sand on eastern wall – sample retrieved at 1.4 – 1.5mbtos.
Terminated at 2.5m below stockpile surface level due to collapse.						

Soil Bore No: TP25						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.5m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.5	Fill	SAND: Dark brown, fine to medium grained, poorly graded, homogenous	Y Y	N Y	0-0.1 0.4-0.5	Timber and natural wood, plastic, cloth, concrete. C & D waste uniform throughout. 1 x bonded fibre cement PACM fragment found at 0.4 – 0.5 2cm X 2cm bonded and in good condition.
Terminated at 2.5m below stockpile surface level due to collapse.						

Soil Bore No: TP26						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.5m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-1.5	Fill	SAND: Dark brown, fine to medium grained, poorly graded, homogenous	Y Y	N N	0.8-1.0 1.4-1.5	Timber and natural wood, plastic, cloth, concrete. C & D waste uniform throughout.
Terminated at 1.5m below stockpile surface level due to collapse.						

Soil Bore No: TP27

Client: Morton Property Trust	Date Commenced: 25/10/2023
Project: Low Stockpile Assessment	Date Completed: 25/10/2023
Location: 766 King Rd, Oldbury	Logged By: GP
Project Number: MSG2023-003	Checked By: BD
Excavation Co: Morton Property Trust	Excavation Method: Test Pitting
Operator: Jonnie Morton	Weather: Sunny
Water Strike if Any: NA	Total Depth of Hole:2.5m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.5	Fill	SAND: Dark brown, fine to medium grained, poorly graded, homogenous	Y Y	N N	1.5 – 2.0 2.4-2.5	Timber and natural wood, plastic, metal, cloth, concrete. C & D waste uniform throughout.

Terminated at 2.5m below stockpile surface level due to collapse.

Soil Bore No: TP28

Client: Morton Property Trust	Date Commenced: 25/10/2023
Project: Main Stockpile Assessment	Date Completed: 25/10/2023
Location: 766 King Rd, Oldbury	Logged By: GP
Project Number: MSG2023-003	Checked By: BD
Excavation Co: Morton Property Trust	Excavation Method: Test Pitting
Operator: Jonnie Morton	Weather: Sunny
Water Strike if Any: NA	Total Depth of Hole: 2.5m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.5	Fill	SAND: Dark brown, fine to medium grained, poorly graded, homogenous. Orange sand mixed throughout soil profile	Y Y	N N	0.0.1 0.4-0.5	Timber and natural wood, plastic, cloth, concrete. C & D waste uniform throughout.

Terminated at 2.5m below stockpile surface level due to collapse.

Soil Bore No: TP29

Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003	Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA	Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.5m below the surface of the stockpile.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-2.5	Fill	SAND: Dark brown-grey, fine to medium grained, poorly graded, homogenous.	Y Y	N N	0.8-1.0 1.4-1.5	Timber and natural wood, plastic, cloth, concrete. C & D waste uniform throughout.

Terminated at 2.5m below stockpile surface level due to collapse.

Soil Bore No: TP30						
Client: Morton Property Trust Project: Main Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2023-003					Date Commenced: 25/10/2023 Date Completed: 25/10/2023 Logged By: GP Checked By: BD	
Excavation Co: Morton Property Trust Operator: Jonnie Morton Water Strike if Any: NA					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 2.5m below the surface of the stockpile.	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-2.5	Fill	SAND: Dark brown, fine to medium grained, poorly graded, homogenous.	Y Y	N N	0.8-1.0 2.4-2.5	Timber and natural wood, plastic, cloth, concrete. C & D waste uniform throughout.

Attachment 2 – Test Pit Logs

Disclaimer:

Aurora Environmental has described soils with reference to AS1726:2017, consistent with requirements of the National Environmental Protection (Assessment of Site Contamination) Measure. Aurora Environmental does not provide geotechnical assessment or engineering advice and the soil descriptions should not be relied upon for these purposes in any form.

Attachment 3

Tabulated Analytical Results

Table 1
Analytical Results - Heavy Metal Results
766 King Road, Oldbury

		Metals								
						mg/kg				
EQL		2	0.1	1	1	1	1	0.02	1	5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind		160	NE	310	NE	85	1,800	NE	55	210
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		3,000	900	NE	3600	240,000	1,500	730	6,000	400,000
Field ID	Date									
TP01_1.8-1.9	24-Oct-23	8.7	0.40	17	-	18	55	0.12	3	260
TP02_0.4-0.5	24-Oct-23	3.60	0.10	7.4	-	9.1	22	0.05	1.8	83
TP03_1.4-1.5	24-Oct-23	5.10	<0.1	8.7	-	10	26	0.06	2.1	150
TP04_0.0-0.1	24-Oct-23	3.70	0.10	9	-	7.9	23	0.06	1.80	330
TP04_1.4-1.5	24-Oct-23	3.60	0.10	7.6	-	9.5	20	0.07	1.4	330
TP05_1.8-2.0	24-Oct-23	2.20	<0.1	5.3	-	8.3	18	0.05	1.3	160
TP05_0-0.1	24-Oct-23	2.90	<0.1	6.6	-	8.2	23	0.05	1.8	7.1
TP06_0.4-0.5	24-Oct-23	3.1	<0.1	8.8	-	3.8	15	0.04	<1	150
TP06_2.4-2.5	25-Oct-23	2.60	0.20	6.6	-	8.8	34	0.09	1.5	130
TP07_0.8-1.0	24-Oct-23	2.3	<0.1	8.7	-	20	12	0.05	2	49
TP07_2.9-3.0	24-Oct-23	2.8	<0.1	5.1	-	15	14	0.06	1.3	47
TP08_0-0.1	24-Oct-23	3.7	<0.1	9.50	-	2.20	3.10	0.03	1.10	8.3
TP08_0.4-0.5	24-Oct-23	4.60	<0.1	11	-	2.7	3.7	0.03	<1	11
TP09_0.8-1.0	24-Oct-23	4	<0.1	8.4	-	2.3	3.5	0.03	<1	10
TP10_1.4-1.5	24-Oct-23	20	<0.1	22	-	15	13	0.03	1.8	43
TP11_1.8-2.0	24-Oct-23	32	0.20	30	-	17	28	0.07	4.2	110
TP10_1.4-1.5	25-Oct-23	2.3	<0.1	6.4	-	9.8	34	0.04	1.2	100
TP12_0.0-0.1	24-Oct-23	23	0.20	28	-	26	23	0.09	4.5	110
TP12_1.4-1.5	24-Oct-23	30	0.20	33	-	48	43	0.08	11	160
TP13_0.0-0.1	24-Oct-23	3	0.10	7.20	-	9.3	29	0.05	1	160
TP13_0.4-0.5	24-Oct-23	3.8	1.60	8.6	-	9.5	27	0.09	1.7	150
TP14_0.8-1.0	24-Oct-23	2.4	0.20	6.4	-	9.5	38	0.09	1.3	230
TP15_1.4-1.5	24-Oct-23	3.2	0.10	7.1	-	8.7	77	0.06	1.2	210
TP15_2.8-3.0	24-Oct-23	3.2	<0.1	7.6	-	9.6	18	0.04	1.3	88
TP16_0-0.1	25-Oct-23	6.20	0.10	8.3	-	11	26	0.06	1.5	120
TP17_0.4-0.5	25-Oct-23	3.60	0.10	7.8	-	9.9	19	0.05	1.9	130
TP17_0.8-1.0	25-Oct-23	2.90	0.10	6	-	7.3	20	0.05	2.4	98
TP18_1.4-1.5	25-Oct-23	4.30	<0.1	6.3	-	6.7	26	0.06	1.3	160
TP19_1.8-2.0	25-Oct-23	3.30	<0.1	6.8	-	7.3	30	0.06	1.5	170
TP19_2.4-2.5	25-Oct-23	4.5	0.1	9.4	-	11	36	0.09	2.1	240
TP20_0-0.1	25-Oct-23	9.5	0.2	12	-	13	36	0.07	1.8	480
TP21_0.4-0.5	25-Oct-23	3.1	0.2	9.1	-	9.80	25	0.07	1.8	340
TP22_0-0.1	25-Oct-23	3.5	1.8	12	-	24	80	0.07	5.2	850
TP23_0.4-0.5	25-Oct-23	2.7	0.2	6.4	-	8.4	32	0.05	1.3	270
TP23_2.4-2.5	25-Oct-23	3.8	<0.1	7.4	-	8.6	29	0.05	2	73
TP24_0.8-1.0	25-Oct-23	3.4	<0.1	6.9	-	8.3	9.1	0.03	1.4	47
TP24_1.4-1.5	25-Oct-23	<2	<0.1	3.1	-	1.6	12	0.03	1.3	<5
TP25_0-0.1	25-Oct-23	4.1	0.2	6.7	-	9.8	65	0.05	1.6	120
TP25_0.4-0.5	25-Oct-23	3.6	0.1	8.1	-	10	29	0.05	1.6	110
TP26_0.8-1.0	25-Oct-23	4.9	0.3	3.6	-	11	28	0.05	2.2	220
TP27_1.5-2.0	25-Oct-23	280	0.1	490	<1	140	11	0.1	2.7	47
TP27_2.4-2.5	25-Oct-23	52	<0.1	50	-	35	8.4	0.05	2.3	31
TP28_0.0-0.1	25-Oct-23	44	0.1	49	-	39	12	0.05	4.2	45
TP28_0.4-0.5	25-Oct-23	72	0.1	84	-	51	19	0.1	3.8	71
TP29_0.8-1.0	25-Oct-23	14	<0.1	23	-	12	12	0.04	2.3	48
TP29_1.4-1.5	25-Oct-23	5.6	<0.1	8.5	-	6.8	13	0.04	1.5	47
TP30_2.4-2.5	25-Oct-23	4.4	<0.1	8.2	-	2.8	3.4	0.03	<1	14
QC01	25-Oct-23	2.4	<0.1	3.8	-	4.4	12	0.05	<1	100
TP16_0-0.1	25-Oct-23	6.20	0.10	8.3	-	11	26	0.06	1.5	120
RPD %	-	88.4%	NC	74.4%	-	85.7%	73.7%	18.2%	NC	18.2%
QC02	25-Oct-23	3.2	<0.1	5.6	-	5.1	14	0.04	<1	120
TP20_0-0.1	25-Oct-23	9.5	0.2	12	-	13	36	0.07	1.8	480
RPD %	-	99.3%	NC	73.7%	-	87.3%	88.9%	54.5%	NC	120.0%
QC03	25-Oct-23	3.7	<0.1	15	-	3.5	3.5	0.02	1.7	11
TP30_2.4-2.5	25-Oct-23	4.4	<0.1	8.2	-	2.8	3.4	0.03	<1	14
RPD %	-	25.7%	NC	45.3%	-	33.8%	3.0%	40.0%	NC	24.0%

References:

1. Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (NEPC, 1999).

Notes and Abbreviations:

LOR - limit of Reporting
mg/kg - milligram per kilogram
EIL - Ecological Investigation Level
NE - Not Established
HIL - Health Investigation Level
ID - Identification
NA - Not Applicable
NC - Not Calculatable

Table 2
Analytical Results - Petroleum Hydrocarbons
766 Illing Road, Oldbury

		BTEXN							TRH			
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
HSL		0.5	0.1	0.1	0.3	0.2	0.1	3	20	50	<100	<100
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand - >=0m, <1m		NL	3	NL	NL	NL	NL	230	260	NL	NL	NL
NEPM 2013 Table 3B(1) Generic ESL - Comm/Ind		370	NC	NE	NE	NE	NE	NC	NC	NE	NE	NE
NEPM 2013 Table 3B(6) DSLs for Comm/Ind, Coarse Soil - >=0m, <1m		NC	75	105	135	NC	NC	180	215	170	2,700	3,500
Field ID	Date											
TP01_0.8-1.0	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP02_0.4-0.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP03_1.4-1.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP04_0.6-0.1	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP04_1.4-1.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP05_1.8-2.0	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP05_0-0.1	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP06_0.4-0.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP06_2.4-2.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP07_0.8-1.0	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP07_2.5-3.0	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP08_0-0.1	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP08_0.4-0.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP09_0.8-1.0	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP10_1.4-1.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	170	<100
TP11_1.8-2.0	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	310	<100
TP12_0.4-0.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP12_0.0-0.1	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	380	380
TP13_1.4-1.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	480	390
TP13_0.0-0.1	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	130	<100
TP14_0.4-0.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP14_0.8-1.0	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP15_1.4-1.5	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	110	<100
TP15_2.8-3.0	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	170	<100
TP16_0-0.1	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	100	<100
TP17_0.4-0.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	130	<100
TP17_0.8-1.0	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	130	<100
TP18_1.4-1.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	170	<100
TP18_2.8-3.0	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP19_2.4-2.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP20_0-0.1	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP21_0.4-0.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP22_0-0.1	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	140	<100
TP23_0.4-0.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP23_2.4-2.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP24_0.8-1.0	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP24_1.4-1.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
TP25_0-0.1	24-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	170	310
TP25_0.4-0.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	140	<100
TP26_0.8-1.0	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	110	<100
TP27_1.5-2.0	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	200	320
TP27_2.4-2.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	190	<100
TP28_0.0-0.1	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	100	<100
TP28_0.4-0.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	230	320
TP29_0.8-1.0	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	160	320
TP29_1.4-1.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	140	<100
TP30_2.4-2.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<230	<100
QC01	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	180	<320
TP16_0-0.1	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	130	<320
RPD %	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	24.3%	NC
QC02	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	120	<320
TP20_0-0.1	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<100	<100
RPD %	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QC03	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<100	<320
TP30_2.4-2.5	25-Oct-22	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<50	<100	<320
RPD %	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

1. Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (NEPC, 1999).

Notes and Abbreviations:

EQL - Limit of Reporting
mg/kg - milligram per kilogram
ESL - Ecological Screening Level
HSL - Health Screening Level
BTEXN - Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene
TRH - Total Recoverable Hydrocarbons
NC - Not Calculatable
NE - Not Established
NL - Not Limiting

Table 3
Analytical Results - Organochlorine Pesticides
766 King Road, Oldbury

		Organochlorine Pesticides																							
EQL		0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
NEPM 2013 Table 1(NEI) Generic EIL - Comm/Ind		NE	NE	NE	640	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		130	NL	NL	NL	NL	5	NL	NL	NL	2000	2000	NL	120	NL	NL	NL	NL	50	NL	NL	2,500	170	45	2,600
Field ID	Date																								
TP01_1.8-1.9	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.33**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.33**	<0.05
TP02_0.4-0.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP03_1.4-1.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.48**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.48**	<0.05
TP04_0.0-0.1	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.57**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.57**	<0.05
TP04_1.4-1.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.47**	**0.53**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.47**	<0.05
TP05_1.8-2.0	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.58**	**0.85**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.58**	<0.05
TP06_0-0.1	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.55**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP06_0.4-0.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP06_2.4-2.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP07_0.8-1.0	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP07_2.9-3.0	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP08_0-0.1	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP08_0.4-0.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP09_0.8-1.0	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP10_1.4-1.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP11_1.8-2.0	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP11_0.4-0.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.43**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP12_0.0-0.1	24-Oct-23	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP12_1.4-1.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP13_0.0-0.1	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.32**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP13_0.4-0.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.39**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP14_0.8-1.0	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP15_1.4-1.5	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.52**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP15_2.8-3.0	24-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.68**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP16_0-0.1	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP17_0.4-0.5	25-Oct-23	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP17_0.8-1.0	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP18_1.4-1.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP18_1.8-2.0	25-Oct-23	**0.40**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.47**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP19_2.4-2.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.47**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP20_0-0.1	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP21_0.4-0.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP22_0-0.1	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP23_0.4-0.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP23_2.4-2.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP24_0.8-1.0	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP26_1.4-1.5	26-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP25_0-0.1	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP25_0.4-0.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP26_0.8-1.0	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.5**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP27_1.5-2.0	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP27_2.4-2.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP28_0.0-0.1	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP28_0.4-0.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP29_0.8-1.0	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP29_1.4-1.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP30_2.4-2.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QC01	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP16_0-0.1	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RPD %	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QC02	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP20_0-0.1	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RPD %	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QC03	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP30_2.4-2.5	25-Oct-23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RPD %	-	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

References:
1. Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (NEPC, 2013)

Notes and Abbreviations:
LOR - limit of Reporting
mg/kg - milligram per kilogram
EIL - Ecological Investigation Level
NC - Not Calculatable
HIL - Health Investigation Level
ID - Identification
NE - Not Established
RPD - Relative Percentage Difference
NA - Not Analysed

Attachment 4

Laboratory Reports

CHAIN OF CUSTODY

Dilhorn House, 2 Bulwer St, Perth WA 600
T: (08) 9227 2600 F: (08) 9227 2699

Aurora environmental

Job ID: MSG2023-003

[redacted]

[redacted]

Results Required Date: Standard Turnaround

Lab / Lab Quote No.:

Purchase Order No.: -

COMMENTS:

Lab Sample ID	Aurora Sample ID	type	Date	container	OCPs (OW3)	TRH, BTEX-N (DW1, SG)	Heavy metals (MW2)	Asbestos ID	Notes/LOR/ Special Requests
	TP01_1.8-1.9	Soil	24-Oct-23	Jar	x	x	x		1038509
	TP02_0.4-0.5	Soil	24-Oct-23	Jar	x	x	x		
	TP03_1.4-1.5	Soil	24-Oct-23	Jar	x	x	x		
	TP04_0.0-0.1	Soil	24-Oct-23	Jar	x	x	x		
	TP04_1.4-1.5	Soil	24-Oct-23	Jar	x	x	x		
	TP05_1.8-2.0	Soil	24-Oct-23	Jar	x	x	x		
	TP05_0-0.1	Soil	24-Oct-23	Jar	x	x	x		
	TP06_0.4-0.5	Soil	24-Oct-23	Jar	x	x	x		
	TP06_2.4-2.5	Soil	25-Oct-23	Jar	x	x	x		
	TP07_0.8-1.0	Soil	24-Oct-23	Jar	x	x	x		
	TP07_2.9-3.0	Soil	24-Oct-23	Jar	x	x	x		
	TP08_0-0.1	Soil	24-Oct-23	Jar	x	x	x		
	TP08_0.4-0.5	Soil	24-Oct-23	Jar	x	x	x		
	TP09_0.8--1.0	Soil	24-Oct-23	Jar	x	x	x		
	TP10_1.4-1.5	Soil	24-Oct-23	Jar	x	x	x	x	
	TP11_1.8-2.0	Soil	24-Oct-23	Jar	x	x	x		
	TP11_0.4-0.5	Soil	25-Oct-23	Jar	x	x	x		
	TP12_0.0-0.1	Soil	24-Oct-23	Jar	x	x	x		
	TP12_1.4-1.5	Soil	24-Oct-23	Jar	x	x	x		
	TP13_0.0-0.1	Soil	24-Oct-23	Jar	x	x	x		
	TP13_0.4-0.5	Soil	24-Oct-23	Jar	x	x	x		
	TP14_0.8-1.0	Soil	24-Oct-23	Jar	x	x	x		
	TP15_1.4-1.5	Soil	24-Oct-23	Jar	x	x	x		
	TP15_2.8-3.0	Soil	24-Oct-23	Jar	x		x		

Relinquished by: [redacted] Date: 25/10/2023 Received by: Date: 26/10/23

Sample Condition Upon Receipt:

CHAIN OF CUSTODY

Dilhorn House, 2 Bulwer St, Perth WA 600
T: (08) 9227 2600 F: (08) 9227 2699

Aurora environmental ASSESS · ADVISE · APPLY

Job ID: MSG2023-003

[redacted]

Results Required Date: Standard Turnaround

Lab / Lab Quote No.:

Purchase Order No.: -

COMMENTS:

Lab Sample ID	Aurora Sample ID	type	Date	container	OCPs (OW3)	TRH, BTEX N (OW1-SG)	Heavy metals (MW2)	Abestos ID	Notes/LOR/ Special Requests
	TP16_0-0.1	Soil	25-Oct-23	Jar	x	x	x		
	TP17_0.4-0.5	Soil	25-Oct-23	Jar	x	x	x		
	TP17_0.8-1.0	Soil	25-Oct-23	Jar	x	x	x		
	TP18_1.4-1.5	Soil	25-Oct-23	Jar	x	x	x		
	TP19_1.8-2.0	Soil	25-Oct-23	Jar	x	x	x		
	TP19_2.4-2.5	Soil	25-Oct-23	Jar	x	x	x		
	TP20_0-0.1	Soil	25-Oct-23	Jar	x	x	x		
	TP21_0.4-.5	Soil	25-Oct-23	Jar	x	x	x		
	TP21_0.8-1.0	Soil	25-Oct-23	Jar	x	x	x		
	TP22_0-0.1	Soil	25-Oct-23	Jar	x	x	x		
	TP23_0.4-0.5	Soil	25-Oct-23	Jar	x	x	x		
	TP23_2.4-2.5	Soil	25-Oct-23	Jar	x	x	x		
	TP25_0-0.1	Soil	25-Oct-23	Jar	x	x	x		
	TP25_0.4-0.5	Soil	25-Oct-23	Jar	x	x	x	x	
	TP26_0.8-1.0	Soil	25-Oct-23	Jar	x	x	x		
	TP26_1.4-1.5	Soil	25-Oct-23	Jar	x	x	x		
	TP27_1.5-2.0	Soil	25-Oct-23	Jar	x	x	x		
	TP27_2.4-2.5	Soil	25-Oct-23	Jar	x	x	x		
	TP28_0.0-0.1	Soil	25-Oct-23	Jar	x	x	x		
	TP28_0.4-0.5	Soil	25-Oct-23	Jar	x	x	x		
	TP29_0.8-1.0	Soil	25-Oct-23	Jar	x	x	x		
	[redacted]		25-Oct-23	Jar	x		x		

Relinquished by: [redacted] Date: 25/10/2023 Received by: Date:

Sample Condition Up

CHAIN OF CUSTODY

Dilhorn House, 2 Bulwer St, Perth WA 600
T: (08) 9227 2600 F: (08) 9227 2699

Aurora environmental

Sheet 1 of 1

Job ID: MSC2023-003

[redacted]

Results Required Date: Standard Turnaround

Lab / Lab Quote No.:

Purchase Order No.: -

COMMENTS:

Lab Sample ID	Aurora Sample ID	type	Date	container	OCPs (OW3)	TRH, BTEX-N (OW1 SG)	Heavy metals (MW2)	Asbestos ID	Notes/LOR/ Special Requests
	TP30_2.4-2.5	Soil	25-Oct-23	Jar	x	x	x		
	QC01	Soil	25-Oct-23	Jar	x	x	x		
	QC02	Soil	25-Oct-23	Jar	x	x	x		
	QC03	Soil	25-Oct-23	Jar	x	x	x		

Relinquish[redacted]
Sample Co

Date: 25/10/2023 Received by: Date:

AURORA E
Authorise
Revision D

PRF-7/ Version 1

Page 2/3

uncontrolled when printed

Re: Eurofins Sample Receipt Advice - Report 1038509 : Site MSG2023-003

[redacted]

Thu 10/26/2023 9:48 PM

[redacted]

Hi,

Please hold analysis of TP21_0.8-1.0 and TP26_1.4-1.5 and analyse samples TP24_0.8-1.0 and TP24_1.4-1.5.

Thanks,

Get Outlook for iOS

From: envirosamplewa@eurofins.com <envirosamplewa@eurofins.com>
Sent: Thursday, October 26, 2023 4:07:37 PM
To: geri.pethebridge <geri.pethebridge@auroraenvironmental.com.au>
Cc: brad.dermody <brad.dermody@auroraenvironmental.com.au>
Subject: Eurofins Sample Receipt Advice - Report 1038509 : Site MSG2023-003

Attention
Extra samples: TP24_0.8-1.0 and TP24_1.4-1.5. Please advise

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Certificate of Analysis

Aurora Environmental (Perth) P/L
Dilhorn House 2 Bulwer St
Perth
WA 6000

NATA Accredited
Accreditation Number 2377
Site Number 2370

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

Attention:	[redacted]
Report	1038509-AID
Project Name	
Project ID	MSG2023-003
Received Date	Oct 26, 2023
Date Reported	Nov 01, 2023

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

eurofins | ARL

Project Name
Project ID MSG2023-003
Date Sampled Oct 25, 2023
Report 1038509-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP10_1.4-1.5	23-Oc0063822	Oct 25, 2023	Approximate Sample 12g / 60x30x4mm Sample consisted of: Grey layered fibre cement	No asbestos detected. Organic fibre detected. No trace asbestos detected.
TP25_0.4-0.5	23-Oc0063823	Oct 25, 2023	Approximate Sample 8g / 40x35x4mm Sample consisted of: Grey compressed fibre cement	No asbestos detected. Organic fibre detected. No trace asbestos detected.

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Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Welshpool	Oct 26, 2023	Indefinite

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Company Name: Aurora Environmental (Perth) P/L
Address: Dilhorn House 2 Bulwer St
Perth
WA 6000

Project Name:
Project ID: MSG2023-003

Order No.:
Report #: 1038509
Phone: 08 9227 2600
Fax: 08 9227 2699

Received: Oct 26, 2023 12:00 PM
Due: Nov 1, 2023
Priority: 4 Day
Contact Name: Geri Pethebridge

Eurofins Analytical Services Manager : Natalie Hill

Sample Detail

Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	TP01_1.8-1.9	Oct 24, 2023		Soil	L23-Oc0063462			X	X	X	X
2	TP02_0.4-0.5	Oct 24, 2023		Soil	L23-Oc0063463			X	X	X	X
3	TP03_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063464			X	X	X	X
4	TP04_0.0-0.1	Oct 24, 2023		Soil	L23-Oc0063465			X	X	X	X
5	TP04_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063466			X	X	X	X
6	TP05_1.8-2.0	Oct 24, 2023		Soil	L23-Oc0063467			X	X	X	X
7	TP05_0-0.1	Oct 24, 2023		Soil	L23-Oc0063468			X	X	X	X
8	TP06_0.4-0.5	Oct 24, 2023		Soil	L23-Oc0063469			X	X	X	X
9	TP06_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063470			X	X	X	X
10	TP07_0.8-1.0	Oct 24, 2023		Soil	L23-Oc0063471			X	X	X	X
11	TP07_2.9-3.0	Oct 24, 2023		Soil	L23-Oc0063472			X	X	X	X
12	TP08_0-0.1	Oct 24, 2023		Soil	L23-Oc0063473			X	X	X	X
13	TP08_0.4-0.5	Oct 24, 2023		Soil	L23-Oc0063474			X	X	X	X

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Company Name: Aurora Environmental (Perth) P/L
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Perth
WA 6000

Project Name:
Project ID: MSG2023-003

Order No.:
Report #: 1038509
Phone: 08 9227 2600
Fax: 08 9227 2699

Received: Oct 26, 2023 12:00 PM
Due: Nov 1, 2023
Priority: 4 Day
Contact Name: Geri Pethebridge

Eurofins Analytical Services Manager : Natalie Hill

Sample Detail

Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X	X	X
External Laboratory												
14	TP09_0.8-1.0	Oct 24, 2023		Soil	L23-Oc0063475			X	X	X	X
15	TP10_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063476			X	X	X	X
16	TP11_1.8-2.0	Oct 24, 2023		Soil	L23-Oc0063477			X	X	X	X
17	TP11_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063478			X	X	X	X
18	TP12_0.0-0.1	Oct 24, 2023		Soil	L23-Oc0063479			X	X	X	X
19	TP12_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063480			X	X	X	X
20	TP13_0.0-0.1	Oct 24, 2023		Soil	L23-Oc0063481			X	X	X	X
21	TP13_0.4-0.5	Oct 24, 2023		Soil	L23-Oc0063482			X	X	X	X
22	TP14_0.8-1.0	Oct 24, 2023		Soil	L23-Oc0063483			X	X	X	X
23	TP15_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063484			X	X	X	X
24	TP15_2.8-3.0	Oct 24, 2023		Soil	L23-Oc0063485			X	X	X	X
25	TP16_0-0.1	Oct 25, 2023		Soil	L23-Oc0063486			X	X	X	X
26	TP17_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063487			X	X	X	X
27	TP17_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063488			X	X	X	X
28	TP18_1.4-1.5	Oct 25, 2023		Soil	L23-Oc0063489			X	X	X	X

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Company Name: Aurora Environmental (Perth) P/L
Address: Dilhorn House 2 Bulwer St
Perth
WA 6000

Project Name:
Project ID: MSG2023-003

Order No.:
Report #: 1038509
Phone: 08 9227 2600
Fax: 08 9227 2699

Received: Oct 26, 2023 12:00 PM
Due: Nov 1, 2023
Priority: 4 Day
Contact Name: Geri Pethebridge

Eurofins Analytical Services Manager : Natalie Hill

Sample Detail

Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X	X	X
External Laboratory												
29	TP19_1.8-2.0	Oct 25, 2023		Soil	L23-Oc0063490			X	X	X	X
30	TP19_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063491			X	X	X	X
31	TP20_0-0.1	Oct 25, 2023		Soil	L23-Oc0063492			X	X	X	X
32	TP21_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063493			X	X	X	X
33	TP21_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063494		X				
34	TP22_0-0.1	Oct 25, 2023		Soil	L23-Oc0063495			X	X	X	X
35	TP23_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063496			X	X	X	X
36	TP23_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063497			X	X	X	X
37	TP25_0-0.1	Oct 25, 2023		Soil	L23-Oc0063498			X	X	X	X
38	TP25_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063499			X	X	X	X
39	TP26_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063500			X	X	X	X
40	TP26_1.4-1.5	Oct 25, 2023		Soil	L23-Oc0063501		X				
41	TP27_1.5-2.0	Oct 25, 2023		Soil	L23-Oc0063502			X	X	X	X
42	TP27_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063503			X	X	X	X
43	TP28_0.0-0.1	Oct 25, 2023		Soil	L23-Oc0063504			X	X	X	X

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Received: Oct 26, 2023 12:00 PM
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Priority: 4 Day
Contact Name: Geri Pethebridge

Eurofins Analytical Services Manager : Natalie Hill

Sample Detail

Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X	X	X
External Laboratory											
44	TP28_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063505			X	X	X	X
45	TP29_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063506			X	X	X	X
46	TP29_1.4-1.5	Oct 25, 2023		Soil	L23-Oc0063507			X	X	X	X
47	TP30_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063508			X	X	X	X
48	QC01	Oct 25, 2023		Soil	L23-Oc0063509			X	X	X	X
49	QC02	Oct 25, 2023		Soil	L23-Oc0063510			X	X	X	X
50	QC03	Oct 25, 2023		Soil	L23-Oc0063511			X	X	X	X
51	TP24_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063512			X	X	X	X
52	TP24_1.4-1.5	Oct 25, 2023		Soil	L23-Oc0063513			X	X	X	X
53	TP10_1.4-1.5	Oct 25, 2023		Building Materials	L23-Oc0063822	X					
54	TP25_0.4-0.5	Oct 25, 2023		Building Materials	L23-Oc0063823	X					
Test Counts						2	2	50	50	50	50

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

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

Calculations

Airborne Fibre Concentration: $= (\_) \times (\_) \times (\_) \times (\_) = \quad \times (\_) \times (\_)$

Asbestos Content (as asbestos): $\% \ / \ = \frac{(\_ \times \_)}{\_}$

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

Terms

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

Comments

Sample Integrity

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

Asbestos Counter/Identifier:

[redacted] Senior Analyst-Asbestos

Authorised by:

[redacted] Senior Analyst-Asbestos

[redacted]

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request

Aurora Environmental (Perth) P/L
Dilhorn House 2 Bulwer St
Perth
WA 6000

NATA Accredited
Accreditation Number 2377
Site Number 2370

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

Attention: [redacted]

Report **1038509-S-V2**
Project name
Project ID MSG2023-003
Received Date Oct 26, 2023

Client Sample ID			TP01_1.8-1.9	TP02_0.4-0.5	TP03_1.4-1.5	TP04_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063462	L23-Oc0063463	L23-Oc0063464	L23-Oc0063465
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	51	52	69
TRH C29-C36	50	mg/kg	70	63	68	90
TRH C10-C36 (Total)	50	mg/kg	70	114	120	159
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	87	86	85	89
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.33	< 0.05	0.48	0.57
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP01_1.8-1.9	TP02_0.4-0.5	TP03_1.4-1.5	TP04_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063462	L23-Oc0063463	L23-Oc0063464	L23-Oc0063465
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	0.33	< 0.05	0.48	0.57
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.33	< 0.1	0.48	0.57
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	66	70	77	121
Tetrachloro-m-xylene (surr.)	1	%	74	68	62	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	130
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	130
Heavy Metals						
Arsenic	2	mg/kg	8.7	3.6	5.1	3.7
Cadmium	0.1	mg/kg	0.4	0.1	< 0.1	0.1
Chromium	1	mg/kg	17	7.4	8.7	9.0
Copper	1	mg/kg	18	9.1	10.0	7.9
Lead	1	mg/kg	55	22	26	23
Mercury	0.02	mg/kg	0.12	0.05	0.06	0.06
Nickel	1	mg/kg	3.0	1.8	2.1	1.8
Zinc	5	mg/kg	260	83	150	330
Sample Properties						
% Moisture	1	%	6.4	4.2	7.3	7.6

Client Sample ID			TP04_1.4-1.5	TP05_1.8-2.0	TP05_0-0.1	TP06_0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063466	L23-Oc0063467	L23-Oc0063468	L23-Oc0063469
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3

Client Sample ID			TP04_1.4-1.5	TP05_1.8-2.0	TP05_0-0.1	TP06_0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063466	L23-Oc0063467	L23-Oc0063468	L23-Oc0063469
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
BTEX						
4-Bromofluorobenzene (surr.)	1	%	84	82	86	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.53	0.35	0.35	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	0.53	0.35	0.35	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.53	0.35	0.35	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	94	104	83	74
Tetrachloro-m-xylene (surr.)	1	%	78	85	91	98
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	3.6	2.2	2.9	3.1
Cadmium	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Chromium	1	mg/kg	7.6	5.3	6.6	8.8
Copper	1	mg/kg	9.5	8.3	8.2	3.8
Lead	1	mg/kg	20	18	23	15
Mercury	0.02	mg/kg	0.07	0.05	0.05	0.04
Nickel	1	mg/kg	1.4	1.3	1.8	< 1
Zinc	5	mg/kg	330	160	71	150

Client Sample ID			TP04_1.4-1.5	TP05_1.8-2.0	TP05_0-0.1	TP06_0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063466	L23-Oc0063467	L23-Oc0063468	L23-Oc0063469
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Sample Properties						
% Moisture	1	%	8.5	6.4	3.7	4.9

Client Sample ID			TP06_2.4-2.5	TP07_0.8-1.0	TP07_2.9-3.0	TP08_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063470	L23-Oc0063471	L23-Oc0063472	L23-Oc0063473
Date Sampled			Oct 25, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	53	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	53	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	84	89	86	90
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.47	< 0.05	0.68	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP06_2.4-2.5	TP07_0.8-1.0	TP07_2.9-3.0	TP08_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063470	L23-Oc0063471	L23-Oc0063472	L23-Oc0063473
Date Sampled			Oct 25, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	0.47	< 0.05	0.68	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.47	< 0.1	0.68	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	90	78	99	101
Tetrachloro-m-xylene (surr.)	1	%	93	83	90	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	2.6	2.3	2.8	3.7
Cadmium	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1
Chromium	1	mg/kg	6.6	8.7	5.1	9.5
Copper	1	mg/kg	8.8	20	15	2.2
Lead	1	mg/kg	34	12	14	3.1
Mercury	0.02	mg/kg	0.09	0.05	0.06	0.03
Nickel	1	mg/kg	1.5	2.0	1.3	1.1
Zinc	5	mg/kg	130	49	47	8.3
Sample Properties						
% Moisture	1	%	4.3	6.0	11	1.4

Client Sample ID			TP08_0.4-0.5	TP09_0.8-1.0	TP10_1.4-1.5	TP11_1.8-2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063474	L23-Oc0063475	L23-Oc0063476	L23-Oc0063477
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	54	110
TRH C29-C36	50	mg/kg	< 50	< 50	98	140
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	152	250
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	88	88	76	83

Client Sample ID			TP08_0.4-0.5	TP09_0.8-1.0	TP10_1.4-1.5	TP11_1.8-2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063474	L23-Oc0063475	L23-Oc0063476	L23-Oc0063477
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	88	66	68	90
Tetrachloro-m-xylene (surr.)	1	%	80	75	81	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	120	210
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	120	210
Heavy Metals						
Arsenic	2	mg/kg	4.6	4.0	20	32
Cadmium	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2
Chromium	1	mg/kg	11	8.4	22	30
Copper	1	mg/kg	2.7	2.3	15	17
Lead	1	mg/kg	3.7	3.5	13	28
Mercury	0.02	mg/kg	0.03	0.03	0.03	0.07
Nickel	1	mg/kg	< 1	< 1	1.8	4.2
Zinc	5	mg/kg	11	10	43	110
Sample Properties						
% Moisture	1	%	1.7	3.2	3.5	11

Client Sample ID			TP11_0.4-0.5	TP12_0.0-0.1	TP12_1.4-1.5	TP13_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063478	L23-Oc0063479	L23-Oc0063480	L23-Oc0063481
Date Sampled			Oct 25, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	190	220	< 50
TRH C29-C36	50	mg/kg	< 50	260	330	92
TRH C10-C36 (Total)	50	mg/kg	< 50	450	550	92
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	71	73	96	86
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.43	< 0.05	< 0.05	0.32
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	0.43	< 0.05	< 0.05	0.32
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.43	< 0.1	< 0.1	0.32
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	97	113	86	82
Tetrachloro-m-xylene (surr.)	1	%	75	79	87	63

Client Sample ID			TP11_0.4-0.5	TP12_0.0-0.1	TP12_1.4-1.5	TP13_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063478	L23-Oc0063479	L23-Oc0063480	L23-Oc0063481
Date Sampled			Oct 25, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	380	480	120
TRH >C34-C40	100	mg/kg	< 100	160	190	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	540	670	120
Heavy Metals						
Arsenic	2	mg/kg	2.3	23	30	3.0
Cadmium	0.1	mg/kg	< 0.1	0.2	0.2	0.1
Chromium	1	mg/kg	6.4	28	33	7.2
Copper	1	mg/kg	9.8	26	48	9.3
Lead	1	mg/kg	34	23	43	29
Mercury	0.02	mg/kg	0.04	0.09	0.08	0.05
Nickel	1	mg/kg	1.2	4.5	11	1.6
Zinc	5	mg/kg	100	110	160	160
Sample Properties						
% Moisture	1	%	4.0	51	43	5.2

Client Sample ID			TP13_0.4-0.5	TP14_0.8-1.0	TP15_1.4-1.5	TP15_2.8-3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063482	L23-Oc0063483	L23-Oc0063484	L23-Oc0063485
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	53	66
TRH C29-C36	50	mg/kg	63	62	85	83
TRH C10-C36 (Total)	50	mg/kg	63	62	138	149
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	86	93	84	81
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP13_0.4-0.5	TP14_0.8-1.0	TP15_1.4-1.5	TP15_2.8-3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063482	L23-Oc0063483	L23-Oc0063484	L23-Oc0063485
Date Sampled			Oct 24, 2023	Oct 24, 2023	Oct 24, 2023	Oct 24, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.39	< 0.05	0.32	0.48
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	0.39	< 0.05	0.32	0.48
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.39	< 0.1	0.32	0.48
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	70	80	65	70
Tetrachloro-m-xylene (surr.)	1	%	72	67	83	65
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	110	120
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	110	120
Heavy Metals						
Arsenic	2	mg/kg	3.8	2.4	3.2	3.2
Cadmium	0.1	mg/kg	1.6	0.2	0.1	< 0.1
Chromium	1	mg/kg	8.6	6.4	7.1	7.6
Copper	1	mg/kg	9.5	9.5	8.7	9.6
Lead	1	mg/kg	27	38	77	18
Mercury	0.02	mg/kg	0.09	0.09	0.06	0.04
Nickel	1	mg/kg	1.7	1.3	1.2	1.3
Zinc	5	mg/kg	150	230	210	88
Sample Properties						
% Moisture	1	%	5.7	4.8	6.8	5.2

Client Sample ID			TP16_0-0.1	TP17_0.4-0.5	TP17_0.8-1.0	TP18_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063486	L23-Oc0063487	L23-Oc0063488	L23-Oc0063489
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	72	58	80
TRH C29-C36	50	mg/kg	73	82	96	110
TRH C10-C36 (Total)	50	mg/kg	73	154	154	190
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	88	93	87	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	72	92	87	90
Tetrachloro-m-xylene (surr.)	1	%	75	79	89	99

Client Sample ID			TP16_0-0.1	TP17_0.4-0.5	TP17_0.8-1.0	TP18_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063486	L23-Oc0063487	L23-Oc0063488	L23-Oc0063489
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	100	130	130	170
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	100	130	130	170
Heavy Metals						
Arsenic	2	mg/kg	6.2	3.6	2.9	4.3
Cadmium	0.1	mg/kg	0.1	0.1	0.1	< 0.1
Chromium	1	mg/kg	8.3	7.8	6.0	6.3
Copper	1	mg/kg	11	9.9	7.3	6.7
Lead	1	mg/kg	26	19	20	26
Mercury	0.02	mg/kg	0.06	0.05	0.05	0.06
Nickel	1	mg/kg	1.5	1.9	2.4	1.3
Zinc	5	mg/kg	120	130	98	160
Sample Properties						
% Moisture	1	%	4.5	4.0	3.4	5.0

Client Sample ID			TP19_1.8-2.0	TP19_2.4-2.5	TP20_0-0.1	TP21_0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063490	L23-Oc0063491	L23-Oc0063492	L23-Oc0063493
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	62	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	95	< 50	< 50	62
TRH C10-C36 (Total)	50	mg/kg	157	< 50	< 50	62
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	91	87	88	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	0.4	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP19_1.8-2.0	TP19_2.4-2.5	TP20_0-0.1	TP21_0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063490	L23-Oc0063491	L23-Oc0063492	L23-Oc0063493
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.47	0.47	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	0.47	0.47	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.87	0.47	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	0.4	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	98	80	97	81
Tetrachloro-m-xylene (surr.)	1	%	85	90	82	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	130	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	130	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	3.3	4.5	9.5	3.1
Cadmium	0.1	mg/kg	< 0.1	0.1	0.2	0.2
Chromium	1	mg/kg	6.8	9.4	12	9.1
Copper	1	mg/kg	7.3	11	13	9.8
Lead	1	mg/kg	30	36	36	25
Mercury	0.02	mg/kg	0.06	0.09	0.07	0.07
Nickel	1	mg/kg	1.5	2.1	1.8	1.6
Zinc	5	mg/kg	170	240	480	540
Sample Properties						
% Moisture	1	%	4.7	8.7	4.6	4.7

Client Sample ID			TP22_0-0.1	TP23_0.4-0.5	TP23_2.4-2.5	TP25_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063495	L23-Oc0063496	L23-Oc0063497	L23-Oc0063498
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	72	< 50	< 50	79
TRH C29-C36	50	mg/kg	95	71	63	120
TRH C10-C36 (Total)	50	mg/kg	167	71	63	199
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	83	90	86	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.22	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	0.22	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.22	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	72	110	85	84
Tetrachloro-m-xylene (surr.)	1	%	70	118	79	84

Client Sample ID			TP22_0-0.1	TP23_0.4-0.5	TP23_2.4-2.5	TP25_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063495	L23-Oc0063496	L23-Oc0063497	L23-Oc0063498
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	140	< 100	< 100	170
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	110
TRH >C10-C40 (total)*	100	mg/kg	140	< 100	< 100	280
Heavy Metals						
Arsenic	2	mg/kg	3.5	2.7	3.8	4.1
Cadmium	0.1	mg/kg	1.8	0.2	< 0.1	0.2
Chromium	1	mg/kg	12	6.4	7.4	6.7
Copper	1	mg/kg	24	8.4	8.6	9.8
Lead	1	mg/kg	80	32	29	65
Mercury	0.02	mg/kg	0.07	0.05	0.05	0.05
Nickel	1	mg/kg	5.2	1.3	2.0	1.6
Zinc	5	mg/kg	630	270	75	120
Sample Properties						
% Moisture	1	%	9.9	7.5	9.0	6.8

Client Sample ID			TP25_0.4-0.5	TP26_0.8-1.0	TP27_1.5-2.0	TP27_2.4-2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063499	L23-Oc0063500	L23-Oc0063502	L23-Oc0063503
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	62	< 50	98	94
TRH C29-C36	50	mg/kg	100	76	140	130
TRH C10-C36 (Total)	50	mg/kg	162	76	238	224
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	88	93	76	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP25_0.4-0.5	TP26_0.8-1.0	TP27_1.5-2.0	TP27_2.4-2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063499	L23-Oc0063500	L23-Oc0063502	L23-Oc0063503
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	0.50	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	0.5	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	0.5	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	99	105	103	88
Tetrachloro-m-xylene (surr.)	1	%	85	86	90	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	140	110	200	190
TRH >C34-C40	100	mg/kg	< 100	< 100	100	< 100
TRH >C10-C40 (total)*	100	mg/kg	140	110	300	190
Heavy Metals						
Arsenic	2	mg/kg	3.6	4.9	280	52
Cadmium	0.1	mg/kg	0.1	0.3	0.1	< 0.1
Chromium	1	mg/kg	8.1	5.6	490	50
Copper	1	mg/kg	10	11	140	35
Lead	1	mg/kg	29	28	11	8.4
Mercury	0.02	mg/kg	0.05	0.05	0.1	0.05
Nickel	1	mg/kg	1.6	2.2	2.7	2.3
Zinc	5	mg/kg	110	220	47	31
Sample Properties						
% Moisture	1	%	6.5	7.7	21	18
Chromium (VI)	1	mg/kg	-	-	< 1	-

Client Sample ID			TP28_0.0-0.1	TP28_0.4-0.5	TP29_0.8-1.0	TP29_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063504	L23-Oc0063505	L23-Oc0063506	L23-Oc0063507
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	110	71	62
TRH C29-C36	50	mg/kg	76	160	130	110
TRH C10-C36 (Total)	50	mg/kg	76	270	201	172
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	82	88	76	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	65	75	100	102
Tetrachloro-m-xylene (surr.)	1	%	62	67	82	95

Client Sample ID			TP28_0.0-0.1	TP28_0.4-0.5	TP29_0.8-1.0	TP29_1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063504	L23-Oc0063505	L23-Oc0063506	L23-Oc0063507
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	100	230	160	140
TRH >C34-C40	100	mg/kg	< 100	100	120	< 100
TRH >C10-C40 (total)*	100	mg/kg	100	330	280	140
Heavy Metals						
Arsenic	2	mg/kg	44	72	14	5.6
Cadmium	0.1	mg/kg	0.1	0.1	< 0.1	< 0.1
Chromium	1	mg/kg	49	64	23	8.5
Copper	1	mg/kg	39	51	12	6.8
Lead	1	mg/kg	12	19	12	13
Mercury	0.02	mg/kg	0.05	0.10	0.04	0.04
Nickel	1	mg/kg	4.2	3.8	2.3	1.5
Zinc	5	mg/kg	45	71	48	47
Sample Properties						
% Moisture	1	%	11	31	17	9.8

Client Sample ID			TP30_2.4-2.5	QC01	QC02	QC03
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063508	L23-Oc0063509	L23-Oc0063510	L23-Oc0063511
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	59	69	< 50
TRH C29-C36	50	mg/kg	71	91	110	< 50
TRH C10-C36 (Total)	50	mg/kg	71	150	179	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
BTEX						
4-Bromofluorobenzene (surr.)	1	%	95	80	89	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			TP30_2.4-2.5	QC01	QC02	QC03
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			L23-Oc0063508	L23-Oc0063509	L23-Oc0063510	L23-Oc0063511
Date Sampled			Oct 25, 2023	Oct 25, 2023	Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	60	92	93	74
Tetrachloro-m-xylene (surr.)	1	%	85	80	73	75
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	130	160	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	130	160	< 100
Heavy Metals						
Arsenic	2	mg/kg	4.4	2.4	3.2	5.7
Cadmium	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Chromium	1	mg/kg	8.2	3.8	5.6	13
Copper	1	mg/kg	2.8	4.4	5.1	3.9
Lead	1	mg/kg	3.4	12	14	3.3
Mercury	0.02	mg/kg	0.03	0.05	0.04	0.02
Nickel	1	mg/kg	< 1	< 1	< 1	1.7
Zinc	5	mg/kg	14	100	120	11
Sample Properties						
% Moisture	1	%	5.4	5.3	5.7	3.8

Client Sample ID			TP24_0.8-1.0	TP24_1.4-1.5
Sample Matrix			Soil	Soil
Eurofins Sample No.			L23-Oc0063512	L23-Oc0063513
Date Sampled			Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	63	< 50
TRH C10-C36 (Total)	50	mg/kg	63	< 50
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
BTEX				
4-Bromofluorobenzene (surr.)	1	%	138	142
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	86	63
Tetrachloro-m-xylene (surr.)	1	%	86	80

Client Sample ID			TP24_0.8-1.0	TP24_1.4-1.5
Sample Matrix			Soil	Soil
Eurofins Sample No.			L23-Oc0063512	L23-Oc0063513
Date Sampled			Oct 25, 2023	Oct 25, 2023
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
Heavy Metals				
Arsenic	2	mg/kg	3.4	< 2
Cadmium	0.1	mg/kg	< 0.1	< 0.1
Chromium	1	mg/kg	6.9	5.1
Copper	1	mg/kg	6.3	2.6
Lead	1	mg/kg	9.1	12
Mercury	0.02	mg/kg	0.03	0.03
Nickel	1	mg/kg	1.4	1.3
Zinc	5	mg/kg	47	< 5
Sample Properties				
% Moisture	1	%	7.1	7.1

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Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Welshpool	Oct 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Welshpool	Oct 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Welshpool	Oct 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Welshpool	Oct 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Organochlorine Pesticides	Welshpool	Oct 30, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Welshpool	Nov 14, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Chromium (VI)	Welshpool	Nov 14, 2023	28 Days
- Method: ARL051 - Hexavalent Chromium in Soil			
% Moisture	Welshpool	Oct 27, 2023	14 Days
- Method: ARL135 Moisture in Solids			

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Company Name: Aurora Environmental (Perth) P/L
Address: Dilhorn House 2 Bulwer St
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Project Name:
Project ID: MSG2023-003

Order No.:
Report #: 1038509
Phone: 08 9227 2600
Fax: 08 9227 2699

Received: Oct 26, 2023 12:00 PM
Due: Nov 1, 2023
Priority: 4 Day
Contact Name: Geri Pethebridge

Eurofins Analytical Services Manager : Natalie Hill

Sample Detail					*Date Reported:*						
Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	TP01_1.8-1.9	Oct 24, 2023		Soil	L23-Oc0063462			X	X	X	X
2	TP02_0.4-0.5	Oct 24, 2023		Soil	L23-Oc0063463			X	X	X	X
3	TP03_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063464			X	X	X	X
4	TP04_0.0-0.1	Oct 24, 2023		Soil	L23-Oc0063465			X	X	X	X
5	TP04_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063466			X	X	X	X
6	TP05_1.8-2.0	Oct 24, 2023		Soil	L23-Oc0063467			X	X	X	X
7	TP05_0-0.1	Oct 24, 2023		Soil	L23-Oc0063468			X	X	X	X
8	TP06_0.4-0.5	Oct 24, 2023		Soil	L23-Oc0063469			X	X	X	X
9	TP06_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063470			X	X	X	X
10	TP07_0.8-1.0	Oct 24, 2023		Soil	L23-Oc0063471			X	X	X	X
11	TP07_2.9-3.0	Oct 24, 2023		Soil	L23-Oc0063472			X	X	X	X
12	TP08_0-0.1	Oct 24, 2023		Soil	L23-Oc0063473			X	X	X	X
13	TP08_0.4-0.5	Oct 24, 2023		Soil	L23-Oc0063474			X	X	X	X

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Address: Dilhorn House 2 Bulwer St
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WA 6000

Project Name:
Project ID: MSG2023-003

Order No.:
Report #: 1038509
Phone: 08 9227 2600
Fax: 08 9227 2699

Received: Oct 26, 2023 12:00 PM
Due: Nov 1, 2023
Priority: 4 Day
Contact Name: Geri Pethebridge

Eurofins Analytical Services Manager : Natalie Hill

Sample Detail					*Date Reported:*						
Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X	X	X
External Laboratory											
14	TP09_0.8-1.0	Oct 24, 2023		Soil	L23-Oc0063475			X	X	X	X
15	TP10_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063476			X	X	X	X
16	TP11_1.8-2.0	Oct 24, 2023		Soil	L23-Oc0063477			X	X	X	X
17	TP11_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063478			X	X	X	X
18	TP12_0.0-0.1	Oct 24, 2023		Soil	L23-Oc0063479			X	X	X	X
19	TP12_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063480			X	X	X	X
20	TP13_0.0-0.1	Oct 24, 2023		Soil	L23-Oc0063481			X	X	X	X
21	TP13_0.4-0.5	Oct 24, 2023		Soil	L23-Oc0063482			X	X	X	X
22	TP14_0.8-1.0	Oct 24, 2023		Soil	L23-Oc0063483			X	X	X	X
23	TP15_1.4-1.5	Oct 24, 2023		Soil	L23-Oc0063484			X	X	X	X
24	TP15_2.8-3.0	Oct 24, 2023		Soil	L23-Oc0063485			X	X	X	X
25	TP16_0-0.1	Oct 25, 2023		Soil	L23-Oc0063486			X	X	X	X
26	TP17_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063487			X	X	X	X
27	TP17_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063488			X	X	X	X
28	TP18_1.4-1.5	Oct 25, 2023		Soil	L23-Oc0063489			X	X	X	X

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Order No.:
Report #: 1038509
Phone: 08 9227 2600
Fax: 08 9227 2699

Received: Oct 26, 2023 12:00 PM
Due: Nov 1, 2023
Priority: 4 Day
Contact Name: Geri Pethebridge

Project Name:
Project ID: MSG2023-003

Eurofins Analytical Services Manager : Natalie Hill

Sample Detail					*Date Reported:*						
Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X	X	X
External Laboratory											
29	TP19_1.8-2.0	Oct 25, 2023		Soil	L23-Oc0063490			X	X	X	X
30	TP19_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063491			X	X	X	X
31	TP20_0-0.1	Oct 25, 2023		Soil	L23-Oc0063492			X	X	X	X
32	TP21_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063493			X	X	X	X
33	TP21_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063494		X				
34	TP22_0-0.1	Oct 25, 2023		Soil	L23-Oc0063495			X	X	X	X
35	TP23_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063496			X	X	X	X
36	TP23_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063497			X	X	X	X
37	TP25_0-0.1	Oct 25, 2023		Soil	L23-Oc0063498			X	X	X	X
38	TP25_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063499			X	X	X	X
39	TP26_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063500			X	X	X	X
40	TP26_1.4-1.5	Oct 25, 2023		Soil	L23-Oc0063501		X				
41	TP27_1.5-2.0	Oct 25, 2023		Soil	L23-Oc0063502			X	X	X	X
42	TP27_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063503			X	X	X	X
43	TP28_0.0-0.1	Oct 25, 2023		Soil	L23-Oc0063504			X	X	X	X

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Eurofins Analytical Services Manager : Natalie Hill

Sample Detail					*Date Reported:*						
Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X	X	X
External Laboratory											
44	TP28_0.4-0.5	Oct 25, 2023		Soil	L23-Oc0063505			X	X	X	X
45	TP29_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063506			X	X	X	X
46	TP29_1.4-1.5	Oct 25, 2023		Soil	L23-Oc0063507			X	X	X	X
47	TP30_2.4-2.5	Oct 25, 2023		Soil	L23-Oc0063508			X	X	X	X
48	QC01	Oct 25, 2023		Soil	L23-Oc0063509			X	X	X	X
49	QC02	Oct 25, 2023		Soil	L23-Oc0063510			X	X	X	X
50	QC03	Oct 25, 2023		Soil	L23-Oc0063511			X	X	X	X
51	TP24_0.8-1.0	Oct 25, 2023		Soil	L23-Oc0063512			X	X	X	X
52	TP24_1.4-1.5	Oct 25, 2023		Soil	L23-Oc0063513			X	X	X	X
53	TP10_1.4-1.5	Oct 25, 2023		Building Materials	L23-Oc0063822	X					
54	TP25_0.4-0.5	Oct 25, 2023		Building Materials	L23-Oc0063823	X					
Test Counts						2	2	50	50	50	50

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with Blue colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3004).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L**: milligrams per litre	**µg/L**: micrograms per litre
ppm: parts per million	**ppb**: parts per billion	**%**: Percentage
org/100 mL: Organisms per 100 millilitres	**NTU**: Nephelometric Turbidity Units	**MPN/100 mL**: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30%; however the following acceptance guidelines are equally applicable: Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported, have been reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Aldrin and Dieldrin (Total)*	mg/kg	-			0.05	N/A	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead	mg/kg	< 1			1	Pass	
Mercury	mg/kg	< 0.02			0.02	Pass	
Nickel	mg/kg	< 1			1	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Chromium (VI)	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	103			70-130	Pass	
TRH C10-C14	%	107			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	88			70-130	Pass	
Toluene	%	97			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	101			70-130	Pass	
o-Xylene	%	111			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	99			70-130	Pass	
TRH C6-C10	%	113			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	99			70-130	Pass	
4,4'-DDD	%	107			70-130	Pass	
4,4'-DDE	%	111			70-130	Pass	
4,4'-DDT	%	105			70-130	Pass	
a-HCH	%	93			70-130	Pass	
Aldrin	%	93			70-130	Pass	
b-HCH	%	95			70-130	Pass	
d-HCH	%	84			70-130	Pass	
Dieldrin	%	110			70-130	Pass	
Endosulfan I	%	97			70-130	Pass	
Endosulfan II	%	109			70-130	Pass	
Endosulfan sulphate	%	102			70-130	Pass	
Endrin	%	88			70-130	Pass	
Endrin aldehyde	%	93			70-130	Pass	
Endrin ketone	%	106			70-130	Pass	
g-HCH (Lindane)	%	91			70-130	Pass	
Heptachlor	%	85			70-130	Pass	
Heptachlor epoxide	%	82			70-130	Pass	
Hexachlorobenzene	%	95			70-130	Pass	
Methoxychlor	%	91			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	103			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	111			80-120	Pass	
Cadmium	%	98			80-120	Pass	
Chromium	%	105			80-120	Pass	
Copper	%	102			80-120	Pass	
Lead	%	108			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mercury	%	100			80-120	Pass	
Nickel	%	102			80-120	Pass	
Zinc	%	116			80-120	Pass	
CRM - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	87			70-130	Pass	
CRM - % Recovery							
BTEX							
Benzene	%	93			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	103			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
o-Xylene	%	107			70-130	Pass	
Xylenes - Total*	%	105			70-130	Pass	
CRM - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	111			70-130	Pass	
TRH C6-C10	%	98			70-130	Pass	
CRM - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	85			75-125	Pass	
4,4'-DDD	%	101			70-130	Pass	
4,4'-DDE	%	98			70-130	Pass	
4,4'-DDT	%	96			70-130	Pass	
a-HCH	%	83			75-125	Pass	
Aldrin	%	88			75-125	Pass	
b-HCH	%	82			75-125	Pass	
d-HCH	%	82			75-125	Pass	
Dieldrin	%	88			75-125	Pass	
Endosulfan I	%	94			70-130	Pass	
Endosulfan II	%	87			70-130	Pass	
Endosulfan sulphate	%	100			75-125	Pass	
Endrin	%	87			75-125	Pass	
Endrin aldehyde	%	97			75-125	Pass	
Endrin ketone	%	91			75-125	Pass	
g-HCH (Lindane)	%	85			70-130	Pass	
Heptachlor	%	80			75-125	Pass	
Heptachlor epoxide	%	92			75-125	Pass	
Methoxychlor	%	83			75-125	Pass	
CRM - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	105			70-130	Pass	
TRH >C34-C40	%	111			70-130	Pass	
CRM - % Recovery							
Chromium (VI)	%	101			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	L23-Oc0063462	CP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	L23-Oc0063462	CP	%	100			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	L23-Oc0063463	CP	%	92			70-130	Pass	
4.4'-DDD	L23-Oc0063463	CP	%	110			70-130	Pass	
4.4'-DDE	L23-Oc0063463	CP	%	110			70-130	Pass	
4.4'-DDT	L23-Oc0063463	CP	%	113			70-130	Pass	
a-HCH	L23-Oc0063463	CP	%	101			70-130	Pass	
Aldrin	L23-Oc0063463	CP	%	106			70-130	Pass	
b-HCH	L23-Oc0063463	CP	%	101			70-130	Pass	
d-HCH	L23-Oc0063463	CP	%	103			70-130	Pass	
Dieldrin	L23-Oc0063463	CP	%	115			70-130	Pass	
Endosulfan I	L23-Oc0063463	CP	%	105			70-130	Pass	
Endosulfan II	L23-Oc0063463	CP	%	118			70-130	Pass	
Endosulfan sulphate	L23-Oc0063463	CP	%	99			70-130	Pass	
Endrin	L23-Oc0063463	CP	%	116			70-130	Pass	
Endrin aldehyde	L23-Oc0063463	CP	%	108			70-130	Pass	
Endrin ketone	L23-Oc0063463	CP	%	110			70-130	Pass	
g-HCH (Lindane)	L23-Oc0063463	CP	%	106			70-130	Pass	
Heptachlor	L23-Oc0063463	CP	%	105			70-130	Pass	
Heptachlor epoxide	L23-Oc0063463	CP	%	88			70-130	Pass	
Hexachlorobenzene	L23-Oc0063463	CP	%	108			70-130	Pass	
Methoxychlor	L23-Oc0063463	CP	%	105			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	L23-Oc0063471	CP	%	98			75-125	Pass	
Cadmium	L23-Oc0063471	CP	%	101			75-125	Pass	
Chromium	L23-Oc0063471	CP	%	107			75-125	Pass	
Copper	L23-Oc0063471	CP	%	103			75-125	Pass	
Lead	L23-Oc0063471	CP	%	116			75-125	Pass	
Mercury	L23-Oc0063471	CP	%	106			75-125	Pass	
Nickel	L23-Oc0063471	CP	%	103			75-125	Pass	
Zinc	L23-Oc0063471	CP	%	100			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	L23-Oc0063474	CP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	L23-Oc0063474	CP	%	100			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	L23-Oc0063482	CP	%	91			70-130	Pass	
4.4'-DDD	L23-Oc0063482	CP	%	98			70-130	Pass	
4.4'-DDE	L23-Oc0063482	CP	%	117			70-130	Pass	
a-HCH	L23-Oc0063482	CP	%	93			70-130	Pass	
Aldrin	L23-Oc0063482	CP	%	92			70-130	Pass	
b-HCH	L23-Oc0063482	CP	%	83			70-130	Pass	
d-HCH	L23-Oc0063482	CP	%	91			70-130	Pass	
Dieldrin	L23-Oc0063482	CP	%	103			70-130	Pass	
Endosulfan I	L23-Oc0063482	CP	%	104			70-130	Pass	
Endosulfan II	L23-Oc0063482	CP	%	91			70-130	Pass	
Endosulfan sulphate	L23-Oc0063482	CP	%	102			70-130	Pass	
Endrin	L23-Oc0063482	CP	%	87			70-130	Pass	
Endrin aldehyde	L23-Oc0063482	CP	%	82			70-130	Pass	
Endrin ketone	L23-Oc0063482	CP	%	99			70-130	Pass	
g-HCH (Lindane)	L23-Oc0063482	CP	%	87			70-130	Pass	
Heptachlor	L23-Oc0063482	CP	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	L23-Oc0063482	CP	%	95			70-130	Pass	
Hexachlorobenzene	L23-Oc0063482	CP	%	90			70-130	Pass	
Methoxychlor	L23-Oc0063482	CP	%	83			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	L23-Oc0063483	CP	%	96			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	L23-Oc0063483	CP	%	100			70-130	Pass	
Toluene	L23-Oc0063483	CP	%	89			70-130	Pass	
Ethylbenzene	L23-Oc0063483	CP	%	100			70-130	Pass	
m&p-Xylenes	L23-Oc0063483	CP	%	98			70-130	Pass	
o-Xylene	L23-Oc0063483	CP	%	108			70-130	Pass	
Xylenes - Total*	L23-Oc0063483	CP	%	101			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	L23-Oc0063483	CP	%	116			70-130	Pass	
TRH C6-C10	L23-Oc0063483	CP	%	95			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	L23-Oc0063490	CP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	L23-Oc0063490	CP	%	80			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	L23-Oc0063492	CP	%	106			75-125	Pass	
Cadmium	L23-Oc0063492	CP	%	107			75-125	Pass	
Chromium	L23-Oc0063492	CP	%	111			75-125	Pass	
Copper	L23-Oc0063492	CP	%	106			75-125	Pass	
Lead	L23-Oc0063492	CP	%	100			75-125	Pass	
Mercury	L23-Oc0063492	CP	%	107			75-125	Pass	
Nickel	L23-Oc0063492	CP	%	109			75-125	Pass	
Zinc	L23-Oc0063492	CP	%	Q05			75-125	Fail	Q05
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	L23-Oc0063504	CP	%	86			75-125	Pass	
Cadmium	L23-Oc0063504	CP	%	116			75-125	Pass	
Chromium	L23-Oc0063504	CP	%	86			75-125	Pass	
Lead	L23-Oc0063504	CP	%	95			75-125	Pass	
Mercury	L23-Oc0063504	CP	%	117			75-125	Pass	
Nickel	L23-Oc0063504	CP	%	112			75-125	Pass	
Zinc	L23-Oc0063504	CP	%	66			75-125	Fail	Q08
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	L23-Oc0063505	CP	%	107			70-130	Pass	
TRH C10-C14	L23-Oc0063505	CP	%	87			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	L23-Oc0063505	CP	%	101			70-130	Pass	
Toluene	L23-Oc0063505	CP	%	96			70-130	Pass	
Ethylbenzene	L23-Oc0063505	CP	%	98			70-130	Pass	
m&p-Xylenes	L23-Oc0063505	CP	%	100			70-130	Pass	
o-Xylene	L23-Oc0063505	CP	%	108			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total*	L23-Oc0063505	CP	%	102			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	L23-Oc0063505	CP	%	100			70-130	Pass	
TRH C6-C10	L23-Oc0063505	CP	%	107			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	L23-Oc0063505	CP	%	87			70-130	Pass	
4,4'-DDD	L23-Oc0063505	CP	%	92			70-130	Pass	
4,4'-DDE	L23-Oc0063505	CP	%	103			70-130	Pass	
4,4'-DDT	L23-Oc0063505	CP	%	99			70-130	Pass	
a-HCH	L23-Oc0063505	CP	%	100			70-130	Pass	
Aldrin	L23-Oc0063505	CP	%	107			70-130	Pass	
b-HCH	L23-Oc0063505	CP	%	91			70-130	Pass	
d-HCH	L23-Oc0063505	CP	%	101			70-130	Pass	
Dieldrin	L23-Oc0063505	CP	%	110			70-130	Pass	
Endosulfan I	L23-Oc0063505	CP	%	96			70-130	Pass	
Endosulfan II	L23-Oc0063505	CP	%	107			70-130	Pass	
Endosulfan sulphate	L23-Oc0063505	CP	%	89			70-130	Pass	
Endrin	L23-Oc0063505	CP	%	102			70-130	Pass	
Endrin aldehyde	L23-Oc0063505	CP	%	83			70-130	Pass	
Endrin ketone	L23-Oc0063505	CP	%	85			70-130	Pass	
g-HCH (Lindane)	L23-Oc0063505	CP	%	109			70-130	Pass	
Heptachlor	L23-Oc0063505	CP	%	91			70-130	Pass	
Heptachlor epoxide	L23-Oc0063505	CP	%	100			70-130	Pass	
Hexachlorobenzene	L23-Oc0063505	CP	%	111			70-130	Pass	
Methoxychlor	L23-Oc0063505	CP	%	114			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	L23-Oc0063505	CP	%	94			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	L23-Oc0063470	CP	mg/kg	2.6	2.4	9.0	30%	Pass	
Cadmium	L23-Oc0063470	CP	mg/kg	0.2	0.2	3.3	30%	Pass	
Chromium	L23-Oc0063470	CP	mg/kg	6.6	5.9	11	30%	Pass	
Copper	L23-Oc0063470	CP	mg/kg	8.8	8.2	7.7	30%	Pass	
Lead	L23-Oc0063470	CP	mg/kg	34	31	8.4	30%	Pass	
Mercury	L23-Oc0063470	CP	mg/kg	0.09	0.08	5.1	30%	Pass	
Nickel	L23-Oc0063470	CP	mg/kg	1.5	1.4	8.9	30%	Pass	
Zinc	L23-Oc0063470	CP	mg/kg	130	120	8.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	L23-Oc0063471	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	L23-Oc0063471	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	L23-Oc0063471	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	L23-Oc0063471	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	L23-Oc0063471	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	L23-Oc0063471	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	L23-Oc0063471	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	L23-Oc0063471	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	L23-Oc0063471	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	L23-Oc0063471	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	L23-Oc0063471	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	L23-Oc0063471	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	L23-Oc0063471	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	L23-Oc0063471	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	L23-Oc0063471	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	L23-Oc0063471	CP	%	6.0	5.8	3.3	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	L23-Oc0063474	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	L23-Oc0063474	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	L23-Oc0063474	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	L23-Oc0063474	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4,4'-DDD	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	L23-Oc0063474	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	L23-Oc0063474	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	L23-Oc0063474	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	L23-Oc0063474	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	L23-Oc0063474	CP	%	1.7	1.9	11	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	L23-Oc0063481	CP	mg/kg	3.0	2.8	6.5	30%	Pass	
Cadmium	L23-Oc0063481	CP	mg/kg	0.1	0.1	3.7	30%	Pass	
Chromium	L23-Oc0063481	CP	mg/kg	7.2	7.4	3.2	30%	Pass	
Copper	L23-Oc0063481	CP	mg/kg	9.3	8.6	8.4	30%	Pass	
Lead	L23-Oc0063481	CP	mg/kg	29	23	24	30%	Pass	
Mercury	L23-Oc0063481	CP	mg/kg	0.05	0.05	13	30%	Pass	
Nickel	L23-Oc0063481	CP	mg/kg	1.6	1.7	2.7	30%	Pass	
Zinc	L23-Oc0063481	CP	mg/kg	160	140	13	30%	Pass	

Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	L23-Oc0063482	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C10-C14	L23-Oc0063482	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	L23-Oc0063482	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	L23-Oc0063482	CP	mg/kg	63	61	3.3	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	L23-Oc0063482	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	L23-Oc0063482	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	L23-Oc0063482	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	L23-Oc0063482	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	L23-Oc0063482	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	L23-Oc0063482	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	L23-Oc0063482	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	L23-Oc0063482	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	L23-Oc0063482	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	L23-Oc0063482	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	L23-Oc0063482	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	L23-Oc0063482	CP	%	5.7	5.7	<1	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	L23-Oc0063483	CP	%	4.8	5.2	7.9	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	L23-Oc0063485	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4.4'-DDE	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4.4'-DDT	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	L23-Oc0063485	CP	mg/kg	0.48	0.45	7.1	30%	Pass
Endosulfan I	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	L23-Oc0063485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	L23-Oc0063486	CP	%	4.5	4.9	7.4	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	L23-Oc0063489	CP	%	5.0	6.0	17	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Cadmium	L23-Oc0063491	CP	mg/kg	0.1	0.1	12	30%	Pass
Copper	L23-Oc0063491	CP	mg/kg	11	9.6	16	30%	Pass
Lead	L23-Oc0063491	CP	mg/kg	36	28	27	30%	Pass
Mercury	L23-Oc0063491	CP	mg/kg	0.09	0.10	6.3	30%	Pass
Nickel	L23-Oc0063491	CP	mg/kg	2.1	1.6	26	30%	Pass
Zinc	L23-Oc0063491	CP	mg/kg	240	230	2.4	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	L23-Oc0063492	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C10-C14	L23-Oc0063492	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	L23-Oc0063492	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	L23-Oc0063492	CP	mg/kg	< 50	< 50	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	L23-Oc0063492	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	L23-Oc0063492	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	L23-Oc0063492	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	L23-Oc0063492	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	L23-Oc0063492	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	L23-Oc0063492	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	L23-Oc0063492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	L23-Oc0063492	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	L23-Oc0063492	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4.4'-DDD	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4.4'-DDE	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4.4'-DDT	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	L23-Oc0063492	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	L23-Oc0063492	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	L23-Oc0063492	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	L23-Oc0063492	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	L23-Oc0063492	CP	%	4.6	4.6	<1	30%	Pass

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	L23-Oc0063497	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	L23-Oc0063497	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	L23-Oc0063504	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	L23-Oc0063504	CP	mg/kg	< 50	50	7.1	30%	Pass	
TRH C29-C36	L23-Oc0063504	CP	mg/kg	76	81	7.1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	L23-Oc0063504	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	L23-Oc0063504	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	L23-Oc0063504	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	L23-Oc0063504	CP	mg/kg	100	100	<1	30%	Pass	
TRH >C34-C40	L23-Oc0063504	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	L23-Oc0063504	CP	%	11	10	4.7	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	L23-Oc0063513	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	L23-Oc0063513	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	L23-Oc0063513	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	L23-Oc0063513	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	L23-Oc0063513	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	L23-Oc0063513	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Comments

V2 - Cr VI added to TP27_1.5-2.0

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q05	The matrix spike concentration is less than five times the background concentration in the sample - therefore the spike recovery cannot be determined
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Natalie Hill	Analytical Services Manager
Douglas Todd	Senior Analyst-Metal
Douglas Todd	Senior Analyst-Sample Properties
John Horwood	Senior Analyst-Organic
Paul Nottle	Senior Analyst-Organic
Paul Nottle	Senior Analyst-Volatile
Rhys Thomas	Senior Analyst-Asbestos
Sam Becker	Senior Analyst-Inorganic

Kim Rodgers
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request

Appendix 5 Aurora Environmental 2023, Limited Stockpile Assessment

Perth
Dilhorn House, 2 Bulwer Street
Perth WA 6000
T (08) 9227 2600
F (08) 9227 2699

27 September 2023

Morton Seed and Grain Pty Ltd
950 Rockingham Road Wattleup WA 6166

Attention: [redacted]

Dear Jonnie,

RE: 766 King Road, Oldbury: Limited Stockpile Assessment

This letter presents the findings from works undertaken by Aurora Environmental ('Aurora') for an assessment of stockpiled material at 766 King Road, Oldbury (the Site). The Site's location is presented in Figure 1. The assessment was limited to the stockpiled material within the area highlighted in Figure 2. The assessment did not include the larger higher stockpile located on the Site. Based on a limited inspection by Aurora in May 2023, the stockpiles contain inert material, mainly brick and concrete rubble. It's understood that Morton Seed and Grain wishes to retain this material and use it to create a compacted hardstand area on the Site.

1 INTRODUCTION AND BACKGROUND

Morton Seed and Grain recently purchased the Site, aware of its environmental constraints, with a view to using the Site for plant and equipment laydown and storage (i.e., commercial/industrial purpose). During the Site's previous ownership period, uncontrolled construction and demolition (C&D) waste materials were imported to the Site by a former tenant. It is for this reason that the Site was classified under the *Contaminated Sites Act 2003* (the CS Act) as "Possibly contaminated – investigation required" by the Department of Water and Environmental Regulation (DWER). There was a previous development application made to the Shire of Serpentine-Jarrahdale (the Shire) to manage the C&D waste materials and remediate the Site, predominantly through off-Site disposal. The Shire approved the works subject to conditions. These included the development of a suitable Remediation Plan and Environmental Management Plans acceptable to the DWER and the Department of Health (DoH), and the DWER issuing a Works Approval and Category 13 and 62 licences under the *Environmental Protection Act 1986* (EP Act).

Prior to the Morton Seed and Grain purchasing the Site, Aurora was involved in discussions with the Shire and the DWER regarding possible alternative management of C&D waste materials, including through options for on-Site containment instead of the previously proposed off-Site disposal. The DWER and Shire indicated that a new development application process would be required and that similar conditions would likely apply, but that they believe they could support on-Site management, if suitable controls and regulatory approvals were in place.

1.1 Objective

The objective was to assess the potential for the low-stockpiled material to be contaminated and understand the suitability of the material to be crushed and used to create a hardstand area on the Site. The assessment is considered warranted as the low-lying stockpile material appears to be consistent with C&D waste, the material may contain asbestos or other potential sources of contamination.

1.2 Scope of Work

The following scope of work was undertaken.

- Aurora supervised the installation of 26 test pits excavated into the stockpiled materials (excavator and operator were provided by Morton Seed and Grain). The test pits extended to 0.5m beneath the natural surface at each location. A soil sample was from the fill encountered in the stockpiled material and collected from the base of all test pit locations, once native soils were encountered. It was initially assumed that the stockpiles primarily comprised C&D rubble and there was only minor amount of soil in the stockpile, based on the limited inspection previously undertaken. However, this was found to not be the case once the test pitting of the stockpile commenced. A total of 30 soil samples (including quality control samples) were analysed for heavy metals, Total Recoverable Hydrocarbons (TRH), benzene, toluene, ethyl benzene, xylenes, and naphthalene (BTEX-N); and Organochlorine Pesticides (OCPs). These analytes are contaminants of potential concern (COPC) for fill of unknown origin, as identified by the DWER (2021a).
- The contents of the test pits were logged and photographed. Any suspected Asbestos Containing Material (ACM) or evidence of other potential forms of contamination, such as drums, batteries, chemicals, stained or malodorous materials or copper chrome arsenate (CCA) treated timber were noted. Five samples of fibre cement material were analysed for the presence of asbestos.
- Preparation of this letter report, to document the assessment of analytical results to health and ecological assessment criteria for commercial/industrial land use and clear concluding statements on the presence of potential for contamination in the stockpile or underlying soils, and the suitability of the stockpiled material for use to construct hardstand at the Site.

2 METHODOLOGY AND OBSERVATIONS

This section describes the activities undertaken and observations made, whilst undertaking the test pitting investigation into the low stockpiles. On 7 and 8 August 2023, an Aurora Environmental Scientist undertook the investigative works. The Environmental Scientist had received in-house training on asbestos material identification by a Licensed Asbestos Assessor (LAA) and previously conducted similar assessments. Prior to the commencement of the test pitting, an initial inspection of the Site was completed. During the Site Inspection, large portions of the surface were noted to be wet, with some areas covered by standing water.

A total of 26 test pits were excavated across the low stockpile area; all test pits were mechanically excavated using a 20t excavator. The locations of the test pits excavated are presented on Figure 3. The test pits depths extended from the top of the stockpiled material to 0.5m into the natural soils.

The logs from the test pit installation are presented in Appendix 1 and further photographs taken during the investigation are shown in Appendix 2.

The stockpiles predominantly consisted of a combination of sandy fill material and a variety of C&D waste. The fill material in the stockpiles was comprising a brown/grey sand, fine to medium grained, well graded, and dry. The natural soil encountered below the stockpiled materials was observed to be an orange/yellow/grey clay with moderate plasticity, making it visually distinct from the soil in the stockpiles.

A variety of waste materials were observed during the test pitting consisting of mostly inert C&D wastes (concrete, brick, wood, and tile) and other domestic waste, such as textiles and general refuse. Other wastes noted in the inspection included isolated fragments of potential ACM, Potential Asbestos Containing Materials (PACM), and fibreglass panels. No staining, odours or other indications of gross contamination (such as drums, batteries, or CCA treated timber), were noted in the test pits.

PACM was observed in 17 test pit locations. All PACM fragments observed during the investigation were fibre cement ACM fragments, with no bulk amounts of sheeting observed. It is noted that there were multiple different types of fibre cement PACM fragments encountered (i.e., painted vs non-painted, flat vs corrugated), indicating different sources of the PACM. Fragments of PACM were observed in the following test pits:

- TP2;
- TP2a;
- TP3;
- TP6;
- TP7;
- TP8;
- TP12;
- TP14;
- TP15;
- TP16;
- TP16a;
- TP17;
- TP18;
- TP19;
- TP21;
- TP23; and
- TP24.

In addition to the PACM noted in the test pits, isolated fragments of PACM were noted to be present at ten locations on top of the low stockpiles during the walkover/while moving between test pit locations. These locations are shown on Figure 3. It was not possible to collect representative 10L soil samples for 7mm sieve sampling routinely from test pits, due to large C&D particles dominating the content of stockpiles in most test pits. All observed PACM fragments were collected, removed from the Site, and weighed.

Five representative bulk asbestos sample were collected from PACM encountered in the stockpiles during the investigation and submitted for laboratory analysis, to confirm the presence of asbestos.

Soil samples for laboratory analysis were collected from each soil profile encountered within each of the test pits. Samples were placed directly into laboratory supplied glass jars and stored in a cooled esky until transfer to the laboratory. Samples were transported with accompanying Chain of Custody (CoC) documentation to a National Association of Testing Authorities (NATA) accredited laboratory, for analysis. Initially only samples from the fill material encountered in the stockpiles were submitted for OCPs, TRH, BTEX-N, and heavy metals. A duplicate and triplicate pair were collected from a single location for quality control purposes. The remaining samples were placed on hold with laboratory, in the case further analysis was required. Following the receipt of the results, an additional three samples of the native soils were submitted for zinc analysis only. The additional samples were selected on

locations where slightly elevated zinc concentrations were detected in the fill materials. A single sample of the native soil was analysed for pH and cation exchange capacity (CEC), to develop Site-specific ecological criteria for zinc.

3 ASSESSMENT CRITERIA

The adopted assessment criteria were based on future commercial/industrial land use at the Site. On this basis, analytical results were compared to the following assessment criteria, as presented in Schedule B1 of *National Environment Protection (Assessment of Site Contamination [ASC]) Measure* (NEPM) Amendment Measure 2013 No. 1. (NEPC, 1999), DWER *Assessment and Management of Contaminated Sites, Contaminated Sites Guidelines* (2021a) and *Guidelines for the Assessment, Remediation and Management of Asbestos – Contaminated Sites in Western Australia* (DoH, 2021).

For the purposes of the low stockpile assessment, the following assessment criteria was applied:

- Ecological Investigation Levels (EIL)/Ecological Screening Levels (ESL) – Commercial/Industrial land use.
- Health Investigation Levels (HIL)/Health Screening Levels (HSL) – Commercial/Industrial land use.
- Asbestos in Soil Screening Level – D Commercial/Industrial land use.

4 ANALYTICAL RESULTS

Analytical results are presented in Table 1-3. Laboratory analytical certificates and CoC documentation are contained within Appendix 3.

4.1 Heavy Metals

Concentrations of heavy metals were generally below the laboratory Limit of Reporting (LOR) and/or the adopted assessment criteria. Tabulated metals results are included in Table 1 and summary of the results are included below.

- Concentrations of cadmium and mercury were below the LOR and the adopted assessment criteria at all sample locations.
- Concentrations of arsenic were above the LOR but below the adopted assessment criteria at all sample locations, with concentrations ranging from <4.0 mg/kg (multiple locations) to 46mg/kg (TP30-0-0.1).
- Concentrations of chromium were above the LOR but below the adopted assessment criteria at all sample locations, with concentrations ranging from 2.6mg/kg (TP1-0.3-0.45) to 40mg/kg (TP22-0-0.6).
- Concentrations of copper ranged from 3.3mg/kg (TP25-0-0.3) to 44mg/kg (TP30-0-0.1).
- Concentrations of lead ranged from 7.9mg/kg (TP25-0-0.3) to 670mg/kg (TP1-0.3-0.45).
- Concentrations of nickel were above the LOR but below the adopted assessment criteria at all sample locations, with concentrations ranging from <1.0mg/kg (TP3-0-0.5) to 14mg/kg (TP4-0-1.1).
- Concentrations of zinc were above the LOR but below the adopted assessment criteria at all sample locations, with concentrations ranging from 1.4mg/kg (TP17-1.2-1.7) to 340mg/kg

(TP17-0-0.7). A single sample contained a concentration of zinc exceeding the adopted assessment EIL (TP17-0-0.7). The sample of the native soils from beneath the fill material in TP17 contained a concentration of zinc of 1.4mg/kg.

4.2 BTEX-N and TRH

Concentrations of TRH and BTEX-N were all below the LOR and the adopted assessment criteria at all sample locations. Tabulated BTEX-N and TRH results are included in Table 2.

4.3 OCPs

All OCPs were found to below the laboratory LOR, with the exception of dieldrin, chlordane (gamma), and DDT; with the maximum detectable concentration being 1.3mg/kg of dieldrin and all others only marginally greater than the LOR. No adopted assessment criteria for OCPs were exceeded. Tabulated OCP results are included in Table 3.

4.4 Bulk Asbestos Identification

Five representative samples of PACM, identified during the test pitting, were submitted to a laboratory for Bulk Asbestos Identification analysis. Four of the five fragments submitted for analysis were found to contain asbestos materials, confirming the presence of asbestos within the low-lying stockpiled material. The results from the laboratory analysis are presented in Appendix 3.

5 DISCUSSION

The objectives of the sampling were to assess the status of the low stockpiles and whether the stockpiled material may contain asbestos or other potential sources of contamination. The soil sampling completed found the stockpiles contained low levels of heavy metals and pesticides, but below the commercial/industrial land use investigation levels. A single sample contained zinc concentrations in excess of the ecological assessment criteria (TP17-0-0.7). The sample of the natural soil beneath the sample exceeding the EIL was found to be only marginally greater than the LOR. The exceedance is not considered to be representative of an unacceptable ecological risk, due to the single minor exceedance within a large volume of material, which has not leached into the native soils beneath the stockpile. The concentrations detected in the stockpiled material do not restrict maintaining and managing the material on-Site.

ACM was identified sporadically in low volumes throughout the low C&D stockpiles. Whilst only encountered sporadically ACM, was observed to be widely spread throughout the entirety of the stockpile area. Over the course of two days, during the test pitting and inspection of the surface of the stockpiles, Aurora identified less than 1kg of fibre cement ACM fragments (which was removed from the Site). The stockpiled materials are spread relatively thinly over an area of approximately 20,000m^2, presenting an opportunity with the test pits to observe a large amount of the materials. The fibre cement fragments that were found were in good, bonded condition. There was no evidence of bulk asbestos wastes, such as stacks of fence sheeting or building cladding.

Using the volume of ACM identified during the test pitting, an estimate of the weight/weight% (w/w%) of ACM within the low-lying stockpiled was compared to relevant assessment criteria, in lieu of being able to collect representative 10L soil samples for sieving from the test pits. In accordance with the *Managing Asbestos at Construction and Demolition Waste Recycling Facilities* (DWER, 2021b), the published guidelines for asbestos in recycled C&D products is 10mg/kg (0.001% by weight). The commercial/industrial screening asbestos criterion presented in DoH (2021) for commercial/industrial

land use is w/w% of 500mg/kg (0.05% by weight). There is approximately 20,000 tonnes of material in the stockpiles assessed (10,000m^3 x 2t/m^3), or 20,000,000kg. The extrapolated acceptable amount of asbestos, equivalent to the 10mg/kg and 500mg/kg guidelines, would be 200kg and 1000kg respectively. Due to the limited nature of the stockpile assessment, it is not possible to definitively confirm the volume of ACM within the stockpile, however observations suggest that it is likely to be less than 200kg and 1000kg. The stockpiled materials are therefore considered not likely to have asbestos above the 10mg/kg or 500mg/kg criterion and are unlikely to pose a health risk under the commercial/industrial site setting. However, based on the presence of ACM, it is not considered crushing of the materials is appropriate.

It is understood that Morton Seed and Grain is considering various options on the Site's future configuration and the re-use of materials at the Site, on the basis of the findings from them being assessed. Options for the stockpiled materials includes spreading them to make a level surface, covering them with a 0.5m thick layer of certified imported clean fill, and compacting for development of hardstand; either in their current location or at another location on the Site (such as shown on Figure 4). This type of activity is considered suitable, as the materials will not be directly crushed and will be covered with a physical barrier, so airborne asbestos fibre generation from ACM is unlikely to occur over time.

The potential for airborne asbestos fibre generation during such earthworks is low, given the low asbestos content. The potential can be reduced further by managing the works by pre-moistening the materials before conducting earthworks, not conducting the works in dry, windy conditions; and efficient use of earthwork machinery to minimise movement of the materials.

Although the amount of asbestos in the assessed stockpiles is likely less than what would be considered 'contamination' on a commercial/industrial site, it is considered prudent to manage the contained material with a Site Management Plan, consistent with DWER and DoH guidelines. This would provide confidence that the uncertainty in the amount of asbestos is accounted for and that the material is safely managed. The larger and higher stockpile of C&D materials present on the Site, which is currently unassessed, may also contain asbestos and may also require management under such a management plan.

If the stockpiled C&D materials are re-located to another portion of the Site, the footprint, and underlying natural soils from where they were removed from, should be assessed to validate the removal of asbestos to provide confidence that there are no unacceptable risks from asbestos within the footprint; and it can be an area used without requiring specific management.

6 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the investigation works undertaken, the following conclusions are made.

- The low-lying construction and demolitions stockpile contains low amounts of fragmented ACM, which are considered to less that the relevant DoH and DWER criteria for commercial/industrial land use and re-use of C&D waste materials. The amount of ACM is not considered to pose an unacceptable health risk to people working at the Site.
- Soil in the stockpiles also contain low levels of heavy metals and OCPs, which are not considered to pose an unacceptable risk to human health or the environment at the Site.

- The stockpile materials subject to this assessment are considered suitable to be retained on the Site and re-used to develop compacted hardstand for laydown areas where they are not crushed and are covered with a 0.5m layer of certified imported clean fill.

Despite the amount of ACM present in the stockpiled materials being low and there being a low and acceptable health risk associated with them, earthworks to re-locate and level the materials should be managed to further reduce the potential for airborne asbestos fibre generation. An appropriate Health and Safety Management Plan should be prepared by Morton Seed and Grain or relevant contractors, before conducting the works which, among other hazards, controls the potential for airborne asbestos fibre generation.

It is recommended that this letter report is provided to the Shire, as part of Morton Seed and Grain notifying the Shire of its intention to re-locate the assessed stockpiled materials, on the basis the levels of asbestos in the stockpiles are not considered to constitute 'contamination' or pose an unacceptable health risk.

For and on behalf of Aurora Environmental,

[redacted]

Project Environmental Scientist | Associate Environmental Scientist (Director)

FIGURES:

1. Site Location
2. Site Layout
3. Low Stockpile Test Pit Locations
4. Recommended Management Option

TABLES:

1. Analytical Results – Heavy Metals
2. Analytical Results – Hydrocarbons
3. Analytical Results – Pesticides

APPENDICES:

1. Test Pit Logs
2. Photographic Log
3. Laboratory Reports

7 REFERENCES

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

Department of Water and Environmental Regulation (2021a). Assessment and Management of Contaminated Sites – Contaminated Sites Management Series.

Department of Water and Environmental Regulation (2021b). Managing Asbestos at Construction and Demolition Waste Recycling Facilities.

National Environment Protection Committee (1999). National Environmental Protection (Assessment of Site Contamination) Measure, as amended 2013.

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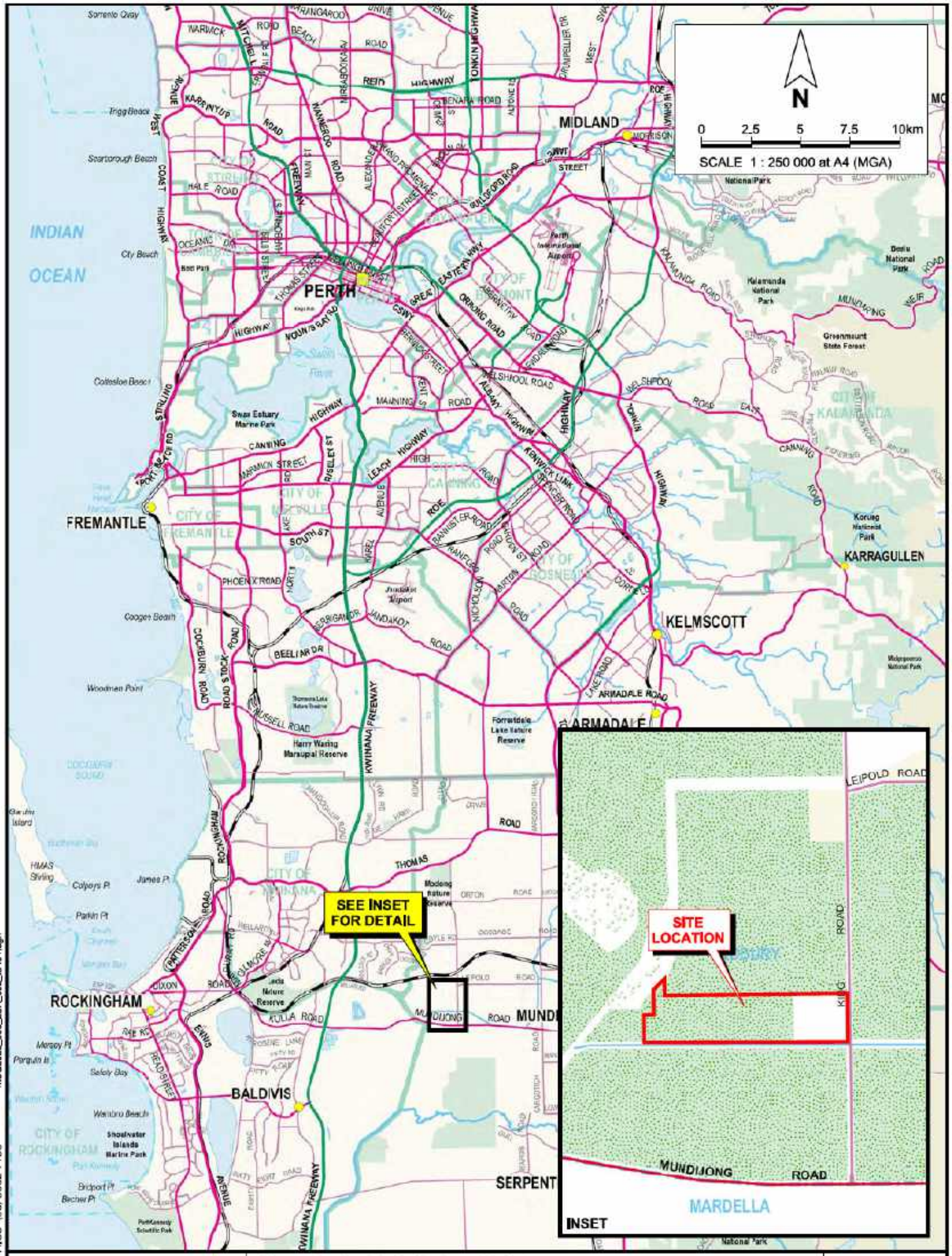
FIGURES



Aurora environmental
ASSESS • ADVISE • APPLY

Morton Seed and Grain Merchants Pty Ltd
LOW STOCKPILE ASSESSMENT
766 KING ROAD, OLDBURY

Figure 1

SITE LOCATION

Drawn: T. Davies | Date: 19 Sep 2023 | Job: MSG2022-003

PINPOINT CARTOGRAPHICS (08) 9562 7136 MSG2022_003_LSA_002_lo-R01.dgn

N

0 50 100 150 200m

SCALE 1 : 3 500 at A3 (MGA)

Legend

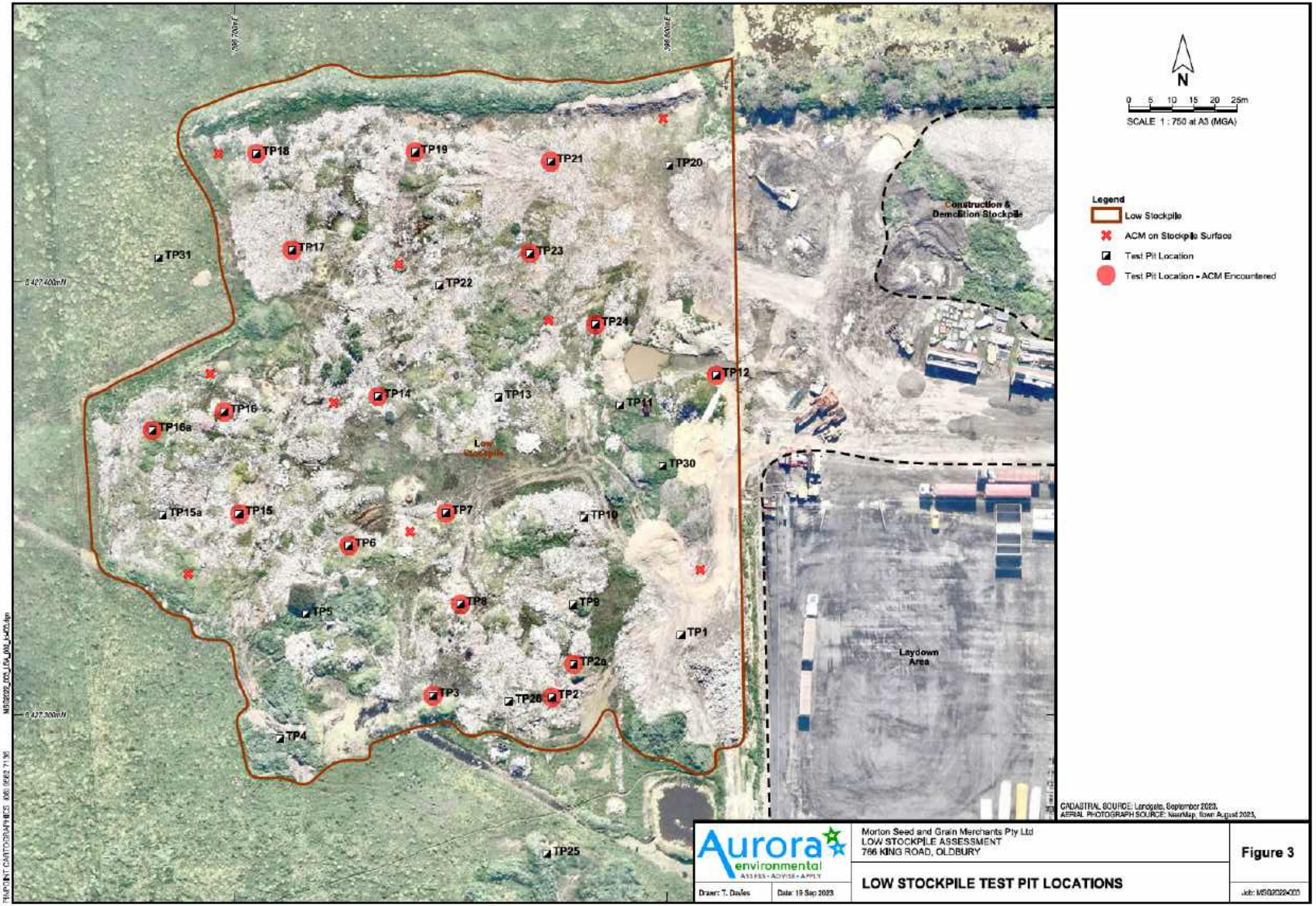
Site Boundary

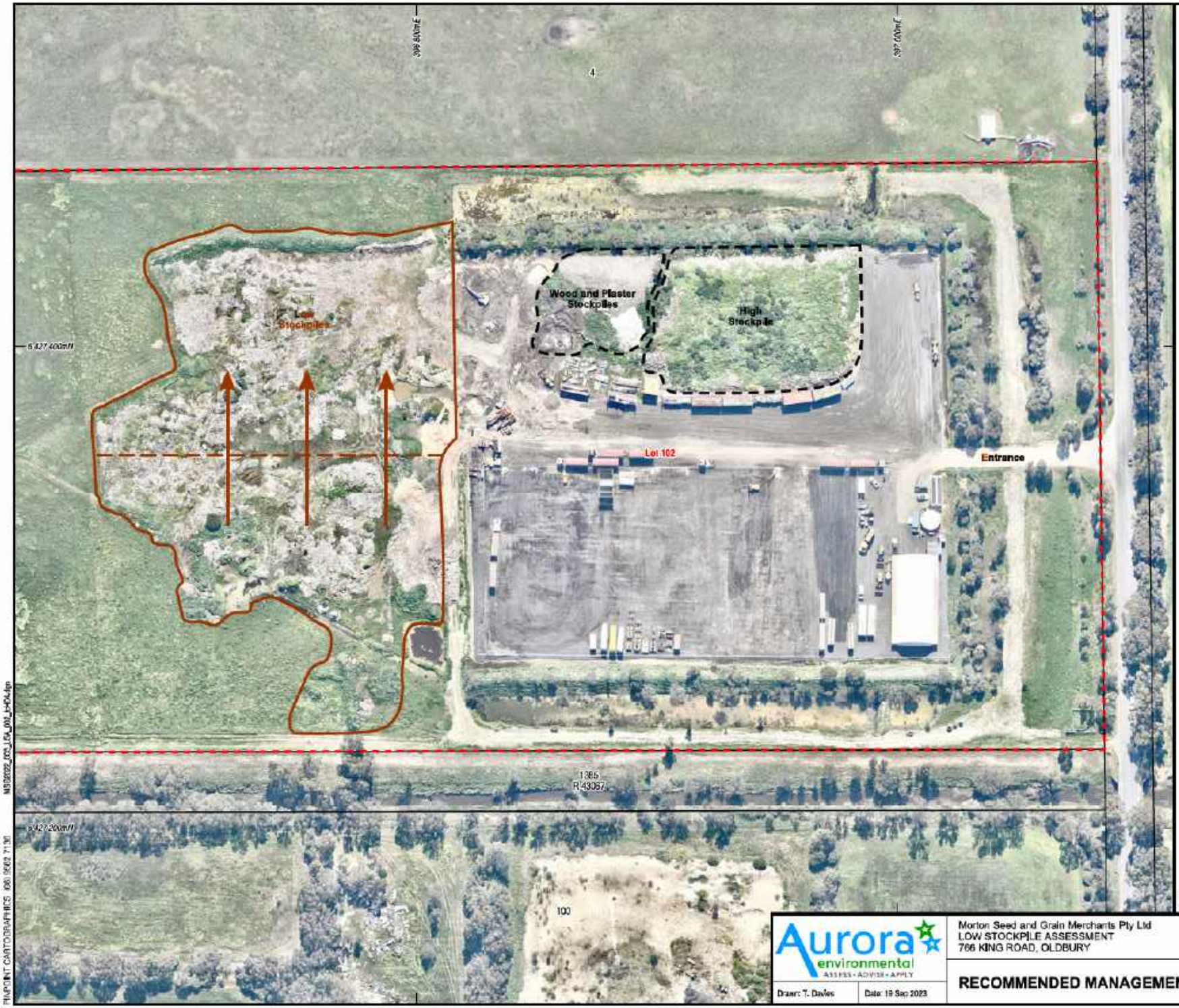
Cadastral Boundary

CADASTRAL SOURCE: Landgate, September 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown August 2023.

Aurora environmental ASSESS • ADVISE • APPLY	Morton Seed and Grain Merchants Pty Ltd LOW STOCKPILE ASSESSMENT 766 KING ROAD, OLDBURY	Figure 2
Drawn: T. Davies / Date: 19 Sep 2023	**SITE LAYOUT**	Job: MSG2022-003

FINPOINT CARTOGRAPHICS 08 9562 7136 MSG2022_003_L54_002_Lot02.dgn


N
0 5 10 15 20 25m
SCALE 1 : 750 at A3 (MGA)
Legend
Low Stockpile
ACM on Stockpile Surface
Test Pit Location
Test Pit Location - ACM Encountered
Construction & Demolition Stockpile
Laydown Area
Low Stockpile
TP1
TP2
TP2a
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP15a
TP16
TP16a
TP17
TP18
TP19
TP20
TP21
TP22
TP23
TP24
TP25
TP26
TP30
TP31
6 427 400mN
6 427 300mN
CADASTRAL SOURCE: Landgate, September 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown August 2023.
Aurora environmental
ASSESS • ADVISE • APPLY
Morton Seed and Grain Merchants Pty Ltd
LOW STOCKPILE ASSESSMENT
766 KING ROAD, OLDBURY
Figure 3
LOW STOCKPILE TEST PIT LOCATIONS
Drawn: T. Davies
Date: 19 Sep 2023
Job: MSG2022-003



N

0 10 20 30 40 50m

SCALE 1 : 1 500 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary

CADASTRAL SOURCE: Landgate, September 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown August 2023.

Aurora environmental
ASSESS · ADVISE · APPLY

Drawn: T. Davies | Date: 19 Sep 2023

Morton Seed and Grain Merchants Pty Ltd
LOW STOCKPILE ASSESSMENT
766 KING ROAD, OLDBURY

RECOMMENDED MANAGEMENT OPTION

Figure 4

Job: MSG2022-003

MSG2022_003_LSA_009_LHOA.dgn

PINPOINT CARTOGRAPHICS (08) 9362 7130

TABLES

Table 1
Analytical Results - Heavy Metal Results
766 King Road, Oldbury

		Metals							
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		4	0.4	1	1	1	0.1	1	1
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind		160	NE	310	85	1,800	NE	55	210
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		3,000	900	NE	240,000	1,500	730	6,000	400,000
Field ID	**Date**								
TP1-0-0.3	**07 Aug 2023**	**4.1**	<0.40	**9.6**	**11**	**20**	<0.10	**2.4**	**52**
TP1-0.3-0.45	**07 Aug 2023**	<4.0	<0.40	**2.6**	**13**	**670**	<0.10	**2.3**	**93**
TP2-0-0.2	**07 Aug 2023**	<4.0	<0.40	**6**	**4.5**	**56**	<0.10	**1.6**	**100**
TP3-0-0.5	**07 Aug 2023**	<4.0	<0.40	**3.4**	**8.1**	**48**	<0.10	<1.0	**72**
TP4-0-1.1	**07 Aug 2023**	<4.0	<0.40	**23**	**8.6**	**30**	<0.10	**14**	**3.3**
TP5-0-0.1	**07 Aug 2023**	<4.0	<0.40	**9.2**	**7.8**	**17**	<0.10	**5.2**	**9.4**
TP6-0-1.2	**07 Aug 2023**	<4.0	<0.40	**9.7**	**7.9**	**17**	<0.10	**3.4**	**59**
TP7-0-1.0	**07 Aug 2023**	**6.2**	<0.40	**16**	**6**	**10**	<0.10	**1.7**	**30**
TP8-0.8-1.2	**07 Aug 2023**	<4.0	<0.40	**17**	**35**	**30**	<0.10	**8**	**2.6**
TP9-0-1.0	**07 Aug 2023**	**6.2**	<0.40	**25**	**18**	**46**	<0.10	**2.2**	**82**
TP10-0-0.1	**07 Aug 2023**	**4.7**	<0.40	**13**	**9.3**	**20**	<0.10	**2.4**	**130**
TP10-0.4-0.5	**07 Aug 2023**	-	-	-	-	-	-	-	**110**
TP11-0-1.0	**07 Aug 2023**	<4.0	<0.40	**10**	**7.2**	**15**	<0.10	**2.8**	**38**
TP12-0-3.0	**07 Aug 2023**	<4.0	<0.40	**9.3**	**5.4**	**13**	<0.10	**1.2**	**63**
TP12-0-3.0	**08 Aug 2023**	<4.0	<0.40	**8.3**	**9.2**	**20**	<0.10	**2.3**	**82**
TP13-0.0-0.8	**08 Aug 2023**	<4.0	<0.40	**19**	**16**	**29**	<0.10	**7.5**	**59**
TP14-0-0.8	**07 Aug 2023**	<4.0	<0.40	**3.6**	**9**	**9.4**	<0.10	**1**	**36**
TP16-0-0.8	**08 Aug 2023**	<4.0	<0.40	**14**	**7.8**	**9.9**	<0.10	**1.3**	**42**
TP17-0-0.7	**08 Aug 2023**	<4.0	<0.40	**5.9**	**6.1**	**110**	<0.10	**2**	**340**
TP17-0.7-1.2	**08 Aug 2023**	-	-	-	-	-	-	-	**1.4**
TP18-0.0-1.2	**08 Aug 2023**	<4.0	<0.40	**7.5**	**5.1**	**78**	<0.10	**2.4**	**120**
TP18-1.2-1.7	**08 Aug 2023**	-	-	-	-	-	-	-	**1.8**
TP19-0-1.2	**08 Aug 2023**	<4.0	<0.40	**9.8**	**6.5**	**22**	<0.10	**3.3**	**47**
TP20-0-2.5	**08 Aug 2023**	<4.0	<0.40	**8.4**	**7.5**	**19**	<0.10	**1.6**	**84**
TP21-0.1-1.1	**08 Aug 2023**	<4.0	<0.40	**19**	**10**	**33**	<0.10	**13**	**3.3**
TP22-0-0.6	**08 Aug 2023**	<4.0	<0.40	**40**	**15**	**88**	<0.10	**3.9**	**84**
TP23-0.0-0.4	**08 Aug 2023**	<4.0	<0.40	**15**	**9**	**34**	<0.10	**7.5**	**25**
TP24-0-1.4	**08 Aug 2023**	<4.0	<0.40	**9.1**	**11**	**16**	<0.10	**2.8**	**55**
TP25-0-0.3	**08 Aug 2023**	<4.0	<0.40	**9.5**	**3.3**	**7.9**	<0.10	**2.7**	**8**
TP30-0-0.1	**08 Aug 2023**	**46**	<0.40	**52**	**44**	**12**	<0.10	**3**	**43**
QC1 (Duplicate of TP7-0-1.0)	**07 Aug 2023**	**5.5**	<0.40	**17**	**5.8**	**8.4**	<0.10	**1.3**	**32**
RPD		**11.97%**	NC	**6.06%**	**3.39%**	**17.39%**	NC	**26.67%**	**6.45%**
QC2 (Triplicate of TP7-0-1.0)	**07 Aug 2023**	**5.4**	<0.1	**15**	**3.9**	**7.1**	**0.08**	**1**	**23**
RPD		**13.79%**	NC	**6.45%**	**42.42%**	**33.92%**	NC	**51.85%**	**26.42%**

References:

1. Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (NEPC, 2013).

Notes and Abbreviations:

LOR - limit of Reporting
mg/kg - milligram per kilogram
EIL - Ecological Investigation Level
NE - Not Established
HIL - Health Investigation Level
ID - Identification
NA - Not Applicable
NC - Not Calculatable

Table 2
Analytical Results - Hydrocarbons
766 King Road, Oldbury

		BTEXN							TRH							Halogenated Benzenes
		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
EQL		1	0.2	0.5	1	2	1	3	25	25	50	50	100	100	50	0.1
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand - >=0m, <1m		NE	3	NE	NE	NE	NE	230	NE	260	NE	NE	NE	NE	NE	NE
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind		370	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil - >=0m, <2m		NE	75	135	165	NE	NE	180	NE	215	170	170	1,700	3,300	NE	NE
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	80
Field ID	**Date**															
TP1-0-0.3	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP1-0.3-0.45	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP2-0-0.2	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP3-0-0.5	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP4-0-1.1	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP5-0-0.1	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP6-0-1.2	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP7-0-1.0	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP8-0.8-1.2	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP9-0-1.0	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP10-0-0.1	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP11-0-1.0	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP12-0-3.0	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP12-0-3.0	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP13-0.0-0.8	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP14-0-0.8	**07 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP16-0-0.8	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP17-0-0.7	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP18-0.0-1.2	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP19-0-1.2	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP20-0-2.5	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP21-0.1-1.1	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP22-0-0.6	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP23-0.0-0.4	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP24-0-1.4	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP25-0-0.3	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
TP30-0-0.1	**08 Aug 2023**	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
QC1 (Duplicate of TP7-0-1.0)	**07 Aug 2023**	<0.10	<0.20	<0.50	<1.0	<2.0	<1.0	<3.0	<25	<25	<50	<50	<100	<100	<50	<0.10
RPD		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QC2 (Triplicate of TP7-0-1.0)	**07 Aug 2023**	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<20	<50	<50	<50	<50	<50	NA
RPD		NC	NA	NC	NC	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC	NA

1. Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (NEPC, 2013).

Notes and Abbreviations:

LOR - limit of Reporting
mg/kg - milligram per kilogram
EIL - Ecological Investigation Level
ESL - Ecological Screening Level
HSL - Health Screening Level
BTEXN - Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene
TRH - Total Recoverable Hydrocarbons
NC - Not Calculatable
NE - Not Established
HIL - Health Investigation Level

Table 3
Analytical Results - Pesticides
766 King Road, Oldbury

		Organochlorine Pesticides																					
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	640	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		NE	NE	45		NE	530		NE	NE	NE	2000			NE	100	NE	NE	NE	50	NE	2,500	100
Field ID	Date																						
TP1-0-0.3	07 Aug 2023	<0.10	<0.10	<0.10	0.3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP1-0.3-0.45	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP2-0-0.2	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP3-0-0.5	07 Aug 2023	<0.10	<0.10	<0.10	0.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP4-0-1.1	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP5-0-0.1	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP6-0-1.2	07 Aug 2023	<0.10	<0.10	<0.10	0.39	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP7-0-1.0	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP8-0.8-1.2	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP9-0-1.0	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP10-0-0.1	07 Aug 2023	<0.10	<0.10	<0.10	0.31	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP11-0-1.0	07 Aug 2023	<0.10	<0.10	<0.10	0.14	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP12-0-3.0	07 Aug 2023	<0.10	<0.10	<0.10	0.24	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP12-0-3.0	08 Aug 2023	<0.10	<0.10	<0.10	0.34	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP13-0.0-0.8	08 Aug 2023	<0.10	<0.10	<0.10	1.3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP14-0-0.8	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP16-0-0.8	08 Aug 2023	<0.10	<0.10	<0.10	0.45	<0.10	<0.10	0.13	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP17-0-0.7	08 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP18-0.0-1.2	08 Aug 2023	<0.10	<0.10	<0.10	0.22	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP19-0-1.2	08 Aug 2023	<0.10	<0.10	<0.10	0.23	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP20-0-2.5	08 Aug 2023	<0.10	<0.10	<0.10	0.28	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP21-0.1-1.1	08 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP22-0-0.6	08 Aug 2023	<0.10	<0.10	<0.10	0.29	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP23-0.0-0.4	08 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP24-0-1.4	08 Aug 2023	<0.10	<0.10	<0.10	0.15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP25-0-0.3	08 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP30-0-0.1	08 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
QC1 (Duplicate of TP7-0-1.0)	07 Aug 2023	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
RPD		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QC2 (Triplicate of TP7-0-1.0)	07 Aug 2023	<0.05	NA	<0.05	<0.05	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05	<0.05	NA	
RPD		NC	NA	NC	NC	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NA	NA	NC	NC	NC	NA	

References:

1. Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (NEPC, 2013).

Notes and Abbreviations:

LOR - limit of Reporting
mg/kg - milligram per kilogram
EIL - Ecological Investigation Level
NC - Not Calculatable
HIL - Health Investigation Level
ID - Identification
NE - Not Established
RPD - Relative Percentage Difference
NA - Not Analysed

ATTACHMENT 1

Test Pit Logs

Soil Bore No: TP1

Client: Morton Seed and Grain	Date Commenced: 7/08/23
Project: Low Stockpile Assessment	Date Completed: 7/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 0.5m below ground level.

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
4.0-0.0	FILL	Construction and Demolition waste with no soils. Waste consisted of large concrete blocks and bricks.	Y	N	-	No staining, odours or ACM observed.
0.0-0.3	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	N	0-0.3	No staining, odours or ACM observed.
0.3-0.45	FILL	Gravelly SAND: grey/brown, fine to coarse grained, well graded, moist.	Y	N	0.3-0.45	Crushed glass fragments observed throughout soil horizon. Inferred road base material.
0.45-0.5	CL	CLAY: Grey/orange, moderate plasticity, soft, moist.	N	N	0.45-0.5	Inferred natural soils. No staining, odours or ACM observed.

Terminated at 0.5m below ground level (4.5m below top of stockpile) with target depth reached.

Soil Bore No: TP2

Client: Morton Seed and Grain
Project: Low Stockpile Assessment
Location: 766 King Rd, Oldbury
Project Number: MSG2022-003

Date Commenced: 7/08/23
Date Completed: 7/08/23
Logged By: TDel
Checked By: TD

Excavation Co: Red Sand Supplies
Operator:
Water Strike if Any: -

Excavation Method: Test Pitting
Weather: Sunny
Total Depth of Hole: 0.5m below ground level

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
1.0-0.2	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	Y – SP surface	0-0.3	Construction and demolition wastes including timber, bricks plastic and ACM observed in stockpile. No staining or odours observed. Stockpile 1m in height at TP location.
0.2-0.5	CL	CLAY: Orange, moderate plasticity, soft, moist.	N	N	0.45-0.5	Inferred natural soils. No staining, odours or ACM observed.

Terminated at 0.5m below ground level (1.5m below top of stockpile) with target depth reached.

Soil Bore No: TP2a

Client: Morton Seed and Grain	Date Commenced: 7/08/23
Project: Low Stockpile Assessment	Date Completed: 7/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1.8m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.3	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	N	-	Construction and demolition wastes including timber, bricks plastic. No ACM, staining or odours observed. Stockpile 1.3m in height at test pit location.
1.3-1.8	CL	CLAY: Orange, moderate plasticity, soft, moist.	N	N	-	Inferred natural soils. No staining, odours or ACM observed. Water encountered at 1.3mbtos.

Terminated at 1.8m below top of stockpile with target depth reached.

Soil Bore No: TP2b						
Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003					Date Commenced: 7/08/23 Date Completed: 7/08/23 Logged By: TDel Checked By: TD	
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: -					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1m below top of stockpile (mbtos)	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-0.7	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	Y (5+ frags in 10L sample)	-	Construction and demolition wastes including timber, bricks plastic. No staining or odours observed. Several large fragments of corrugated ACM encountered. Stockpile was 0.7m in height.
0.7-1	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	-	Inferred natural soils. No staining, odours or ACM observed.
Terminated at (1m below top of stockpile) with target depth reached.						

Soil Bore No: TP3

Client: Morton Seed and Grain
Project: Low Stockpile Assessment
Location: 766 King Rd, Oldbury
Project Number: MSG2022-003

Date Commenced: 7/08/23
Date Completed: 7/08/23
Logged By: TDel
Checked By: TD

Excavation Co: Red Sand Supplies
Operator:
Water Strike if Any: -

Excavation Method: Test Pitting
Weather: Sunny
Total Depth of Hole: 1m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.5	FILL	SAND: Brown-dark brown, fine to medium grained, poorly graded, moist.	Y	Y (Frags observed in !0L sample)	0.0-0.5	Construction and demolition wastes including timber, bricks, metal, and plastic. No staining or odours observed. Multiple ACM fragments from two different sources were observed. Stockpile was 0.5m in height.
0.5-1.0	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	0.5-1.0	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (1m below top of stockpile) with target depth reached.

Soil Bore No: TP4

Client: Morton Seed and Grain	Date Commenced: 7/08/23
Project: Low Stockpile Assessment	Date Completed: 7/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.1	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	N	N	0.0-0.5	No staining, odours or ACM observed. Stockpile was 1.1m in height.
1.1-1.6	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	0.5-1.0	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (1m below top of stockpile) with target depth reached.

Soil Bore No: TP5

Client: Morton Seed and Grain	Date Commenced: 7/08/23
Project: Low Stockpile Assessment	Date Completed: 7/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: 1.1mbtos	Total Depth of Hole: 1m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.1	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	N	0.0-0.1	Construction and demolition wastes including timber, bricks plastic. General household waste also encountered. No ACM, staining or odours observed. Stockpile 1.1m in height at test pit location.
1.1-1.5	CL	CLAY: Orange/grey, moderate plasticity, soft, wet.	N	N	0.1-0.5	Inferred natural soils. No staining, odours or ACM observed. Groundwater encountered 1.1 mbtos.

Terminated at (1.5m below top of stockpile) with target depth reached.

Soil Bore No: TP6						
Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003					Date Commenced: 7/08/23 Date Completed: 7/08/23 Logged By: TDel Checked By: TD	
Excavation Co: Red Sand Supplies Operator: Water Strike if Any:1.2mbtos					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.2m below top of stockpile (mbtos)	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-1.2	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	Y	0.0-1.2	Construction and demolition wastes including timber, bricks and concrete. No staining or odours observed. Three fragments of ACM were observed. Stockpile was 1.2m in height.
1.2-1.5	CL	CLAY: Orange/grey, moderate plasticity, soft, wet.	N	N	1.2-1.5	Inferred natural soils. No staining, odours or ACM observed. Groundwater encountered 1.2 mbtos.
Terminated at (1.2m below top of stockpile) with target depth reached.						

Soil Bore No: TP7

Client: Morton Seed and Grain	Date Commenced: 7/08/23
Project: Low Stockpile Assessment	Date Completed: 7/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1.5m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.0	FILL	SAND: Dark brown, fine to medium grained, poorly graded, moist.	Y	Y	0.0-1.0 (QC1 and QC2)	Construction and demolition wastes including PVS, bricks and plastic. No staining or odours observed. One fragment of PACM were observed. Stockpile was 1.0m in height.
1.0-1.5	CL	CLAY: Orange/red, moderate plasticity, soft, moist.	N	N	1.0-1.5	Inferred natural soils. No staining, odours or ACM observed.
Terminated at (1.5m below top of stockpile) with target depth reached.						

Soil Bore No: TP8						
Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003					Date Commenced: 7/08/23 Date Completed: 7/08/23 Logged By: TDel Checked By: TD	
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: 0.8mbtos					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.2m below top of stockpile (mbtos)	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-0.8	FILL	No soil, construction and demolitions waste only. .	Y	Y	-	Construction and demolition wastes including timber, bricks and concrete. No staining or odours observed. 2 fragments of PACM were observed. Stockpile was 0.8m in height.
0.8-1.2	CL	CLAY: Orange/grey, moderate plasticity, soft, wet.	N	N	1.2-1.5	Inferred natural soils. No staining, odours or ACM observed. Groundwater encountered 0.8 mbtos.
Terminated at (1.2m below top of stockpile) with target depth reached.						

Soil Bore No: TP9						
Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003					Date Commenced: 7/08/23 Date Completed: 7/08/23 Logged By: TDel Checked By: TD	
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: 1.0 mbtos					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.2m below top of stockpile (mbtos)	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-1.0	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	N	0.0-1.0	A small volume of construction and demolition wastes including timber, PVC, scrap metal, bricks and concrete. No staining or odours observed. Stockpile was 1.2m in height. No ACM observed within test pit but 2x frags observed on the stockpile surface adjacent to the test pit.
1.0-1.5	CL	CLAY: Orange/grey, moderate plasticity, soft, wet.	N	N	1.0-1.5	Inferred natural soils. No staining, odours or ACM observed. Groundwater encountered 1.0 mbtos.
Terminated at (1.5m below top of stockpile) with target depth reached.						

Soil Bore No: TP10

Client: Morton Seed and Grain
Project: Low Stockpile Assessment
Location: 766 King Rd, Oldbury
Project Number: MSG2022-003

Date Commenced: 7/08/23
Date Completed: 7/08/23
Logged By: TDel
Checked By: TD

Excavation Co: Red Sand Supplies
Operator:
Water Strike if Any: -

Excavation Method: Test Pitting
Weather: Sunny
Total Depth of Hole: 1.2m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.5	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	N	0.0-0.1	Construction and demolition wastes including timber, PVC, scrap metal, bricks and concrete. No staining or odours observed. Stockpile was 1.5m in height. No ACM observed within test pit but 2x frags observed on the stockpile surface adjacent to the test pit.
1.0-1.5	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	0.1-0.5 (error in sample labelling)	Inferred natural soils. No staining, odours or ACM observed. Groundwater encountered 1.0 mbtos.

Terminated at (1.5m below top of stockpile) with target depth reached.

Soil Bore No: TP11

Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003	Date Commenced: 7/08/23 Date Completed: 7/08/23 Logged By: TDel Checked By: TD
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: -	Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.5m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0.0-1.0	FILL	SAND: Brown, fine to medium grained, poorly graded, dry.	Y	N	0-1.0	Construction and demolition wastes including timber, bricks plastic and scrap metal observed in stockpile. No ACM, staining or odours observed. Stockpile 1m in height at TP location.
1.0-1.5	CL	CLAY: Grey/orange, moderate plasticity, soft, moist.	N	N	1.0-1.5	Inferred natural soils. No staining, odours or ACM observed.
Terminated at 0.5m below ground level (4.5m below top of stockpile) with target depth reached.						

Soil Bore No: TP12

Client: Morton Seed and Grain	Date Commenced: 7/08/23
Project: Low Stockpile Assessment	Date Completed: 7/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 3.5m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0.0-3.0	FILL	SAND: Brown, fine to medium grained, poorly graded, dry with some pockets of yellow sand.	Y	Y –	0-0.3	Construction and demolition wastes including convert and bricks observed in stockpile. 1 PACM fragment (fibre cement was identified). 1 fragment of ACM noted. No staining or odours observed. Stockpile 3m in height at TP location.
3.0-3.5	CL	CLAY: Orange, moderate plasticity, soft, moist.	N	N	0.45-0.5	Inferred natural soils. No staining, odours or ACM observed.

Terminated at 0.5m below ground level (3.5m below top of stockpile) with target depth reached.

Soil Bore No: TP13

Client: Morton Seed and Grain	Date Commenced: 7/08/23
Project: Low Stockpile Assessment	Date Completed: 7/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1.3m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.8	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	N	0-0.8	Construction and demolition wastes including timber, bricks and roof tiles. No ACM, staining or odours observed. Stockpile 0.8m in height at test pit location.
0.8-1.3	CL	CLAY: Orange, moderate plasticity, soft, moist.	N	N	0.8-1.3	Inferred natural soils. No staining, odours or ACM observed. Water encountered at 1.3mbtos.

Terminated at 1.3m below top of stockpile with target depth reached.

Soil Bore No: TP14

Client: Morton Seed and Grain	Date Commenced: 7/08/23
Project: Low Stockpile Assessment	Date Completed: 7/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1.3m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.8	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	Y	0-0.8	Construction and demolition wastes including concrete, timber, bricks and roof tiles. 1 fragment of PACM (fibre cement) noted. No, staining or odours observed. Stockpile 0.8m in height at test pit location.
0.8-1.3	CL	CLAY: Brown. moderate plasticity, soft, moist.	N	N	0.8-1.3	Inferred natural soils. No staining, odours or ACM observed.
Terminated at (1.3m below top of stockpile) with target depth reached.						

Soil Bore No: TP15

Client: Morton Seed and Grain	Date Commenced: 8/08/23
Project: Low Stockpile Assessment	Date Completed: 8/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: 0.8mbtos	Total Depth of Hole: 1m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.8	FILL	Construction and Demolition waste with no soils. Waste consisted of large concrete blocks and bricks.	Y	Y	-	No staining or odours observed. 1 fragment of PACM observed. Stockpile 0.8m in height at test pit location.
0.8-1.3	CL	CLAY: Orange/grey, moderate plasticity, soft, wet.	N	N	0.8-1.3	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (1.3m below top of stockpile) with target depth reached.

Soil Bore No: TP15a

Client: Morton Seed and Grain	Date Commenced: 8/08/23
Project: Low Stockpile Assessment	Date Completed: 8/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: 1.0mbtos	Total Depth of Hole: 1m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.0	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	Y	-	Construction and demolition wastes including concrete, timber, bricks and roof tiles. No ACM, staining or odours observed. Stockpile 0.8m in height at test pit location.
1.0-1.5	CL	CLAY: Orange/grey, moderate plasticity, soft, wet.	N	N	-	Inferred natural soils. No staining, odours or ACM observed. Water encountered at 1.5mbtos.

Terminated at (1.5m below top of stockpile) with target depth reached.

Soil Bore No: TP16

Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003	Date Commenced: 8/08/23 Date Completed: 8/08/23 Logged By: TDel Checked By: TD
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: -	Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.3m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.8	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	N	N	0.0-0.5	Construction and demolition wastes including concrete, bricks and roof tiles. No ACM, staining or odours observed. Stockpile 0.8m in height at test pit location.
0.8-1.3	CL	CLAY: Brown, moderate plasticity, soft, moist.	N	N	0.5-1.0	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (1m below top of stockpile) with target depth reached.

Soil Bore No: TP16a

Client: Morton Seed and Grain	Date Commenced: 8/08/23
Project: Low Stockpile Assessment	Date Completed: 8/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.1	FILL	SAND: Brown, fine to medium grained, poorly graded, moist.	Y	Y 2 frags	-	Construction and demolition wastes including timber, bricks plastic. General household waste also encountered. 2 fragments of PACM were encountered. No staining or odours observed. Stockpile 1.1m in height at test pit location.
1.1-1.5	CL	CLAY: Brown, moderate plasticity, soft, moist.	N	N	-	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (1.5m below top of stockpile) with target depth reached.

Soil Bore No: TP17

Client: Morton Seed and Grain	Date Commenced: 8/08/23
Project: Low Stockpile Assessment	Date Completed: 8/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1.2m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.7	FILL	Silty SAND: Brown/cream, fine to medium grained, poorly graded, moist with some limestone cobbles throughout.	Y	N	0.0-0.7	Construction and demolition wastes including timber, bricks and concrete. No staining or odours observed. Stockpile was 1.2m in height.
0.7-1.2	CL	CLAY: cream/grey, moderate plasticity, soft, wet.	N	N	0.7-1.2	Inferred natural soils. No staining, odours or ACM observed. Groundwater encountered 1.2 mbtos.

Terminated at (1.2m below top of stockpile) with target depth reached.

Soil Bore No: TP18

Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003	Date Commenced: 8/08/23 Date Completed: 8/08/23 Logged By: TDel Checked By: TD
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: -	Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.5m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.2	FILL	Silty SAND: Brown/cream, fine to medium grained, poorly graded, moist with some limestone cobbles throughout.	Y	Y – 1 frag	0.0-1.2	Construction and demolition wastes including timber, bricks and concrete. 1x PACM fragment observed (fibre cement) No staining or odours observed. Stockpile was 1.2m in height.
1.2-1.7	CL	CLAY: Orange, moderate plasticity, soft, moist.	N	N	1.2-1.7	Inferred natural soils. No staining, odours or ACM observed.
Terminated at (1.7m below top of stockpile) with target depth reached.						

Soil Bore No: TP19

Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003	Date Commenced: 8/08/23 Date Completed: 8/08/23 Logged By: TDel Checked By: TD
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: 1.2m btos	Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.2m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.2	FILL	Silty SAND: Brown/cream, fine to medium grained, poorly graded, moist with some limestone cobbles throughout.	Y	Y – 1 frag	0.0-1.2	Construction and demolition wastes including timber, bricks and concrete. 1x PACM fragment observed (fibre cement) No staining or odours observed. Stockpile was 1.2m in height.
1.2-1.7	CL	CLAY: Orange/grey, moderate plasticity, soft, wet.	N	N	1.2-1.5	Inferred natural soils. No staining, odours or ACM observed. Groundwater encountered 1.2 mbtos.
Terminated at (1.7m below top of stockpile) with target depth reached.						

Soil Bore No: TP20

Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003	Date Commenced: 7/08/23 Date Completed: 7/08/23 Logged By: TDel Checked By: TD
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: -	Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 1.2m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-3.0	FILL	SAND: Brown, fine to medium grained, poorly graded, moist with pockets of yellow sand..	Y	N	0.0-2.5	A small volume of construction and demolition wastes including timber, PVC, scrap metal, bricks and concrete were present from 2.5-3m btos. No staining or odours observed. Stockpile was 3m in height. No ACM observed within test pit.
3.0-3.2	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	3.0-3.2	Inferred natural soils. No staining, odours or ACM observed.
Terminated at (3.2m below top of stockpile) with target depth reached.						

Soil Bore No: TP21

Client: Morton Seed and Grain
Project: Low Stockpile Assessment
Location: 766 King Rd, Oldbury
Project Number: MSG2022-003

Date Commenced: 7/08/23
Date Completed: 7/08/23
Logged By: TDel
Checked By: TD

Excavation Co: Red Sand Supplies
Operator:
Water Strike if Any: -

Excavation Method: Test Pitting
Weather: Sunny
Total Depth of Hole: 1.2m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.6	FILL	Construction and Demolition waste with no soils. Waste consisted of large concrete blocks and bricks.	Y	Y	-	No staining or odours observed. 1 fragment of PACM observed. Stockpile 0.8m in height at test pit location.
0.6-1.1	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	0.6-1.1	Inferred natural soils. No staining, odours or ACM observed. Groundwater encountered 0.6 mbtos.

Terminated at (1.5m below top of stockpile) with target depth reached.

Soil Bore No: TP22

Client: Morton Seed and Grain
Project: Low Stockpile Assessment
Location: 766 King Rd, Oldbury
Project Number: MSG2022-003

Date Commenced: 8/08/23
Date Completed: 8/08/23
Logged By: TDel
Checked By: TD

Excavation Co: Red Sand Supplies
Operator:
Water Strike if Any: -

Excavation Method: Test Pitting
Weather: Sunny
Total Depth of Hole: 1.1m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.6	FILL	Silty SAND: Brown/cream, fine to medium grained, poorly graded, moist with some limestone cobbles throughout.	Y	N	0.0-0.6	Construction and demolition wastes including timber, bricks and concrete. No staining or odours observed. Stockpile was 1.2m in height.1x PACM fragments observed 2m north east of test pit on stockpile surface.
0.6-1.1	CL	CLAY: orange, moderate plasticity, soft, moist.	N	N	0.6-1.1	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (1.2m below top of stockpile) with target depth reached.

Soil Bore No: TP23

Client: Morton Seed and Grain	Date Commenced: 8/08/23
Project: Low Stockpile Assessment	Date Completed: 8/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any: -	Total Depth of Hole: 1.5m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.4	FILL	SAND: Brown, fine to coarse grained, well graded, moist/	Y	Y – 2 frags	0.0-0.4	Minimal soils, mostly construction and demolition wastes including timber, bricks and concrete. 2x PACM fragment observed (fibre cement) No staining or odours observed. Stockpile was 0.4m in height.
0.4-0.9	CL	CLAY: Orange, moderate plasticity, soft, moist.	N	N	0.4-0.9	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (1.7m below top of stockpile) with target depth reached.

Soil Bore No: TP24

Client: Morton Seed and Grain	Date Commenced: 8/08/23
Project: Low Stockpile Assessment	Date Completed: 8/08/23
Location: 766 King Rd, Oldbury	Logged By: TDel
Project Number: MSG2022-003	Checked By: TD
Excavation Co: Red Sand Supplies	Excavation Method: Test Pitting
Operator:	Weather: Sunny
Water Strike if Any:	Total Depth of Hole: 1.9m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-1.4	FILL	Silty SAND: Brown, fine to medium grained, poorly graded, moist with some limestone cobbles throughout.	Y	Y – 1 frag	0.0-1.2	Construction and demolition wastes including timber, bricks and concrete. 1x PACM fragment observed (fibre cement) No staining or odours observed. Stockpile was 1.4m in height.
1.4-1.9	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	1.4-1.9	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (1.9m below top of stockpile) with target depth reached.

Soil Bore No: TP25

Client: Morton Seed and Grain
Project: Low Stockpile Assessment
Location: 766 King Rd, Oldbury
Project Number: MSG2022-003

Date Commenced: 7/08/23
Date Completed: 7/08/23
Logged By: TDel
Checked By: TD

Excavation Co: Red Sand Supplies
Operator:
Water Strike if Any: -

Excavation Method: Test Pitting
Weather: Sunny
Total Depth of Hole: 1.2m below top of stockpile (mbtos)

Depth (mbtos)	Symbol (USCS)	LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)	C&D? (Y/N)	PACM? (Y/N)	Sample ID	Comments
0-0.3	FILL	SAND: Yellow, fine to medium grained, poorly graded, dry	Y	N	0.0-0.3	A small volume of construction and demolition wastes including timber, PVC, scrap metal, bricks and concrete were present from 2.5-3m btos. No staining or odours observed. Stockpile was 3m in height. No ACM observed within test pit.
0.3-0.8	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	0.3-0.8	Inferred natural soils. No staining, odours or ACM observed.

Terminated at (0.8m below top of stockpile) with target depth reached.

Soil Bore No: TP30						
Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003					Date Commenced: 8/08/23 Date Completed: 8/08/23 Logged By: TDel Checked By: TD	
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: -					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 0.1m below top of stockpile (mbtos)	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-0.1	FILL	Mulch	N	N	-	No ACM, staining or odours observed.
Terminated at (0.1m below top of stockpile) with target depth reached.						

Soil Bore No: TP31						
Client: Morton Seed and Grain Project: Low Stockpile Assessment Location: 766 King Rd, Oldbury Project Number: MSG2022-003					Date Commenced: 8/08/23 Date Completed: 8/08/23 Logged By: TDel Checked By: TD	
Excavation Co: Red Sand Supplies Operator: Water Strike if Any: -					Excavation Method: Test Pitting Weather: Sunny Total Depth of Hole: 0.3m below top of stockpile (mbtos)	
Depth (mbtos)	**Symbol (USCS)**	**LITHOLOGICAL DESCRIPTIONS (Soil Name, Colour, Plasticity, Particle Characteristics, Moisture, Secondary Soil Components, % Proportion, Minor Components, Moisture, Origin, Additional Observations)**	**C&D? (Y/N)**	**PACM? (Y/N)**	**Sample ID**	**Comments**
0-0.3	CL	CLAY: Orange/grey, moderate plasticity, soft, moist.	N	N	-	No ACM, staining or odours observed. Background sample.
Terminated at (0.1m below top of stockpile) with target depth reached.						

Disclaimer (Retain at end of logs):

Aurora Environmental has described soils with reference to AS1726:2017, consistent with requirements of the National Environmental Protection (Assessment of Site Contamination) Measure. Aurora Environmental does not provide geotechnical assessment or engineering advice and the soil descriptions should not be relied upon for these purposes in any form.

ATTACHMENT 2

Photographic Log

Photograph 1: A representative image of the low-lying construction and demolition waste stockpiles. Taken in the southern portion of the stockpile.

Photograph 2: A representative image of the low-lying construction and demolition waste stockpiles. Taken in the southern portion of the stockpile.

Photograph 3: A representative image of the low-lying construction and demolition waste stockpiles. Taken in the northern portion of the stockpile.

Photograph 4: A representative image of the low-lying construction and demolition waste stockpiles. Taken in the northern portion of the stockpile.

ATTACHMENT 3

Laboratory Reports

CHAIN OF CUSTODY

Dilhorn House, 2 Bulwer St, Perth WA 600
T: (08) 9227 2600 F: (08) 9227 2699

Aurora environmental

Sheet: 1 of 1

Job ID: MSG-2023-003

Results Required Date: STAT

Email results to: info@auroraenvironmental.com.au

Lab / Lab Quote No.:

tim.delavale@@auroraenvironmental.com.au, tim.davies@auroraenvironmental.com.au, brad.dermody@auroraenvironmental.com.au

Purchase Order No.: -

COMMENTS:

Lab Sample ID	Aurora Sample ID	type	Date	container	OCP's	8 heavy metals NEPM	TRH/BTEXN		Notes/LOR/ Special Requests
	QC 2	Soil	7.8.23	Jar	X	X	X	→	Send to ARL for Analysis

Relequi[redacted] Date: 7.8.23 Received by: GM·MPL Date: 7/8/23 11:40

Sample [redacted] 8/23

AUROR[redacted] PRF:/ Version 1 Pag2/3 [redacted] 13:30 @5°

Author[redacted]

Revisio[redacted]led when printed

1014773

Aurora Environmental (Perth) P/L
Dilhorn House 2 Bulwer St
Perth
WA 6000

NATA Accredited
Accreditation Number 2377
Site Number 2370

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

Attention: [redacted]

Report **1014773-S**
Project name
Received Date Aug 08, 2023

Client Sample ID			**QC2**
Sample Matrix			**Soil**
Eurofins Sample No.			**L23-Au0019541**
Date Sampled			**Aug 07, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
BTEX			
4-Bromofluorobenzene (surr.)	1	%	98
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-HCH	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-HCH	0.05	mg/kg	< 0.05
d-HCH	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05

Client Sample ID			QC2
Sample Matrix			Soil
Eurofins Sample No.			L23-Au0019541
Date Sampled			Aug 07, 2023
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
g-HCH (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxaphene	0.5	mg/kg	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	76
Tetrachloro-m-xylene (surr.)	1	%	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
TRH >C10-C16	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
Arsenic	5	mg/kg	5.4
Cadmium	0.1	mg/kg	< 0.1
Chromium	1	mg/kg	15
Copper	1	mg/kg	3.9
Lead	1	mg/kg	7.1
Mercury	0.02	mg/kg	0.08
Nickel	1	mg/kg	1.0
Zinc	1	mg/kg	23
Sample Properties			
% Moisture	1	%	3.9

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Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Welshpool	Aug 14, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Welshpool	Aug 14, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Welshpool	Aug 14, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Welshpool	Aug 14, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Organochlorine Pesticides	Welshpool	Aug 14, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Arsenic	Welshpool	Aug 14, 2023	180 Days
- Method: ARL401/403 - Metals in Soil and Sediment by ICPOES/MS			
Cadmium	Welshpool	Aug 14, 2023	180 Days
- Method: ARL401/403 - Metals in Soil and Sediment by ICPOES/MS			
Chromium	Welshpool	Aug 14, 2023	180 Days
- Method: ARL401/403 - Metals in Soil and Sediment by ICPOES/MS			
Copper	Welshpool	Aug 14, 2023	180 Days
- Method: ARL401/403 - Metals in Soil and Sediment by ICPOES/MS			
Lead	Welshpool	Aug 14, 2023	180 Days
- Method: ARL401/403 - Metals in Soil and Sediment by ICPOES/MS			
Mercury	Welshpool	Aug 14, 2023	28 Days
- Method: ARL No. 406 - Mercury by Cold Vapour Atomic Absorption Spectrophotometry			
Nickel	Welshpool	Aug 14, 2023	180 Days
- Method: ARL401/403 - Metals in Soil and Sediment by ICPOES/MS			
Zinc	Welshpool	Aug 14, 2023	180 Days
- Method: ARL401/403 - Metals in Soil and Sediment by ICPOES/MS			
% Moisture	Welshpool	Aug 08, 2023	14 Days
- Method: ARL135 Moisture in Solids			

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Company Name: Aurora Environmental (Perth) P/L
Address: Dilhorn House 2 Bulwer St
Perth
WA 6000

Project Name:

Order No.:
Report #: 1014773
Phone: 08 9227 2600
Fax: 08 9227 2699

Received: Aug 8, 2023 1:30 PM
Due: Aug 15, 2023
Priority: 5 Day
Contact Name: Tim Delavale

Eurofins Analytical Services Manager : Natalie Hill

Sample Detail									
Perth Laboratory - NATA # 2377 Site # 2370						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QC2	Aug 07, 2023		Soil	L23-Au0019541	X	X	X	X
Test Counts						1	1	1	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nepholometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS, SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	97			70-130	Pass	
TRH C10-C14	%	102			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	102			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	%	105			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
o-Xylene	%	112			70-130	Pass	
Xylenes - Total*	%	106			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	115			70-130	Pass	
TRH C6-C10	%	95			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	108			70-130	Pass	
4,4'-DDD	%	115			70-130	Pass	
4,4'-DDE	%	103			70-130	Pass	
4,4'-DDT	%	88			70-130	Pass	
a-HCH	%	115			70-130	Pass	
Aldrin	%	111			70-130	Pass	
b-HCH	%	107			70-130	Pass	
d-HCH	%	112			70-130	Pass	
Dieldrin	%	105			70-130	Pass	
Endosulfan I	%	111			70-130	Pass	
Endosulfan II	%	113			70-130	Pass	
Endosulfan sulphate	%	110			70-130	Pass	
Endrin	%	82			70-130	Pass	
Endrin aldehyde	%	108			70-130	Pass	
Endrin ketone	%	108			70-130	Pass	
g-HCH (Lindane)	%	116			70-130	Pass	
Heptachlor	%	84			70-130	Pass	
Heptachlor epoxide	%	103			70-130	Pass	
Hexachlorobenzene	%	106			70-130	Pass	
Methoxychlor	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	99			70-130	Pass	
LCS - % Recovery							
Arsenic	%	106			80-120	Pass	
Cadmium	%	109			80-120	Pass	
Chromium	%	99			80-120	Pass	
Copper	%	94			80-120	Pass	
Lead	%	102			80-120	Pass	
Mercury	%	115			60-120	Pass	
Nickel	%	97			80-120	Pass	
Zinc	%	97			80-120	Pass	
CRM - % Recovery							
Arsenic	%	106			80-120	Pass	
Cadmium	%	103			80-120	Pass	
Chromium	%	98			80-120	Pass	
Copper	%	98			80-120	Pass	
Lead	%	103			80-120	Pass	
Nickel	%	99			80-120	Pass	
Zinc	%	99			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	L23-Au0027414	NCP	%	99			70-130	Pass	
TRH C10-C14	L23-Au0013083	NCP	%	88			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	L23-Au0027414	NCP	%	90			70-130	Pass	
Toluene	L23-Au0027414	NCP	%	111			70-130	Pass	
Ethylbenzene	L23-Au0027414	NCP	%	115			70-130	Pass	
m&p-Xylenes	L23-Au0027414	NCP	%	101			70-130	Pass	
o-Xylene	L23-Au0027414	NCP	%	114			70-130	Pass	
Xylenes - Total*	L23-Au0027414	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	L23-Au0027414	NCP	%	111			70-130	Pass	
TRH C6-C10	L23-Au0027414	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	L23-Au0013084	NCP	%	108			70-130	Pass	
4,4'-DDD	L23-Au0013084	NCP	%	115			70-130	Pass	
4,4'-DDE	L23-Au0013084	NCP	%	102			70-130	Pass	
4,4'-DDT	L23-Au0013084	NCP	%	88			70-130	Pass	
a-HCH	L23-Au0013084	NCP	%	115			70-130	Pass	
Aldrin	L23-Au0013084	NCP	%	111			70-130	Pass	
b-HCH	L23-Au0013084	NCP	%	107			70-130	Pass	
d-HCH	L23-Au0013084	NCP	%	112			70-130	Pass	
Dieldrin	L23-Au0013084	NCP	%	105			70-130	Pass	
Endosulfan I	L23-Au0013084	NCP	%	111			70-130	Pass	
Endosulfan II	L23-Au0013084	NCP	%	113			70-130	Pass	
Endosulfan sulphate	L23-Au0013084	NCP	%	110			70-130	Pass	
Endrin	L23-Au0013084	NCP	%	82			70-130	Pass	
Endrin aldehyde	L23-Au0013084	NCP	%	108			70-130	Pass	
Endrin ketone	L23-Au0013084	NCP	%	108			70-130	Pass	
g-HCH (Lindane)	L23-Au0013084	NCP	%	116			70-130	Pass	
Heptachlor	L23-Au0013084	NCP	%	84			70-130	Pass	
Heptachlor epoxide	L23-Au0013084	NCP	%	103			70-130	Pass	
Hexachlorobenzene	L23-Au0013084	NCP	%	106			70-130	Pass	
Methoxychlor	L23-Au0013084	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	L23-Au0013083	NCP	%	93			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	L23-Au0019541	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	L23-Au0013093	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	L23-Au0013093	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	L23-Au0013093	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	L23-Au0019541	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	L23-Au0019541	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	L23-Au0019541	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	L23-Au0019541	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
o-Xylene	L23-Au0019541	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	L23-Au0019541	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	L23-Au0019541	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	L23-Au0019541	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	L23-Au0013093	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4,4'-DDD	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	L23-Au0013093	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	L23-Au0013093	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	L23-Au0013093	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	L23-Au0013093	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	L22-De0011844	NCP	%	75	76	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Natalie Hill	Analytical Services Manager
Douglas Todd	Senior Analyst-Metal
Douglas Todd	Senior Analyst-Sample Properties
Patrick Patfield	Senior Analyst-Organic
Patrick Patfield	Senior Analyst-Volatile

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request

Lifetree Environmental Pty Ltd

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Phone: 08 9354 7405 or mobile: 0414382415
Fax: 08 6323 1028
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www.lifetreeenvironmental.com.au

CERTIFICATE FOR THE QUALITATIVE IDENTIFICATION OF ASBESTOS AND OTHER FIBRES

Client: Aurora Environmental
Contact Name: [redacted]
Client Address: Dilhorn House, 2 Bulwer St, Perth
Email: info@auroraenvironmental.com.au
Tel.: (08) 9227 2600

Certificate No.: BA17919 **(Issue Date:** 18.08.23)
Date Sampled: 07.08.23
Sampled by: Tim Delavale
Date Received: 16.08.23
Date Analysed: 17.08.23

Test Method: *All analysis is carried out using the PLM and DS method as detailed in accordance with AS4964-2004 'Method for the qualitative identification of asbestos in bulk samples' and Lifetree Environmental Pty Ltd in-house Procedures Manual 1.*

Notes: *The results contained within this report relate only to sample(s) submitted for testing, in the condition received at the laboratory. No responsibility is accepted for errors, which may have arisen during sampling, packaging or transportation of samples by external clients. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. The reporting limit of AS4964-2004 is in the range of 0.01-0.1% w/w equivalent to 0.1-1g/kg.*

Client Job ID: MSG2023-003

Lab No.	Client Sample No.	Sample Description	Sample Weight (g)	Identification Type(s)
BA17919/01	PACM 1	Fibre Cement	91.14g	**Chrysotile Asbestos Detected** **Amosite Asbestos Detected**
BA17919/02	PACM 2	Fibre Cement	21.76g	**Chrysotile Asbestos Detected**
BA17919/03	PACM 3	Fibre Cement	42.38g	**Chrysotile Asbestos Detected** **Crocidolite Asbestos Detected**
BA17919/04	PACM 4	Fibre Cement	12.64g	**Chrysotile Asbestos Detected** **Amosite Asbestos Detected** **Crocidolite Asbestos Detected**
BA17919/05	PACM 5	Fibre Cement	5.25g	**No Asbestos Detected** Organic Fibres Detected

Approved Analyst: [redacted]

Approved Signatory: [redacted]

NATA
WORLD RECOGNISED ACCREDITATION

NATA Accredited laboratory Number: 19181
Accredited for compliance with ISO/IEC 17025 - Testing.

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Certificate of Analysis PEH0448

Client Details

Client	Aurora Environmental (Perth) Pty Ltd
Contact	[redacted]
Address	2 Bulwer St, PERTH, WA, 6000

Sample Details

Your Reference	MSG-2023-003
Number of Samples	26 Soil
Date Instructions Received	18/09/2023
Date Samples Registered	07/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date Results Requested by	22/09/2023
Date of Reissue	22/09/2023 - This report supercedes previous report, see amendment history for details

NATA Accreditation Number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with *.

Authorisation Details

Results Approved By	Heram Halim, Operations Manager Michael Hall, Inorganics & Metals Supervisor Todd Lee, Group Operations Manager Travis Carey, Organics Supervisor
Laboratory Manager	Michael Kubiak

Certificate of Analysis PEH0448

Report Amendment History

Revision	Reason for Amendment
R-01	Additional analysis requested 19-9-23

Certificate of Analysis PEH0448

Samples in this Report

Envirolab ID	Sample ID	Matrix	Date Sampled	Date Received
PEH0448-01	TP1-0-0.3	Soil	07/08/2023	08/08/2023
PEH0448-02	TP1-0.3-0.45	Soil	07/08/2023	08/08/2023
PEH0448-03	TP1-0.45-0.5	Soil	07/08/2023	08/08/2023
PEH0448-04	TP2-0-0.2	Soil	07/08/2023	08/08/2023
PEH0448-05	TP2-0.2-0.5	Soil	07/08/2023	08/08/2023
PEH0448-06	TP3-0-0.5	Soil	07/08/2023	08/08/2023
PEH0448-07	TP3-0.5-1.0	Soil	07/08/2023	08/08/2023
PEH0448-08	TP4-0-1.1	Soil	07/08/2023	08/08/2023
PEH0448-09	TP4-1.1-1.6	Soil	07/08/2023	08/08/2023
PEH0448-10	TP5-0-0.1	Soil	07/08/2023	08/08/2023
PEH0448-11	TP6-0-1.2	Soil	07/08/2023	08/08/2023
PEH0448-12	TP6-1.2-1.3	Soil	07/08/2023	08/08/2023
PEH0448-13	TP7-0-1.0	Soil	07/08/2023	08/08/2023
PEH0448-14	TP7-1.0-1.5	Soil	07/08/2023	08/08/2023
PEH0448-15	TP8-0.8-1.2	Soil	07/08/2023	08/08/2023
PEH0448-16	TP9-0-1.0	Soil	07/08/2023	08/08/2023
PEH0448-17	TP9-1.0-1.5	Soil	07/08/2023	08/08/2023
PEH0448-18	TP10-0-0.1	Soil	07/08/2023	08/08/2023
PEH0448-19	TP10-0.4-0.5	Soil	07/08/2023	08/08/2023
PEH0448-20	TP11-0-1.0	Soil	07/08/2023	08/08/2023
PEH0448-21	TP11-1.0-1.5	Soil	07/08/2023	08/08/2023
PEH0448-22	TP12-3.0-3.5	Soil	07/08/2023	08/08/2023
PEH0448-23	TP12-0-3.0	Soil	07/08/2023	08/08/2023
PEH0448-24	TP14-0-0.8	Soil	07/08/2023	08/08/2023
PEH0448-25	TP14-0.8-1.3	Soil	07/08/2023	08/08/2023
PEH0448-26	QC1	Soil	07/08/2023	08/08/2023

Certificate of Analysis PEH0448

Volatile TRH and BTEX (Soil)

Envirolab ID	Units	PQL	PEH0448-01	PEH0448-02	PEH0448-04	PEH0448-06	PEH0448-08
Your Reference			TP1-0-0.3	TP1-0.3-0.45	TP2-0-0.2	TP3-0-0.5	TP4-0-1.1
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
TRH C6-C9	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
meta+para Xylene	mg/kg	2.0	<2.0	<2.0	<2.0	<2.0	<2.0
ortho-Xylene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene	mg/kg	3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%		*90.8*	*77.1*	*107*	*102*	*104*

Envirolab ID	Units	PQL	PEH0448-10	PEH0448-11	PEH0448-13	PEH0448-15	PEH0448-16
Your Reference			TP5-0-0.1	TP6-0-1.2	TP7-0-1.0	TP8-0.8-1.2	TP9-0-1.0
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
TRH C6-C9	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
meta+para Xylene	mg/kg	2.0	<2.0	<2.0	<2.0	<2.0	<2.0
ortho-Xylene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene	mg/kg	3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%		*106*	*98.0*		*112*	*118*

Envirolab ID	Units	PQL	PEH0448-18	PEH0448-20	PEH0448-23	PEH0448-24	PEH0448-26
Your Reference			TP10-0-0.1	TP11-0-1.0	TP12-0-3.0	TP14-0-0.8	QC1
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
TRH C6-C9	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
meta+para Xylene	mg/kg	2.0	<2.0	<2.0	<2.0	<2.0	<2.0
ortho-Xylene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene	mg/kg	3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%		*108*			*121*	*118*

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Semi-volatile TRH (Soil)

Envirolab ID	Units	PQL	PEH0448-01	PEH0448-02	PEH0448-04	PEH0448-06	PEH0448-08
Your Reference			TP1-0-0.3	TP1-0.3-0.45	TP2-0-0.2	TP3-0-0.5	TP4-0-1.1
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
TRH C10-C14	mg/kg	50	<50	<50	<50	<50	<50
TRH C15-C28	mg/kg	100	<100	<100	<100	<100	<100
TRH C29-C36	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH C10-C36	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16 less Naphthalene F2	mg/kg	50	<50	<50	<50	<50	<50
TRH >C16-C34 (F3)	mg/kg	100	<100	<100	<100	<100	<100
TRH >C34-C40 (F4)	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH >C10-C40	mg/kg	50	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%		*97.4*	*97.8*	*100*	*105*	*102*

Envirolab ID	Units	PQL	PEH0448-10	PEH0448-11	PEH0448-13	PEH0448-15	PEH0448-16
Your Reference			TP5-0-0.1	TP6-0-1.2	TP7-0-1.0	TP8-0.8-1.2	TP9-0-1.0
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
TRH C10-C14	mg/kg	50	<50	<50	<50	<50	<50
TRH C15-C28	mg/kg	100	<100	<100	<100	<100	<100
TRH C29-C36	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH C10-C36	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16 less Naphthalene F2	mg/kg	50	<50	<50	<50	<50	<50
TRH >C16-C34 (F3)	mg/kg	100	<100	<100	<100	<100	<100
TRH >C34-C40 (F4)	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH >C10-C40	mg/kg	50	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%		*100*	*102*	*105*	*106*	*100*

Envirolab ID	Units	PQL	PEH0448-18	PEH0448-20	PEH0448-23	PEH0448-24	PEH0448-26
Your Reference			TP10-0-0.1	TP11-0-1.0	TP12-0-3.0	TP14-0-0.8	QC1
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
TRH C10-C14	mg/kg	50	<50	<50	<50	<50	<50
TRH C15-C28	mg/kg	100	<100	<100	<100	<100	<100
TRH C29-C36	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH C10-C36	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16 less Naphthalene F2	mg/kg	50	<50	<50	<50	<50	<50
TRH >C16-C34 (F3)	mg/kg	100	<100	<100	<100	<100	<100
TRH >C34-C40 (F4)	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH >C10-C40	mg/kg	50	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%		*106*	*99.3*	*106*	*105*	*102*

Certificate of Analysis PEH0448

Organochlorine Pesticides (Soil)

Envirolab ID	Units	PQL	PEH0448-01	PEH0448-02	PEH0448-04	PEH0448-06	PEH0448-08
Your Reference			TP1-0-0.3	TP1-0.3-0.45	TP2-0-0.2	TP3-0-0.5	TP4-0-1.1
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
alpha-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
beta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
gamma-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
delta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aldrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan I	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dieldrin	mg/kg	0.10	0.30	<0.10	<0.10	0.20	<0.10
Endrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan II	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.10	<0.10	<0.10	<0.10	0.25	<0.10
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin ketone	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Mirex	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total +ve OCP	mg/kg	0.10	0.30	<0.10	<0.10	0.45	<0.10
Surrogate 2-Chlorophenol-D4	%		*89.5*	*88.5*	*92.3*	*90.2*	*91.9*

Envirolab ID	Units	PQL	PEH0448-10	PEH0448-11	PEH0448-13	PEH0448-15	PEH0448-16
Your Reference			TP5-0-0.1	TP6-0-1.2	TP7-0-1.0	TP8-0.8-1.2	TP9-0-1.0
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
alpha-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
beta-BHC gamma-	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
BHC delta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aldrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan I	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dieldrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin 4,4'-	mg/kg	0.10	<0.10	0.39	<0.10	<0.10	<0.10
DDD	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certificate of Analysis PEH0448

Organochlorine Pesticides (Soil)

Envirolab ID	Units	PQL	PEH0448-10	PEH0448-11	PEH0448-13	PEH0448-15	PEH0448-16
Your Reference			TP5-0-0.1	TP6-0-1.2	TP7-0-1.0	TP8-0.8-1.2	TP9-0-1.0
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Endosulfan II	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin ketone	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Mirex	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total +ve OCP	mg/kg	0.10	<0.10	0.39	<0.10	<0.10	<0.10
Surrogate 2-Chlorophenol-D4	%		*88.9*	*94.2*	*88.9*	*91.5*	*88.4*

Envirolab ID	Units	PQL	PEH0448-18	PEH0448-20	PEH0448-23	PEH0448-24	PEH0448-26
Your Reference			TP10-0-0.1	TP11-0-1.0	TP12-0-3.0	TP14-0-0.8	QC1
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
alpha-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
beta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
gamma-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
delta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aldrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan I	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dieldrin	mg/kg	0.10	0.31	0.14	0.24	<0.10	<0.10
Endrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan II	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin ketone	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Mirex	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total +ve OCP	mg/kg	0.10	0.31	0.14	0.24	<0.10	<0.10
Surrogate 2-Chlorophenol-D4	%		*93.1*	*92.3*	*94.7*	*91.3*	*92.7*

Certificate of Analysis PEH0448

Acid Extractable Metals (Soil)

Envirolab ID	Units	PQL	PEH0448-01	PEH0448-02	PEH0448-04	PEH0448-06	PEH0448-08
Your Reference			TP1-0-0.3	TP1-0.3-0.45	TP2-0-0.2	TP3-0-0.5	TP4-0-1.1
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Arsenic	mg/kg	4.0	4.1	<4.0	<4.0	<4.0	<4.0
Cadmium	mg/kg	0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Chromium	mg/kg	1.0	9.6	2.6	6.0	3.4	23
Copper	mg/kg	1.0	11	13	4.5	8.1	8.6
Mercury	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1.0	2.4	2.3	1.6	<1.0	14
Lead	mg/kg	1.0	20	670	56	48	30
Zinc	mg/kg	1.0	52	93	100	72	3.3

Envirolab ID	Units	PQL	PEH0448-10	PEH0448-11	PEH0448-13	PEH0448-15	PEH0448-16
Your Reference			TP5-0-0.1	TP6-0-1.2	TP7-0-1.0	TP8-0.8-1.2	TP9-0-1.0
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Arsenic	mg/kg	4.0	<4.0	<4.0	6.2	<4.0	6.2
Cadmium	mg/kg	0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Chromium	mg/kg	1.0	9.2	9.7	16	17	25
Copper	mg/kg	1.0	7.8	7.9	6.0	35	18
Mercury	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1.0	5.2	3.4	1.7	8.0	2.2
Lead	mg/kg	1.0	17	17	10	30	46
Zinc	mg/kg	1.0	9.4	59	30	2.6	82

Envirolab ID	Units	PQL	PEH0448-18	PEH0448-19	PEH0448-20	PEH0448-23	PEH0448-24
Your Reference			TP10-0-0.1	TP10-0.4-0.5	TP11-0-1.0	TP12-0-3.0	TP14-0-0.8
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Arsenic	mg/kg	4.0	4.7	[NA]	<4.0	<4.0	<4.0
Cadmium	mg/kg	0.40	<0.40	[NA]	<0.40	<0.40	<0.40
Chromium	mg/kg	1.0	13	[NA]	10	9.3	3.6
Copper	mg/kg	1.0	9.3	[NA]	7.2	5.4	9.0
Mercury	mg/kg	0.10	<0.10	[NA]	<0.10	<0.10	<0.10
Nickel	mg/kg	1.0	2.4	[NA]	2.8	1.2	1.0
Lead	mg/kg	1.0	20	[NA]	15	13	9.4
Zinc	mg/kg	1.0	130		38	63	36

Envirolab ID	Units	PQL	PEH0448-26
Your Reference			QC1
Date Sampled			07/08/2023
Arsenic	mg/kg	4.0	5.5
Cadmium	mg/kg	0.40	<0.40
Chromium	mg/kg	1.0	17
Copper	mg/kg	1.0	5.8
Mercury	mg/kg	0.10	<0.10
Nickel	mg/kg	1.0	1.3
Lead	mg/kg	1.0	8.4
Zinc	mg/kg	1.0	32

Certificate of Analysis PEH0448

Inorganics - Moisture (Soil)

Envirolab ID	Units	PQL	PEH0448-01	PEH0448-02	PEH0448-04	PEH0448-06	PEH0448-08
Your Reference			TP1-0-0.3	TP1-0.3-0.45	TP2-0-0.2	TP3-0-0.5	TP4-0-1.1
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Moisture	%	0.10	16	7.4	28	12	19

Envirolab ID	Units	PQL	PEH0448-10	PEH0448-11	PEH0448-13	PEH0448-15	PEH0448-16
Your Reference			TP5-0-0.1	TP6-0-1.2	TP7-0-1.0	TP8-0.8-1.2	TP9-0-1.0
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Moisture	%	0.10	29	9.6	12	20	9.6

Envirolab ID	Units	PQL	PEH0448-18	PEH0448-19	PEH0448-20	PEH0448-23	PEH0448-24
Your Reference			TP10-0-0.1	TP10-0.4-0.5	TP11-0-1.0	TP12-0-3.0	TP14-0-0.8
Date Sampled			07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Moisture	%	0.10	22	20	9.6	6.6	8.7

Envirolab ID	Units	PQL	PEH0448-26
Your Reference			QC1
Date Sampled			07/08/2023
Moisture	%	0.10	

Certificate of Analysis PEH0448

Method Summary

Method ID	Methodology Summary
INORG-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
METALS-020	Determination of various metals by ICP-OES.
METALS-021	Determination of Mercury by Cold Vapour AAS.
ORG-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
ORG-022_OC	Determination of semi-volatile organic compounds (SVOCs) by GC-MS. Water samples are extracted by LLE and soils using DCM/Acetone/Methanol.
ORG-023_F1_TOT	Determination of volatile organic compounds (VOCs) by P&T-GC-MS. Water samples are analysed directly by purge and trap GC-MS. Solids are extracted with Methanol, diluted and analysed by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Certificate of Analysis PEH0448

Result Definitions

Identifier	Description
NR	Not reported
NEPM	National Environment Protection Measure
NS	Not specified
LCS	Laboratory Control Sample
RPD	Relative Percent Difference
>	Greater than
<	Less than
PQL	Practical Quantitation Limit
INS	Insufficient sample for this test
NA	Test not required
NT	Not tested
DOL	Samples rejected due to particulate overload (air filters only)
RFD	Samples rejected due to filter damage (air filters only)
RUD	Samples rejected due to uneven deposition (air filters only)
##	Indicates a laboratory acceptance criteria outlier, for further details, see Result Comments and/or QC Comments

Quality Control Definitions

Blank

This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, and is determined by processing solvents and reagents in exactly the same manner as for samples.

Surrogate Spike

Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

LCS (Laboratory Control Sample)

This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Matrix Spike

A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

Duplicate

This is the complete duplicate analysis of a sample from the process batch. The sample selected should be one where the analyte concentration is easily measurable.

Certificate of Analysis PEH0448

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria. Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction. Spikes for Physical and Aggregate Tests are not applicable. For VOCs in water samples, three vials are required for duplicate or spike analysis.

General Acceptance Criteria (GAC) - Analyte specific criteria applies for some analytes and is reflected in QC recovery tables.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% - see ELN-P05 QAQC tables for details (available on request); <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase. Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was typically insufficient in order to satisfy laboratory QA/QC protocols.

Miscellaneous Information

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached. We have taken the sampling date as being the date received at the laboratory.

Two significant figures are reported for the majority of tests and with a high degree of confidence, for results <10*PQL, the second significant figure may be in doubt i.e. has a relatively high degree of uncertainty and is provided for information only.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS where sediment/solids are included by default.

Air volume measurements are not covered by Envirolab's NATA accreditation.

Data Quality Assessment Summary PEH0448

Client Details

Client	Aurora Environmental (Perth) Pty Ltd
Your Reference	MSG-2023-003
Date Issued	22/09/2023

Recommended Holding Time Compliance

Recommended holding time exceedances exist - See detailed list below

Quality Control and QC Frequency

QC Type	Compliant	Details
Blank	Yes	No Outliers
LCS	Yes	No Outliers
Duplicates	No	Duplicate Outliers Exist - See detailed list below
Matrix Spike	No	Matrix Spike Outliers Exist - See detailed list below
Surrogates / Extracted Internal Standards	Yes	No Outliers
QC Frequency	Yes	No Outliers

Surrogates/Extracted Internal Standards, Duplicates and/or Matrix Spikes are not always relevant/applicable to certain analyses and matrices. Therefore, said QC measures are deemed compliant in these situations by default. See Laboratory Acceptance Criteria for more information

Data Quality Assessment Summary PEH0448

Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
vTRH&MBTEXN | Soil	1-2	07/08/2023	09/08/2023	09/08/2023	Yes
	4, 6, 8, 10-11, 13, 15-16	07/08/2023	09/08/2023	15/08/2023	Yes
	18, 20, 23-24, 26	07/08/2023	09/08/2023	16/08/2023	Yes
sTRH | Soil	1-2	07/08/2023	09/08/2023	09/08/2023	Yes
	4, 6, 8, 10-11, 13, 15-16, 18, 20, 23-24, 26	07/08/2023	09/08/2023	15/08/2023	Yes
OCP | Soil	1-2	07/08/2023	09/08/2023	10/08/2023	Yes
	4, 6, 8, 10-11, 13, 15-16, 18, 20, 23-24, 26	07/08/2023	09/08/2023	15/08/2023	Yes
Metals | Soil	1-2, 4, 6, 8, 10-11, 13, 15-16, 18, 20, 23-24, 26	07/08/2023	09/08/2023	22/08/2023	Yes
	19	07/08/2023	20/09/2023	22/09/2023	Yes
Metals-Hg | Soil	1-2, 4, 6, 8, 10-11, 13, 15-16, 18, 20, 23-24, 26	07/08/2023	09/08/2023	22/08/2023	Yes
Moisture | Soil	1-2, 4, 6, 8, 10-11, 13, 15-16, 18, 20, 23-24, 26	07/08/2023	09/08/2023	10/08/2023	Yes
	19	07/08/2023	21/09/2023	22/09/2023	No

Outliers: Duplicates

METALS-020 | Acid Extractable Metals (Soil) | Batch BEH0996

Sample ID	Duplicate ID	Analyte	% Limits	RPD
PEH0448-15	DUP2	Copper	40.00	131[3]
PEH0448-15	DUP4	Copper	40.00	123[3]

Outliers: Matrix Spike

METALS-020 | Acid Extractable Metals (Soil) | Batch BEH0996

Sample ID	Analyte	% Limits	% Recovery
PEH0448-02	Lead	70 - 130	##[1]

Quality Control PEH0448

ORG-023_F1_TOT | Volatile TRH and BTEX (Soil) | Batch BEH0997

Analyte	Units	PQL	Blank	DUP1 PEH0448-01 Samp | QC | RPD %	DUP2 PEH0448-16 Samp | QC | RPD %	LCS %	Spike % PEH0448-02
TRH C5-C9	mg/kg	25	<25	<25 | <25 | [NA]	<25 | <25 | [NA]	118	105
TRH C5-C10	mg/kg	25	<25	<25 | <25 | [NA]	<25 | <25 | [NA]	117	104
TRH C5-C10 less BTEX (F1)	mg/kg	25	<25	<25 | <25 | [NA]	<25 | <25 | [NA]	[NA]	[NA]
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50			[NA]	[NA]
Benzene	mg/kg	0.20	<0.20	<0.20 | <0.20 | [NA]	<0.20 | <0.20 | [NA]	121	108
Toluene	mg/kg	0.50	<0.50	<0.50 | <0.50 | [NA]	<0.50 | <0.50 | [NA]	125	111
Ethylbenzene	mg/kg	1.0	<1.0	<1.0 | <1.0 | [NA]	<1.0 | <1.0 | [NA]	128	114
meta+para Xylene	mg/kg	2.0	<2.0	<2.0 | <2.0 | [NA]	<2.0 | <2.0 | [NA]	113	102
ortho-Xylene	mg/kg	1.0	<1.0	<1.0 | <1.0 | [NA]	<1.0 | <1.0 | [NA]	126	115
Total Xylene	mg/kg	3.0	<3.0	<3.0 | <3.0 | [NA]	<3.0 | <3.0 | [NA]	[NA]	[NA]
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0 | <1.0 | [NA]	<1.0 | <1.0 | [NA]	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%		*81.5*	*90.8 | 79.9*	*118 | 112*	*100*	*85.4*

ORG-020 | Semi-volatile TRH (Soil) | Batch BEH0998

Analyte	Units	PQL	Blank	DUP1 PEH0448-01 Samp | QC | RPD %	DUP2 PEH0448-18 Samp | QC | RPD %	LCS %	Spike % PEH0448-02
TRH C10-C14	mg/kg	50	<50	<50 | <50 | [NA]	<50 | <50 | [NA] [2]	85.8	82.9
TRH C15-C28	mg/kg	100	<100	<100 | <100 | [NA] [2]	<100 | <100 | [NA] [2]	88.7	94.2
TRH C29-C36	mg/kg	100	<100	<100 | <100 | [NA]	<100 | <100 | [NA]	87.1	133
TRH >C10-C16	mg/kg	50	<50	<50 | <50 | [NA]	<50 | <50 | [NA] [2]	85.6	82.3
TRH >C16-C34 (F3)	mg/kg	100	<100	<100 | <100 | [NA] [2]	<100 | <100 | [NA]	78.6	87.6
TRH >C34-C40 (F4)	mg/kg	100	<100	<100 | <100 | [NA]	<100 | <100 | [NA]	93.0	121
Surrogate o-Terphenyl	%		*97.5*	*97.4 | 96.6*	*106 | 102*	*76.6*	*78.6*

ORG-022_OC | Organochlorine Pesticides (Soil) | Batch BEH0998

Analyte	Units	PQL	Blank	DUP1 PEH0448-01 Samp | QC | RPD %	DUP2 PEH0448-18 Samp | QC | RPD %	LCS %	Spike % PEH0448-02
alpha-BHC	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	98.0	93.2
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
beta-BHC	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	92.3	86.1
gamma-BHC	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
delta-BHC	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Heptachlor	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	97.1	98.4
Aldrin	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	105	98.8
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	97.0	93.7
trans-Chlordane	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
cis-Chlordane	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Endosulfan I	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
4,4'-DDE	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	96.9	93.9
Dieldrin	mg/kg	0.10	<0.10	0.300 | 0.381 | 23.8	0.307 | 0.231 | 28.2	99.0	101
Endrin	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	96.9	97.6
4,4'-DDD	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	108	95.9
Endosulfan II	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
4,4'-DDT	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	94.4	98.6
Endrin ketone	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Methoxychlor	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Mirex	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Surrogate 2-Chlorophenol-D4	%		*95.5*	*89.5 | 88.5*	*93.1 | 93.5*	*93.6*	*93.3*

Quality Control PEH0448

METALS-020 | Acid Extractable Metals (Soil) | Batch BEH0996

Analyte	Units	PQL	Blank	DUP1 PEH0448-01 Samp | QC | RPD %	DUP2 PEH0448-15 Samp | QC | RPD %	LCS %	Spike % PEH0448-02
Arsenic	mg/kg	4.0	<4.0	4.10 | 4.06 | 0.905	<4.0 | <4.0 | [NA]	97.7	103
Cadmium	mg/kg	0.40	<0.40	<0.40 | <0.40 | [NA]	<0.40 | <0.40 | [NA]	98.1	100
Chromium	mg/kg	1.0	<1.0	9.58 | 11.5 | 18.5	16.8 | 17.9 | 6.27	98.3	100
Copper	mg/kg	1.0	<1.0	10.8 | 8.78 | 21.1	35.1 | 7.32 | 131 [3]	101	105
Lead	mg/kg	1.0	<1.0	19.9 | 21.0 | 5.56	30.2 | 29.0 | 3.93	98.7	##[1]
Mercury	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	81.6	90.8
Nickel	mg/kg	1.0	<1.0	2.37 | 2.62 | 10.2	7.98 | 9.51 | 17.5	99.3	102
Zinc	mg/kg	1.0	<1.0	51.9 | 72.6 | 33.3	2.64 | 2.54 | 3.77	99.3	87.0

Analyte	Units	PQL	Blank	DUP3 PEH0448-01 Samp | QC | RPD %	DUP4 PEH0448-15 Samp | QC | RPD %	LCS %
Arsenic	mg/kg	4		4.10 | 4.06 | 18.7	<4.0 | <4.0 | [NA]	[NA]
Cadmium	mg/kg	0.4		<0.40 | <0.40 | [NA]	<0.40 | <0.40 | [NA]	[illegible]
Chromium	mg/kg	1		9.58 | 11.3 | 16.3	16.8 | 23.7 | 34.3	[illegible]
Copper	mg/kg	1		10.8 | 9.79 | 10.2	35.1 | [illegible]	[illegible]
Lead	mg/kg	1		19.9 | 19.4 | 2.45	30.2 | 44.9 | 39.1	[NA]
Mercury	mg/kg	0.1		<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]
Nickel	mg/kg	1		2.37 | 3.02 | 24.5	7.98 | 8.64 | 7.89	[NA]
Zinc	mg/kg	1		51.9 | 56.1 | 7.91	2.64 | 2.76 | 4.48	[NA]

CHAIN OF CUSTODY
Dilhorn House, 2 Bulwer St, Perth WA 600
T: (08) 9227 2600 F: (08) 9227 2699
Aurora environmental
Sheet 1 of 1
Job ID: MSG-2023-003
Results Required Date: STAT
Email results to: info@auroraenvironmental.com.au
Lab / Lab Quote No.:
tim.delavale@@auroraenvironmental.com.au, tim.davies@auroraenvironmental.com.au, brad.dermody@auroraenvironmental.com.au
Purchase Order No.: -
COMMENTS:

METALS-020 | Acid Extractable Metals (Soil) | Batch BEI2154

Analyte	Units	PQL	Blank	DUP1 BEI2154-DUP1# Samp | QC | RPD %	DUP2 BEI2154-DUP2# Samp | QC | RPD %	LCS %	Spike % BEI2154-MS1#
Zinc	mg/kg	1.0	<1.0	1.37 | 1.19 | 14.1 [2]	1.37 | 1.17 | 15.1 [2]	110	105

The QC reported was not specifically part of this workorder but formed part of the QC process batch.

INORG-008 | Inorganics - Moisture (Soil) | Batch BEH0995

Analyte	Units	PQL	Blank	DUP1 PEH0448-01 Samp | QC | RPD %	DUP2 PEH0448-16 Samp | QC | RPD %	LCS %
Moisture	%	0.1		15.5 | 14.3 | 8.39	9.63 | 9.34 | 3.06	[NA]

INORG-008 | Inorganics - Moisture (Soil) | Batch BEI2336

Analyte	Units	PQL	Blank	DUP1 PEH0448-19 Samp | QC | RPD %	LCS %
Moisture	%	0.1		19.9 | 20.2 | 1.74	[NA]

Lab Sample ID	Aurora Sample ID	Type	Date	Container	OCP's	8 heavy metals NEPM	TRH/BTEXN	Notes
1	TP1-0-0.3	Soil	7.8.23	Jar		X	X	Hold 08.8.23 @ 1143
2	-0.3-0.45							
3	0.45-0.5							X
4	TP2-0-0.2							
5	TP2-0.2-0.5							X
6	TP3-0-0.5							
7	TP3-0.5-1.0							X
8	TP4-0-1.1							
9	TP4-1.1-1.5							X
10	TP5-0-0.1							
11	TP6-0-1.2							
12	TP6-1.2-1.3							X
14	TP7-1.0-1.5							X
15	TP8-0.4-[illegible]							
16	TP9-0-1.0							
17	TP9-1.0-1.5							X
18	TP10-0-0.1							
19	TP10-0.4-0.5							X
20	TP11-0-1.0							
21	TP11-1.0-1.5							X
22	TP12-0.3-0.35							X
23	TP12-0-3.0							
24	TP14-0-0.8							
25	TP14-0.8-1.3							X
26								

TP3-0-0.2

Relinquished by: [redacted] Date: 7.8.23 Received by: [illegible] Date: 7/8/[illegible]
Sample Condition Upon Receipt:

QC Comments

Identifier	Description
[1]	Spike recovery is outside routine acceptance criteria (70-130%), this may be due to suspected non-homogeneity and/or matrix interference effects. However, an acceptable recovery was achieved for the LCS.
[2]	D[redacted]ne laboratory acceptance, however, where one or both results are <1[redacted]nentially.
[3]	The laboratory duplicate RPD acceptance criteria has been exceeded. Sample heterogeneity suspected. 3 sets of data have been provided to help demonstrate the degree of non-homogeneity within the sample as well as assessing the analytical precision.

AURORA ENVIRONMENTAL
Authorised By: Mark Shepherd
Revision Date: 16/01/2014

Hi Genevieve,

Could we please alter the CoC to place all of the deeper samples on hold and not analyse them? The following samples will need to be placed on hold:

TP1—0.45-0.5
TP2 – 0.2-0.5
TP3—0.5-1.0
TP4-1.1-1.6
TP6-1.2-1.3
TP7-1-1.5
TP9-1.0-1.5
TP10-0.4-0.5
TP11-1.0-1.5
TP12-3.0-3.5
TP14-0.8-1.3

Thanks,

Aurora environmental
ASSESS • ADVISE • APPLY

Tim Davies
Project Environmental Scientist
M 0429 211 396

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T (08) 9227 2600 **F** (08) 9227 2699
E
tim.davies@auroraenvironmental.com.au
www.auroraenvironmental.com.au

PLATINUM
WorkSafe Plan
Certificate of
Achievement
2021

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Aurora Environmental acknowledges the traditional custodians throughout Western Australia and their continuing connection to the land, waters and culture. We pay our respects to all Aboriginal peoples; Elders past, present and emerging.

Genevieve Massam

From: [redacted]
Sent: Monday, 7 August 2023 7:56 PM
To: [redacted]
Cc:
Subject: Re: Jar missing from today's samples

Follow Up Flag: Follow up
Flag Status: Flagged

Sorry my mistake, there isn't a jar missing. It's an error on the coc.
Regards
Tim

Get Outlook for iOS

From: Genevieve Massam <GMassam@mpl.com.au>
Sent: Monday, August 7, 2023 6:02:15 PM
To: Tim Delavale <tim.delavale@auroraenvironmental.com.au>; Tim Davies <tim.davies@auroraenvironmental.com.au>; brad.dermody <brad.dermody@auroraenvironmental.com.au>
Cc: Meredith Conroy <MConroy@mpl.com.au>
Subject: Jar missing from today's samples

Good evening team,

We've received samples with the attached CoC this afternoon. We're missing jar TP3-0-0.2- should we have received this?

Thanks!

Kind Regards,

[redacted]Customer Service | MPL Laboratories

Great Science. Great Service.

16-18 Hayden Court Myaree WA 6154 | PO Box 4023 Myaree BC, WA 6960
E [redacted] | W www.mpl.com.au


ENVIROLAB
GROUP
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LABTEC
NATA

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph +61 8 9317 2505 fax +61 8 9317 4163
lab@mpl.com.au
www.mpl.com.au

Certificate of Analysis PEH0810

Client Details

Client	Aurora Environmental (Perth) Pty Ltd
Contact	[redacted]
Address	2 Bulwer St, PERTH, WA, 6000

Sample Details

Your Reference	DVW2020-005_UF7 (MSG2023_003)
Number of Samples	31 Soil
Date Instructions Received	19/09/2023
Date Samples Registered	08/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date Results Requested by	21/09/2023
Date of Reissue	21/09/2023 - This report supercedes previous report, see amendment history for details

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Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with *.

Authorisation Details

Results Approved By	[redacted]
Laboratory Manager	

Report Amendment History

Revision	Reason for Amendment
R-01	Additional analysis requested 19-9-23

Samples in this Report

Envirolab ID	Sample ID	Matrix	Date Sampled	Date Received
PEH0810-01	TP12-0-3.0	Soil	08/08/2023	16/08/2023
PEH0810-02	TP12-3.0-3.5	Soil	08/08/2023	16/08/2023
PEH0810-03	TP13-0.0-0.8	Soil	08/08/2023	16/08/2023
PEH0810-04	TP13-0.8-1.3	Soil	08/08/2023	16/08/2023
PEH0810-05	TP15-0.8-1.3	Soil	08/08/2023	16/08/2023
PEH0810-06	TP16-0-0.8	Soil	08/08/2023	16/08/2023
PEH0810-07	TP16-0.8-1.3	Soil	08/08/2023	16/08/2023
PEH0810-08	TP17-0-0.7	Soil	08/08/2023	16/08/2023
PEH0810-09	TP17-0.7-1.2	Soil	08/08/2023	16/08/2023
PEH0810-10	TP18-0.0-1.2	Soil	08/08/2023	16/08/2023
PEH0810-11	TP18-1.2-1.7	Soil	08/08/2023	16/08/2023
PEH0810-12	TP19-0-1.2	Soil	08/08/2023	16/08/2023
PEH0810-13	TP19-1.2-1.7	Soil	08/08/2023	16/08/2023
PEH0810-14	TP20-0-2.5	Soil	08/08/2023	16/08/2023
PEH0810-15	TP20A-0-2.5	Soil	08/08/2023	16/08/2023
PEH0810-16	TP20-3-3.2	Soil	08/08/2023	16/08/2023
PEH0810-17	TP20A-3-3.2	Soil	08/08/2023	16/08/2023
PEH0810-18	TP21-0.1-1.1	Soil	08/08/2023	16/08/2023
PEH0810-19	TP22-0-0.6	Soil	08/08/2023	16/08/2023
PEH0810-20	TP22-0.6-1.1	Soil	08/08/2023	16/08/2023
PEH0810-21	TP23-0.0-0.4	Soil	08/08/2023	16/08/2023
PEH0810-22	TP23-0.4-0.7	Soil	08/08/2023	16/08/2023
PEH0810-23	TP24-0-1.4	Soil	08/08/2023	16/08/2023
PEH0810-24	TP24-1.4-1.9	Soil	08/08/2023	16/08/2023
PEH0810-25	TP25-0.3-0.8	Soil	08/08/2023	16/08/2023
PEH0810-26	TP25-0-0.3	Soil	08/08/2023	16/08/2023
PEH0810-27	TP30-0-0.1	Soil	08/08/2023	16/08/2023
PEH0810-28	TP31-0-0.5	Soil	08/08/2023	16/08/2023
PEH0810-29	TP4-0.1-1.1	Soil	08/08/2023	16/08/2023
PEH0810-30	TP4-1.1-1.6	Soil	08/08/2023	16/08/2023
PEH0810-31	TP5-0.1-0.5	Soil	08/08/2023	16/08/2023

Volatile TRH and BTEX (Soil)

Envirolab ID	Units	PQL	PEH0810-01	PEH0810-03	PEH0810-06	PEH0810-08	PEH0810-10
Your Reference			TP12-0-3.0	TP13-0.0-0.8	TP16-0-0.8	TP17-0-0.7	TP18-0.0-1.2
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
TRH C6-C9	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
meta+para Xylene	mg/kg	2.0	<2.0	<2.0	<2.0	<2.0	<2.0
ortho-Xylene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene	mg/kg	3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%		*105*		*119*	*110*	*101*

Envirolab ID	Units	PQL	PEH0810-12	PEH0810-14	PEH0810-18	PEH0810-19	PEH0810-21
Your Reference			TP19-0-1.2	TP20-0-2.5	TP21-0.1-1.1	TP22-0-0.6	TP23-0.0-0.4
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
TRH C6-C9	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
meta+para Xylene	mg/kg	2.0	<2.0	<2.0	<2.0	<2.0	<2.0
ortho-Xylene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene	mg/kg	3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%		*114*	*102*		*104*	*107*

Envirolab ID	Units	PQL	PEH0810-23	PEH0810-26	PEH0810-27
Your Reference			TP24-0-1.4	TP25-0-0.3	TP30-0-0.1
Date Sampled			08/08/2023	08/08/2023	08/08/2023
TRH C6-C9	mg/kg	25	<25	<25	<25
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25	<25
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.20	<0.20	<0.20	<0.20
Toluene	mg/kg	0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1.0	<1.0	<1.0	<1.0
meta+para Xylene	mg/kg	2.0	<2.0	<2.0	<2.0
ortho-Xylene	mg/kg	1.0	<1.0	<1.0	<1.0
Total Xylene	mg/kg	3.0	<3.0	<3.0	<3.0
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%		*124*	*119*	*95.9*

Semi-volatile TRH (Soil)

Envirolab ID	Units	PQL	PEH0810-01	PEH0810-03	PEH0810-06	PEH0810-08	PEH0810-10
Your Reference			TP12-0-3.0	TP13-0.0-0.8	TP16-0-0.8	TP17-0-0.7	TP18-0.0-1.2
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
TRH C10-C14	mg/kg	50	<50	<50	<50	<50	<50
TRH C15-C28	mg/kg	100	<100	<100	<100	<100	<100
TRH C29-C36	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH C10-C36	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16 less Naphthalene F2	mg/kg	50	<50	<50	<50	<50	<50
TRH >C16-C34 (F3)	mg/kg	100	<100	<100	<100	<100	<100
TRH >C34-C40 (F4)	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH >C10-C40	mg/kg	50	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%		*92.4*	*92.1*	*93.7*	*94.7*	*96.0*

Envirolab ID	Units	PQL	PEH0810-12	PEH0810-14	PEH0810-18	PEH0810-19	PEH0810-21
Your Reference			TP19-0-1.2	TP20-0-2.5	TP21-0.1-1.1	TP22-0-0.6	TP23-0.0-0.4
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
TRH C10-C14	mg/kg	50	<50	<50	<50	<50	<50
TRH C15-C28	mg/kg	100	<100	<100	<100	<100	<100
TRH C29-C36	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH C10-C36	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16	mg/kg	50	<50	<50	<50	<50	<50
TRH >C10-C16 less Naphthalene F2	mg/kg	50	<50	<50	<50	<50	<50
TRH >C16-C34 (F3)	mg/kg	100	<100	<100	<100	<100	<100
TRH >C34-C40 (F4)	mg/kg	100	<100	<100	<100	<100	<100
Total +ve TRH >C10-C40	mg/kg	50	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%		*93.6*	*89.3*	*97.5*	*91.4*	*97.1*

Envirolab ID	Units	PQL	PEH0810-23	PEH0810-26	PEH0810-27
Your Reference			TP24-0-1.4	TP25-0-0.3	TP30-0-0.1
Date Sampled			08/08/2023	08/08/2023	08/08/2023
TRH C10-C14	mg/kg	50	<50	<50	<50
TRH C15-C28	mg/kg	100	<100	<100	<100
TRH C29-C36	mg/kg	100	<100	<100	<100
Total +ve TRH C10-C36	mg/kg	50	<50	<50	<50
TRH >C10-C16	mg/kg	50	<50	<50	<50
TRH >C10-C16 less Naphthalene F2	mg/kg	50	<50	<50	<50
TRH >C16-C34 (F3)	mg/kg	100	<100	<100	<100
TRH >C34-C40 (F4)	mg/kg	100	<100	<100	<100
Total +ve TRH >C10-C40	mg/kg	50	<50	<50	<50
Surrogate o-Terphenyl	%		*96.6*		*97.6*

Organochlorine Pesticides (Soil)

Envirolab ID	Units	PQL	PEH0810-01	PEH0810-03	PEH0810-06	PEH0810-08	PEH0810-10
Your Reference			TP12-0-3.0	TP13-0.0-0.8	TP16-0-0.8	TP17-0-0.7	TP18-0.0-1.2
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
alpha-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
beta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
gamma-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
delta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aldrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-Chlordane	mg/kg	0.10	<0.10	<0.10	0.13	0.12	<0.10
cis-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan I	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dieldrin	mg/kg	0.10	0.34	1.3	0.45	<0.10	0.22
Endrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan II	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin ketone	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Mirex	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total +ve OCP	mg/kg	0.10	0.34	1.3	0.58	0.12	0.22
Surrogate 2-Chlorophenol-D4	%		*71.9*	*76.9*		*69.0*	*72.4*

Envirolab ID	Units	PQL	PEH0810-12	PEH0810-14	PEH0810-18	PEH0810-19	PEH0810-21
Your Reference			TP19-0-1.2	TP20-0-2.5	TP21-0.1-1.1	TP22-0-0.6	TP23-0.0-0.4
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
alpha-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
beta-BHC gamma-	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
BHC delta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aldrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan I	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dieldrin	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin 4,4'-	mg/kg	0.10	0.23	0.28	<0.10	0.29	<0.10
DDD	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan II	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Organochlorine Pesticides (Soil)

Envirolab ID	Units	PQL	PEH0810-12	PEH0810-14	PEH0810-18	PEH0810-19	PEH0810-21
Your Reference			TP19-0-1.2	TP20-0-2.5	TP21-0.1-1.1	TP22-0-0.6	TP23-0.0-0.4
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin ketone	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Mirex	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total +ve OCP	mg/kg	0.10	0.23	0.28	<0.10	0.29	<0.10
Surrogate 2-Chlorophenol-D4	%		*74.2*	*72.4*	*72.4*	*70.2*	*69.4*

Envirolab ID	Units	PQL	PEH0810-23	PEH0810-26	PEH0810-27
Your Reference			TP24-0-1.4	TP25-0-0.3	TP30-0-0.1
Date Sampled			08/08/2023	08/08/2023	08/08/2023
alpha-BHC	mg/kg	0.10	<0.10	<0.10	<0.10
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10	<0.10
beta-BHC gamma-	mg/kg	0.10	<0.10	<0.10	<0.10
BHC delta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10
Heptachlor	mg/kg	0.10	<0.10	<0.10	<0.10
Aldrin	mg/kg	0.10	<0.10	<0.10	<0.10
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	<0.10
trans-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10
cis-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10
Endosulfan I	mg/kg	0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.10	<0.10	<0.10	<0.10
Dieldrin	mg/kg	0.10	<0.10	<0.10	<0.10
Endrin	mg/kg	0.10	0.15	<0.10	<0.10
4,4'-DDD	mg/kg	0.10	<0.10	<0.10	<0.10
Endosulfan II	mg/kg	0.10	<0.10	<0.10	<0.10
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.10	<0.10	<0.10	<0.10
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10	<0.10
Endrin ketone	mg/kg	0.10	<0.10	<0.10	<0.10
Methoxychlor	mg/kg	0.10	<0.10	<0.10	<0.10
Mirex	mg/kg	0.10	<0.10	<0.10	<0.10
Total +ve OCP	mg/kg	0.10	<0.10	<0.10	<0.10
Surrogate 2-Chlorophenol-D4	mg/kg	0.10	0.15	<0.10	<0.10
	%		*68.2*		*64.1*

Acid Extractable Metals (Soil)

Envirolab ID	Units	PQL	PEH0810-01	PEH0810-03	PEH0810-06	PEH0810-08	PEH0810-09
Your Reference			TP12-0-3.0	TP13-0.0-0.8	TP16-0-0.8	TP17-0-0.7	TP17-0.7-1.2
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Arsenic	mg/kg	4.0	<4.0	<4.0	<4.0	<4.0	[NA]
Cadmium	mg/kg	0.40	<0.40	<0.40	<0.40	<0.40	[NA]
Chromium	mg/kg	1.0	8.3	19	14	5.9	[NA]
Copper	mg/kg	1.0	9.2	16	7.8	6.1	[NA]
Mercury	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	[NA]
Nickel	mg/kg	1.0	2.3	7.5	1.3	2.0	[NA]
Lead	mg/kg	1.0	20	29	9.9	110	[NA]
Zinc	mg/kg	1.0	82	59	42	340	1.4

Envirolab ID	Units	PQL	PEH0810-10	PEH0810-11	PEH0810-12	PEH0810-14	PEH0810-18
Your Reference			TP18-0.0-1.2	TP18-1.2-1.7	TP19-0-1.2	TP20-0-2.5	TP21-0.1-1.1
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Arsenic	mg/kg	4.0	<4.0	[NA]	<4.0	<4.0	<4.0
Cadmium	mg/kg	0.40	<0.40	[NA]	<0.40	<0.40	<0.40
Chromium	mg/kg	1.0	7.5	[NA]	9.8	8.4	19
Copper	mg/kg	1.0	5.1	[NA]	6.5	7.5	10
Mercury	mg/kg	0.10	<0.10	[NA]	<0.10	<0.10	<0.10
Nickel	mg/kg	1.0	2.4	[NA]	3.3	1.6	13
Lead	mg/kg	1.0	78	[NA]	22	19	33
Zinc	mg/kg	1.0	120		47	84	3.3

Envirolab ID	Units	PQL	PEH0810-19	PEH0810-21	PEH0810-23	PEH0810-26	PEH0810-27
Your Reference			TP22-0-0.6	TP23-0.0-0.4	TP24-0-1.4	TP25-0-0.3	TP30-0-0.1
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Arsenic	mg/kg	4.0	<4.0	<4.0	<4.0	<4.0	46
Cadmium	mg/kg	0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Chromium	mg/kg	1.0	40	15	9.1	9.5	52
Copper	mg/kg	1.0	15	9.0	11	3.3	44
Mercury	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1.0	3.9	7.5	2.8	2.7	3.0
Lead	mg/kg	1.0	88	34	16	7.9	12
Zinc	mg/kg	1.0	84	25	55	8.0	43

Exchangeable Cations (Soil)

Envirolab ID	Units	PQL	PEH0810-28
Your Reference			TP31-0-0.5
Date Sampled			08/08/2023
Calcium	meq/100g	0.10	0.68
Potassium	meq/100g	0.10	<0.10
Magnesium	meq/100g	0.10	1.3
Sodium	meq/100g	0.10	0.40
Cation Exchange Capacity (CEC)	meq/100g	0.10	2.4

Inorganics - General Physical Parameters (Soil)

Envirolab ID	Units	PQL	PEH0810-28
Your Reference			TP31-0-0.5
Date Sampled			08/08/2023
pH	pH units		5.1

Certificate of Analysis PEH0810

Inorganics - Moisture (Soil)

Envirolab ID	Units	PQL	PEH0810-01	PEH0810-03	PEH0810-06	PEH0810-08	PEH0810-09
Your Reference			TP12-0-3.0	TP13-0.0-0.8	TP16-0-0.8	TP17-0-0.7	TP17-0.7-1.2
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Moisture	%	0.10	6.9	13	6.9	10	16

Envirolab ID	Units	PQL	PEH0810-10	PEH0810-11	PEH0810-12	PEH0810-14	PEH0810-18
Your Reference			TP18-0.0-1.2	TP18-1.2-1.7	TP19-0-1.2	TP20-0-2.5	TP21-0.1-1.1
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Moisture	%	0.10		15		9.1	16

Envirolab ID	Units	PQL	PEH0810-19	PEH0810-21	PEH0810-23	PEH0810-26	PEH0810-27
Your Reference			TP22-0-0.6	TP23-0.0-0.4	TP24-0-1.4	TP25-0-0.3	TP30-0-0.1
Date Sampled			08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Moisture	%	0.10	18	19	12	12	31

Method Summary

Method ID	Methodology Summary
INORG-001	pH - Measured using pH meter and electrode based on APHA latest edition, Method 4500-H+. Please note that the results for water analyses are indicative only, as analysis can be completed outside of the APHA recommended holding times. Solids are reported from a 1:5 water extract unless otherwise specified. Alternatively, pH is determined in a 1:5 extract using 0.01M calcium chloride or a solid is extracted at a ratio of 1:2.5 (AS1289.4.3.1), pH is measured in the extract.
INORG-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
METALS-020	Determination of various metals by ICP-OES.
METALS-020_008A	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
METALS-021	Determination of Mercury by Cold Vapour AAS.
ORG-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
ORG-022_OC	Determination of semi-volatile organic compounds (SVOCs) by GC-MS. Water samples are extracted by LLE and soils using DCM/Acetone/Methanol.
ORG-023_F1_TOT	Determination of volatile organic compounds (VOCs) by P&T-GC-MS. Water samples are analysed directly by purge and trap GC-MS. Solids are extracted with Methanol, diluted and analysed by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Result Definitions

Identifier	Description
NR	Not reported
NEPM	National Environment Protection Measure
NS	Not specified
LCS	Laboratory Control Sample
RPD	Relative Percent Difference
>	Greater than
<	Less than
PQL	Practical Quantitation Limit
INS	Insufficient sample for this test
NA	Test not required
NT	Not tested
DOL	Samples rejected due to particulate overload (air filters only)
RFD	Samples rejected due to filter damage (air filters only)
RUD	Samples rejected due to uneven deposition (air filters only)
##	Indicates a laboratory acceptance criteria outlier, for further details, see Result Comments and/or QC Comments

Quality Control Definitions

Blank

This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, and is determined by processing solvents and reagents in exactly the same manner as for samples.

Surrogate Spike

Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

LCS (Laboratory Control Sample)

This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Matrix Spike

A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

Duplicate

This is the complete duplicate analysis of a sample from the process batch. The sample selected should be one where the analyte concentration is easily measurable.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria. Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction. Spikes for Physical and Aggregate Tests are not applicable. For VOCs in water samples, three vials are required for duplicate or spike analysis.

General Acceptance Criteria (GAC) - Analyte specific criteria applies for some analytes and is reflected in QC recovery tables.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% - see ELN-P05 QAQC tables for details (available on request); <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase. Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was typically insufficient in order to satisfy laboratory QA/QC protocols.

Miscellaneous Information

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached. We have taken the sampling date as being the date received at the laboratory.

Two significant figures are reported for the majority of tests and with a high degree of confidence, for results <10*PQL, the second significant figure may be in doubt i.e. has a relatively high degree of uncertainty and is provided for information only.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS where sediment/solids are included by default.

Urine Analysis - The BEI values listed are taken from the 2022 edition of *TLVs and BEIs Threshold Limits by ACGIH*.

Air volume measurements are not covered by Envirolab's NATA accreditation.

Data Quality Assessment Summary PEH0810

Client Details

Client	Aurora Environmental (Perth) Pty Ltd
Your Reference	DVW2020-005_UF7 (MSG2023_003)
Date Issued	21/09/2023

Recommended Holding Time Compliance

Recommended holding time exceedances exist - See detailed list below

Quality Control and QC Frequency

QC Type	Compliant	Details
Blank	Yes	No Outliers
LCS	Yes	No Outliers
Duplicates	No	Duplicate Outliers Exist - See detailed list below
Matrix Spike	Yes	No Outliers
Surrogates / Extracted Internal Standards	Yes	No Outliers
QC Frequency	Yes	No Outliers

Surrogates/Extracted Internal Standards, Duplicates and/or Matrix Spikes are not always relevant/applicable to certain analyses and matrices. Therefore, said QC measures are deemed compliant in these situations by default. See Laboratory Acceptance Criteria for more information

Data Quality Assessment Summary PEH0810

Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
vTRH&MBTEXN | Soil	1, 3, 6, 8, 10, 12, 14, 18-19, 21, 23, 26-27	08/08/2023	18/08/2023	22/08/2023	Yes
sTRH | Soil	1, 3, 6, 8, 10, 12, 14, 18-19, 21, 23, 26-27	08/08/2023	18/08/2023	20/08/2023	Yes
OCP | Soil	1, 3, 6, 8, 10, 12, 14, 18-19, 21, 23, 26-27	08/08/2023	18/08/2023	20/08/2023	Yes
Metals | Soil	1, 3, 6, 8, 10, 12, 14, 18-19, 21, 23, 26-27	08/08/2023	18/08/2023	22/08/2023	Yes
	9, 11	08/08/2023	20/09/2023	21/09/2023	Yes
Metals-Hg | Soil	1, 3, 6, 8, 10, 12, 14, 18-19, 21, 23, 26-27	08/08/2023	18/08/2023	22/08/2023	Yes
CEC | Soil	28	08/08/2023	21/09/2023	21/09/2023	Yes
Exchangeable Cations | Soil	28	08/08/2023	21/09/2023	21/09/2023	Yes
pH | Soil	28	08/08/2023	20/09/2023	21/09/2023	No
Moisture | Soil	1, 3, 6, 8, 10, 12, 14, 18-19, 21, 23, 26-27	08/08/2023	18/08/2023	18/08/2023	Yes
	9, 11	08/08/2023	20/09/2023	21/09/2023	No

Outliers: Duplicates

METALS-020|Acid Extractable Metals (Soil)| Batch BEH2059

Sample ID	Duplicate ID	Analyte	% Limits	RPD
PEH0810-01	DUP3	Chromium	40.00	46.1[1]

ORG-020|Semi-volatile TRH (Soil)| Batch BEH2063

Sample ID	Duplicate ID	Analyte	% Limits	RPD
PEH0810-21	DUP2	TRH >C34-C40 (F4)	50.00	200[1]

Quality Control PEH0810

ORG-023_F1_TOT | Volatile TRH and BTEX (Soil) | Batch BEH2061

Analyte	Units	PQL	Blank	DUP1 PEH0810-01 Samp | QC | RPD %	DUP2 PEH0810-23 Samp | QC | RPD %	LCS %	Spike % PEH0810-03
TRH C6-C9	mg/kg	25	<25	<25 | <25 | [NA]	<25 | <25 | [NA]	92.1	96.7
TRH C6-C10	mg/kg	25	<25	<25 | <25 | [NA]	<25 | <25 | [NA]	88.5	93.3
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25 | <25 | [NA]	<25 | <25 | [NA]	[NA]	[NA]
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50			[NA]	[NA]
Benzene	mg/kg	0.20	<0.20	<0.20 | <0.20 | [NA]	<0.20 | <0.20 | [NA]	99.0	105
Toluene	mg/kg	0.50	<0.50	<0.50 | <0.50 | [NA]	<0.50 | <0.50 | [NA]	93.7	101
Ethylbenzene	mg/kg	1.0	<1.0	<1.0 | <1.0 | [NA]	<1.0 | <1.0 | [NA]	101	111
meta+para Xylene	mg/kg	2.0	<2.0	<2.0 | <2.0 | [NA]	<2.0 | <2.0 | [NA]	93.9	102
ortho-Xylene	mg/kg	1.0	<1.0	<1.0 | <1.0 | [NA]	<1.0 | <1.0 | [NA]	98.9	108
Total Xylene	mg/kg	3.0	<3.0	<3.0 | <3.0 | [NA]	<3.0 | <3.0 | [NA]	[NA]	[NA]
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0 | <1.0 | [NA]	<1.0 | <1.0 | [NA]	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%		*116*	*105 | 102*	*124 | 119*	*103*	*101*

ORG-020 | Semi-volatile TRH (Soil) | Batch BEH2063

Analyte	Units	PQL	Blank	DUP1 BEH2063-DUP1# Samp | QC | RPD %	DUP2 PEH0810-21 Samp | QC | RPD %	LCS %	Spike % PEH0810-01
TRH C10-C14	mg/kg	50	<50	<50 | <50 | [NA]	<50 | <50 | [NA]	85.6	74.4
TRH C15-C28	mg/kg	100	<100	<100 | <100 | [NA]	<100 | <100 | [NA]	89.9	81.0
TRH C29-C36	mg/kg	100	<100	<100 | <100 | [NA]	<100 | <100 | [NA] [1]	91.5	87.9
TRH >C10-C16	mg/kg	50	<50	<50 | <50 | [NA]	<50 | <50 | [NA]	84.8	73.9
TRH >C16-C34 (F3)	mg/kg	100	<100	<100 | <100 | [NA]	<100 | <100 | [NA]	80.6	73.3
TRH >C34-C40 (F4)	mg/kg	100	<100	<100 | <100 | [NA]	<100 | <100 | 200 [1]	97.3	90.0
Surrogate o-Terphenyl	%		*90.2*	*93.8 | 93.9*	*97.1 | 95.8*	*97.2*	*89.1*

The QC reported was not specifically part of this workorder but formed part of the QC process batch.

ORG-022_OC | Organochlorine Pesticides (Soil) | Batch BEH2063

Analyte	Units	PQL	Blank	DUP1 BEH2063-DUP1# Samp | QC | RPD %	DUP2 PEH0810-21 Samp | QC | RPD %	LCS %	Spike % PEH0810-01
alpha-BHC	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	80.1	77.9
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
beta-BHC	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	72.3	69.8
gamma-BHC	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
delta-BHC	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Heptachlor	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	92.8	75.6
Aldrin	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	88.8	82.4
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	77.1	76.9
trans-Chlordane	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
cis-Chlordane	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Endosulfan I	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
4,4'-DDE	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	77.4	75.3
Dieldrin	mg/kg	0.10	<0.10	0.111 | 0.103 | 7.56	<0.10 | <0.10 | [NA]	74.6	75.2
Endrin	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	74.1	73.1
4,4'-DDD	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	82.2	76.9
Endosulfan II	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
4,4'-DDT	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	62.4	62.4
Endrin ketone	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Methoxychlor	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Mirex	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]	[NA]
Surrogate 2-Chlorophenol-D4	%		*80.4*	*77.6 | 79.0*	*69.4 | 68.5*	*81.2*	*74.3*

The QC reported was not specifically part of this workorder but formed part of the QC process batch.

Quality Control PEH0810

METALS-020|Acid Extractable Metals (Soil) | Batch BEH2059

Analyte	Units	PQL	Blank	DUP1 PEH0810-01 Samp | QC | RPD %	DUP2 PEH0810-23 Samp | QC | RPD %	LCS %	Spike % PEH0810-03
Arsenic	mg/kg	4.0	<4.0	<4.0 | <4.0 | [NA]	<4.0 | <4.0 | [NA]	96.5	103
Cadmium	mg/kg	0.40	<0.40	<0.40 | <0.40 | [NA]	<0.40 | <0.40 | [NA]	97.4	89.2
Chromium	mg/kg	1.0	<1.0	8.32 | 7.79 | 6.52	9.11 | 8.51 | 6.89	98.5	102
Copper	mg/kg	1.0	<1.0	9.20 | 10.4 | 11.7	10.9 | 11.0 | 0.941	99.6	108
Lead	mg/kg	1.0	<1.0	19.7 | 20.7 | 5.25	16.1 | 15.6 | 3.12	98.0	91.8
Mercury	mg/kg	0.10	<0.10	<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	98.0	98.1
Nickel	mg/kg	1.0	<1.0	2.31 | 1.57 | 38.1	2.80 | 3.09 | 9.96	98.8	89.4
Zinc	mg/kg	1.0	<1.0	81.7 | 103 | 23.4	54.8 | 51.6 | 6.11	99.9	104

Analyte	Units	PQL	Blank	DUP3 PEH0810-01 Samp | QC | RPD %	DUP4 PEH0810-23 Samp | QC | RPD %	LCS %
Arsenic	mg/kg	4		<4.0 | <4.0 | [NA]	<4.0 | <4.0 | [NA]	[NA]
Cadmium	mg/kg	0.4		<0.40 | <0.40 | [NA]	<0.40 | <0.40 | [NA]	[NA]
Chromium	mg/kg	1		8.32 | 13.3 | 46.1 [1]	9.11 | 8.45 | 7.58	[NA]
Copper	mg/kg	1		9.20 | 7.63 | 18.7	10.9 | 9.40 | 14.4	[NA]
Lead	mg/kg	1		19.7 | 19.3 | 1.97	16.1 | 15.4 | 4.73	[NA]
Mercury	mg/kg	0.1		<0.10 | <0.10 | [NA]	<0.10 | <0.10 | [NA]	[NA]
Nickel	mg/kg	1		2.31 | 1.68 | 31.5	2.80 | 3.11 | 10.4	[NA]
Zinc	mg/kg	1		81.7 | 68.2 | 18.1	54.8 | 59.7 | 8.52	[NA]

CHAIN OF CUSTODY

Dilhorn House, 2 Bulwer St, Perth WA 6000

T: (08) 9227 2600 F: (08) 9227 2699

Aurora Environmental

Sheet 1 of 1

Job ID: PWW2020-005_UF7

Email results to: tim.davies info@auroraenvironmental.com.au

Results Required Date:

Lab / Lab Quote No.:

Purchase Order No.:

METALS-020|Acid Extractable Metals (Soil) | Batch BEI2154

Analyte	Units	PQL	Blank	DUP1 PEH0810-09 Samp | QC | RPD %	DUP2 PEH0810-09 Samp | QC | RPD %	LCS %	Spike % PEH0810-11
Zinc	mg/kg	1.0	<1.0	1.37 | 1.19 | 14.1 [1]	1.37 | 1.17 | 15.1 [1]	110	105

COMMENTS:

Notes/LOR/ Spe

METALS-020_008A|Exchangeable Cations (Soil) | Batch BEI2241

Lab Sample ID	Aurora Sample ID	type		Date	container	OCPs	8 Heavy Metals	TPH/BTEX/N	hold
1	TP12-0-3.0	Soil		8-Aug-23	Jar	x	x	x	
2	TP12-3.0-3.5	Soil		8-Aug-23	Jar				
3	Tp13-0.0-0.8	Soil		8-Aug-23	Jar	x	x	x	
4	Tp13-0.8-1.3	Soil		8-Aug-23	Jar				
5	TP15-0.8-1.3	Soil		8-Aug-23	Jar				
6	TP16-0-0.8	Soil		8-Aug-23	Jar	x	x	x	
7	TP16-0.8-1.3	Soil		8-Aug-23	Jar				
8	TP17-0-0.7	Soil		8-Aug-23	Jar	x	x	x	
9	TP17-0.7-1.2	Soil		8-Aug-23	Jar				
10	TP18-0.0-1.2	Soil		8-Aug-23	Jar	x	x	x	
11	TP18-1.2-1.7	Soil		8-Aug-23	Jar				
12	TP19-0-1.2	Soil		8-Aug-23	Jar	x	x	x	
13	TP19-1.2-1.7	Soil		8-Aug-23	Jar				
14	TP20-0-2.5	Soil		8-Aug-23	Jar	x	x	x	
15	TP20A-0-2.5	Soil		8-Aug-23	Jar				
16	TP20-3-3.2	Soil		8-Aug-23	Jar				
17	TP20A-3-3.2	Soil		8-Aug-23	Jar				
18	TP21-0.1-1.1	Soil		8-Aug-23	Jar	x	x	x	
19	TP21-1.1-1.6	Soil		8-Aug-23	Jar	x	x	x	
20	TP22-0.6-1.1	Soil		8-Aug-23	Jar				
21	TP23-0.0-0.4	Soil		8-Aug-23	Jar	x	x	x	
22	TP23-0.4-0.7	Soil		8-Aug-23	Jar				
23	TP24-0-1.4	Soil		8-Aug-23	Jar	x	x	x	
24	TP24-1.4-1.9	Soil		8-Aug-23	Jar				
25	TP25-0.3-0.8	Soil		8-Aug-23	Jar				
26	TP25-0.8-1.3	Soil		8-Aug-23	Jar	x	x	x	
27	TP30-0-0.1	Soil		8-Aug-23	Jar	x	x	x	
28	TP31-0-0.5	Soil		8-Aug-23	Jar				
29	TP4-0.1-1.1	Soil		8-Aug-23	Jar				
30	TP4-1.1-1.6	Soil		8-Aug-23	Jar				

INORG-001|Inorganics - General Physical Parameters (Soil) | Batch BEI2176

Analyte	Units	PQL	Blank	DUP1 PEH0810-28 Samp | QC | RPD %	LCS %	Spike % PEH0810-28
pH	pH units			5.1 | 5.0 | 3.18	101	

INORG-008|Inorganics - Moisture (Soil) | Batch BEH2056

Analyte	Units	PQL	Blank	DUP1 BEH2056-DUP1# Samp | QC | RPD %	DUP2 PEH0810-21 Samp | QC | RPD %	LCS %
Moisture	%	0.1		18.9 | 20.9 | 10.3		[NA]

The QC reported was not specifically part of this workorder but formed part of the QC process batch.

INORG-008|Inorganics - Moisture (Soil) | Batch BEI2153

Analyte	Units	PQL	Blank	DUP1 PEH0810-09 Samp | QC | RPD %	LCS %
Moisture	%	0.1		15.8 | 15.6 | 1.34	[NA]

Relinquished by: Date: Received by: Date: 16-8-23

Sample Condition Upon Receipt:

AURORA ENVIRONMENTAL OPERATIONAL MANUAL/Projects Page 2/3

Authorised By: Mark Shepherd

Revision Date: 30/01/2014

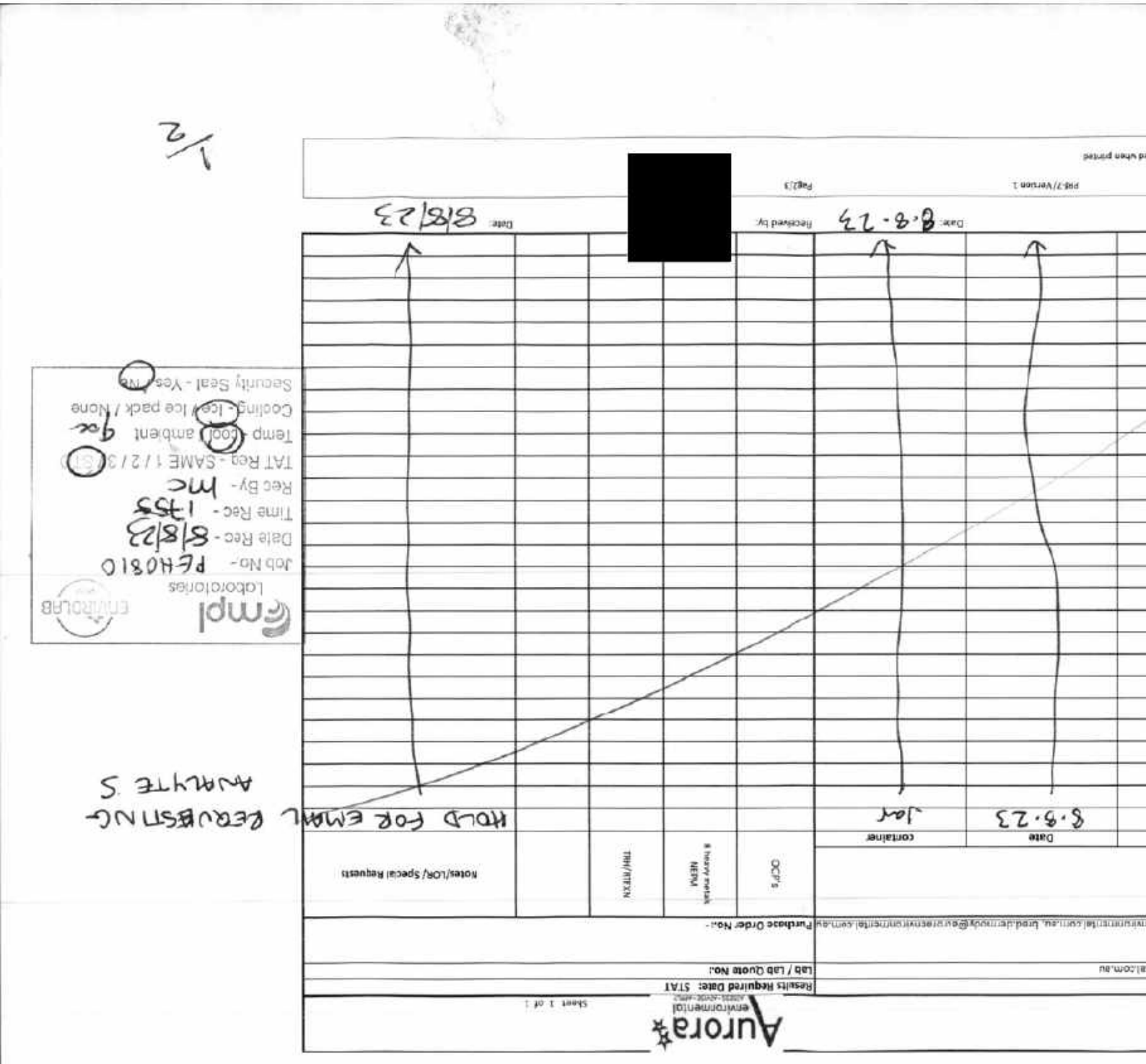
uncontrolled when printed

[redacted] 16/8

Quality Control PEH0810

QC Comments

Identifier	Description
[1]	Duplicate %RPD may be flagged as an outlier to routine laboratory acceptance, however, where one or both results are <10*PQL, the RPD acceptance criteria increases exponentially.



CHAIN OF CUSTODY

Dilhorn House, 2 Bulwer St, Perth WA 6000
T: (08) 9227 2600 F: (08) 9227 2699

Aurora environmental

Sheet 1 of 1

Job ID: MSG-2023-303

Results Required Date: STAT

Email results to: info@auroraenvironmental.com.au

Lab / Lab Quote No.:

tim.delavale@auroraenvironmental.com.au, tim.davies@auroraenvironmental.com.au, brad.dermody@auroraenvironmental.com.au

Purchase Order No.: -

COMMENTS:

Lab Sample ID	Aurora Sample ID	type	Date	container	OCP's	8 heavy metals soils	TRH/BTEXN		Notes/LOR/ Special Requests
27	TP30 -0-0.1	Soil	4.8.23	Jar					HOLD FOR EMAIL REQUESTING ANALYTES
28	TP31 -0-0.5	↓	↓	↓					↓
29	TP4 -0-0.1								
30	TP4 -1.1-1.6								
31	TP5 0.1-0.5								

[redacted]

Date: 8.8.23 Received by [redacted] Date: 8/8/23

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