Information sheet for environmental audits and preliminary risk screen assessments (PRSAs)

Publication 2009 June 2021

Victoria's audit system

An environmental audit system has operated in Victoria since 1989. The *Environment Protection Act 2017* (the Act) provides for the appointment of environmental auditors. It also provides for Environment Protection Authority (EPA or the Authority) to have a system of preliminary risk screen assessments (PRSAs) and environmental audits. These are used in the planning, approval, regulation and management of activities, and in protection of human health and the environment.

Under the Act, the functions of an environmental auditor include to:

- conduct PRSAs and environmental audits
- prepare and issue PRSA statements and reports, and environmental audit statements and reports.

The purpose of a PRSA is to:

- assess the likelihood of the presence of contaminated land
- determine if an environmental audit is required
- recommend a scope for the environmental audit if an environmental audit is required.

The purpose of an environmental audit is to:

- assess the nature and extent of the risk of harm to human health or the environment from contaminated land, waste, pollution, or any activity
- recommend measures to manage the risk of harm to human health or the environment from contaminated land, waste, pollution, or any activity
- make recommendations to manage any contaminated land, waste, pollution or activity.

Upon completion, all PRSAs and environmental audits require preparation of either a PRSA statement, accompanied by a PRSA report, or an environmental audit statement, accompanied by an environmental audit report.

A person may engage an environmental auditor to conduct a PRSA or an environmental audit.

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- Part A, the PRSA or environmental audit report
- Part B, report appendices
- Part C, the PRSA statement and executive summary or environmental audit statement and executive summary.

Report executive summaries, findings and recommendations should be read and relied upon only in the context of the whole document, including any appendices and the PRSA statement or environmental audit statement.

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PRSAs and environmental audits are based on the conditions encountered and information reviewed at the time of preparation. They don't represent any changes that may have occurred since the completion date. As it's not possible for the PRSA or audit report to present all data that could be of interest to all readers, consideration should be made to any appendices or referenced documentation for further information.

When information about the site changes from what was available at the time the PRSA or environmental audit was completed, or where an administrative error is identified, an environmental auditor may amend or withdraw PRSA or environmental audit statements and/or reports. Users are advised to check EPA's website to ensure documents' currency.

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EPA VICTORIA

senversa

PreliminaryRisk Screen Assessment

672-688 Walnut Avenue, Mildura

22 February 2022

PRSA reference: 220222_MILDURA

Document Information

Preliminary Risk Screen Assessment
672-688 Walnut Avenue, Mildura

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Revision	Date	Approved	Detail
0	22 February 2022	Tony Hill	Issued as 3 x PDF files as specified by EPA Publication 2022: 220222_MILDURA_a.PDF Information Sheet (EPA Publication 2009) PRSA Report Text PRSA Statement Figures Tables 220222_MILDURA_b.PDF Information Sheet (EPA Publication 2009) Appendices Attachments 220222_MILDURA_c.PDF Information Sheet (EPA Publication 2009) PRSA Statement Executive Summary
1	20 July 2022	Tony Hill	Amendment requested by EPA Victoria[1]

Tony Hill
Environmental Auditor
Appointed pursuant to the *Environment Protection Act 2017*

Disclaimer and Limitations:

Senversa prepared this document in a manner consistent with the level of care and skill ordinarily exercised by members of Senversa's profession practising in the same locality under similar circumstances at the time the services were performed.

Senversa requires that this document be considered only in its entirety and reserves the right to amend this report if further information becomes available. This document is issued subject to the technical principles, limitations and assumptions provided in **Section 6.0**.

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

[1] Amendment by Tony Hill - 20/07/2022

Executive Summary

This preliminary risk screen assessment (PRSA) report and PRSA statement (**Appendix A**) were prepared by Tony Hill, an employee of Senversa Pty Ltd (Senversa) and an Environmental Auditor, appointed pursuant to the *Environment Protection Act 2017*. The site subject to the PRSA is located at 672-688 Walnut Avenue, Mildura, as shown on **Figure 1**.

Information relating to the site and the PRSA process in the format specified by EPA Publication 2022 (EPA 2021a) is summarised in **Table 1** and **Table 2** below.

Table 1: Summary of PRSA Information

Item	Relevant Site Information
Auditor	Tony Hill
Auditor account number	EXT001069.
Name of person requesting PRSA	Yeshni Purchase.
Relationship of person requesting PRSA to site	Employee of MH2 Engineering and Architectural Services, representing Cornerstone Mildura Development Pty Ltd.
Name of site owner	Cornerstone Mildura Development Pty Ltd.
Date of auditor engagement	1 November 2021.
Completion date of the PRSA	22 February 2022.
Reason for PRSA	Planning authority request for information associated with a planning permit application.
Elements of the environment assessed	Land, water (groundwater and surface water).
Planning permit number or requirement detail if applicable	Mildura Rural City Council planning permit application 005.2021.00000164.001.
EPA Region	North West.
Municipality	Mildura Rural City Council.
Dominant – Lot on Plan	Lot 1 TP821650S.
Additional – Lot on Plan(s)	-
Site / premises name	-
Building/complex sub-unit No.	-
Street/Lot – Lower No.	672.
Street/Lot – Upper No.	688.
Street Name	Walnut.
Street type	Avenue.

Item	Relevant Site Information
Street suffix	-
Suburb	Mildura.
Postcode	3500.
Site area (m^2)	40,464 m^2.
Plan of site/premises/location showing the PRSA site boundary attached	Figure 1.
Members and categories of support team utilised	None.
Further work or requirements	Stockpiled soil present on the site requires classification and subsequent management in accordance with the *Environment Protection Regulations 2021*.
Nature and extent of continuing risk of harm	None.
Outcome of the PRSA report	An environmental audit is not required.

Table 2: Physical Site Information

Item	Relevant Site Information
Historical land use	Vineyard, landscaping supplies.
Current land use	Vacant.
Proposed land use	Low density residential.
Current land use zoning	General Residential (GRZ1).
Proposed land use zoning	Unchanged.
Surrounding land use – north	Low density residential redevelopment (under construction).
Surrounding land use – south	Low density residential redevelopment (under construction) to southeast and southwest. Vineyard directly south.
Surrounding land use – east	Vacant land.
Surrounding land use – west	Walnut Avenue then residential property and vineyards.
Has EPA been notified about the site under Section 40 of the *Environment Protection Act 2017*?	No.
Nearest surface water receptor – name	Unnamed drain/creek.
Nearest surface water receptor - direction	South.
Site aquifer information	Parilla Sands Aquifer.
Groundwater segment	F (>10,000 mg/L).

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Attachment 1: Assessment Consultant's Report

List of Acronyms

Acronym	Definition
ACM	Asbestos containing material
AHD	Australian Height Datum
AS	Australian Standard
CCA	Copper chrome arsenate
CSM	Conceptual site model
DBYD	Dial before you dig
DELWP	Department of Environment, Land, Water and Planning
DQO	Data quality objective
EIL	Ecologically based investigation level
EPA	Environment Protection Authority (Victoria)
ERS	Environment Reference Standard
GRR	Groundwater Resource Report
HIL	Health-based investigation level
LCS	Laboratory control sample

Acronym	Definition
LOR	Limit of reporting
m bgs	Metres below ground surface
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM (ASC)	National Environment Protection (Assessment of Site Contamination) Measure
OCP	Organochlorine Pesticides
OPP	Organophosphate Pesticides
PRSA	Preliminary risk screen assessment
PSI	Preliminary site investigation
QC	Quality control
RPD	Relative percentage difference
TDS	Total dissolved solids
USEPA	United States Environmental Protection Agency
VVG	Visualising Victoria's Groundwater

1.0 Introduction and Objectives

Cornerstone Mildura Developments Pty Ltd (Cornerstone), c/o MH2 Engineering & Architectural Services (MH2), engaged Tony Hill of Senversa Pty Ltd (Senversa), in his capacity as an environmental auditor appointed under the *Environment Protection Act 2017* to undertake a Preliminary Risk Screen Assessment (PRSA) of 672-688 Walnut Avenues, Mildura ('the site').

The PRSA was conducted in accordance with Division 2 of Part 8.3 of the *Environment Protection Act 2017*. At the time of completing this PRSA, the status of Publication 2021 - *Guideline for conducting preliminary risk screen assessments* (EPA 2021b) was "draft for consultation".

1.1 Background

This PRSA was completed to respond to a request for information by Mildura Rural City Council (Council) relating to planning application ref: 005.2021.00000164.001.

1.2 Objective

The objective of this PRSA was to consider the likelihood of the presence of contaminated land at the site for a current and proposed use, and recommend whether an environmental audit is required for the site. In accordance with EPA 2021b, the three possible outcomes of a PRSA are as follows:

- Unlikely that contaminated land is present, and no environmental audit required; or
- Likely that contaminated land is present, but no environmental audit is required. This is where the site is, or likely to be contaminated, however, the contamination is not expected to be (or found to be) at levels that will "*prevent or restrict the use or proposed use of the site*. *Therefore, no further investigation is necessary"* (EPA 2021b); or
- Likely that contaminated land is present and an environmental audit is required. Results from the PRSA indicate that there is the potential for contamination that requires further investigation under an appropriately scoped environmental audit (based on element(s) of environment, area or activity).

1.3 Scope of Work

Section 206(1)(a) of the *Environment Protection Act 2017* (the Act) outlines what must be included in the scope or a PRSA. The scope of this PRSA is detailed in **Table 1.1**.

Table 1.1: PRSA Scope

Item	Detail
Site Details	
Site/premises name	N/A
Address	672-688 Walnut Avenue, Mildura
Title details	Lot 1 TP821650S

Item	Detail	
Area (hectares)	4.0464	
Use or Proposed Use for Which the Site is Being Assessed	Property development, consisting of 55 residential housing blocks and associated roadways.	
Sensitive use (including land used for residential use, a child care centre, pre-school, or primary school) and secondary schools and children's playgrounds	☐	high density
	☒	other (lower density)
Recreation/open space	☐	
Parks and reserves	☐	
Agricultural	☐	
Commercial	☐	
Industrial	☐	
Other	☐	
Elements of the environment assessed in the PRSA	☐ ☐ ☐	Ambient air all environmental values to be considered OR all environmental values other than the following to be considered:
	☐ ☐ ☐	Ambient sound all environmental values to be considered OR all environmental values other than the following to be considered:
	☒ ☒ ☐	Land all environmental values that apply to the land use category to be considered OR all environmental values that apply to the land use category, other than the following, to be considered:
	☒ ☒ ☐	Water (Surface water) all environmental values that apply to the applicable segment to be considered OR all environmental values that apply to the applicable segment, other than the following, to be considered:
	☒ ☒ ☐	Water (Groundwater) all environmental values that apply to the applicable segment to be considered OR all environmental values that apply to the applicable segment, other than the following, to be considered:

Item	Detail
Standards and reference documents considered:	• *Environment Protection Act 2017* • *Environment Protection Regulations 2021* • Environment Reference Standard 2021 • Environmental Auditor Guidelines – Provision of statements and reports for environmental audits and preliminary risk screen assessments (EPA Publication 2022), August 2021. • Guidelines for conducting preliminary risk screen assessments (DRAFT) (EPA Publication, 2021), November 2021. • National Environment Protection Council, 1999. National Environment Protection (Assessment of Site Contamination) Measure (as amended 2013). • Standards Australia, 2005, AS 4482.1-2005, Australian Standard: Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds. • Standards Australia, 1999, AS 4482.2-1999, Australian Standard: Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances.
Assumptions made or limitations on the PRSA:	Nil.
Exclusions from the PRSA and rationale for these:	~~Nil -~~ [2]The purpose of the PRSA was to satisfy Council's planning permit application requirements and to assess the likelihood of contaminated land being present at the site. The ambient air and ambient sound elements of the environment are not considered relevant in this context.
Supporting documentation:	N/A

The scope of work undertaken to complete the PRSA is summarised below:

- Review the Preliminary Site Investigation (PSI) report (Pinion 2022).
- Inspection of the site by the auditor.
- Review of the regional and local (site) conditions and environmental setting.
- Development of an initial conceptual site model (CSM) to identify potential sources of contamination, understand their fate and transport in the environment and assess the possible exposure pathways to receptors associated with the current and/or proposed use of the site.
- Assessment of the likelihood that contamination is present that will prevent or restrict the current and/or proposed site use.
- Determine whether there is a risk posed to the environmental values of land, groundwater, surface water (and sediment) and air by contamination that may be present at the site.
- Determine whether further investigation of the site through an environmental audit is required to consider the risk of harm that may be posed by the contamination to the proposed use of the site and recommend a scope for any required environmental audit.
- Determine whether sufficient information is available to make the conclusions necessary for the PRSA statement.
- Preparation of this PRSA report outlining the procedure followed and the findings of the PRSA.

1.4 Documentation Reviewed

The PSI report (Pinion 2022) prepared by the assessment consultant (Pinion Advisory) that has been relied upon by the auditor is provided in **Attachment 1** and referenced below:

[2] Amendment by Tony Hill -20/07/2022

- Pinion Advisory, 2022. *Preliminary Site Investigation, 672-688 Walnut Avenue, Mildura, VIC*, February 2022 (Pinion 2022).

2.0 Site Description and Environmental Setting

2.1 Site Details

The PRSA has been prepared for the site defined by the property boundary illustrated on **Figure 1**. **Table 2.1** summarises the relevant details that describe the site.

Table 2.1: Site Description

Item	Relevant Site Information
Site Address	672-688 Walnut Avenue, Mildura
Title Plan Identifier	Lot 1 TP821650S (**Figure 2**)
Site Area	4.0464 ha
Municipality	Mildura Rural City Council
Current Zoning	General Residential (GRZ1)
Overlays	Design and Development Overlay (DDO8). Development Contributions Plan Overlay (DCPO1 and DCPO2). Development Plan Overlay (DPO1). Salinity Management Overlay (SMO). Specific Controls Overlay (SC01).
Current Site Use	Vacant.
Proposed Site Use	Low density residential.
Surrounding Land Uses	**North**: Low density residential redevelopment (under construction). **South**: Low density residential redevelopment (under construction) to southeast and southwest. Vineyard directly south. **East**: Vacant land. **West**: Walnut Avenue then residential property and vineyards.

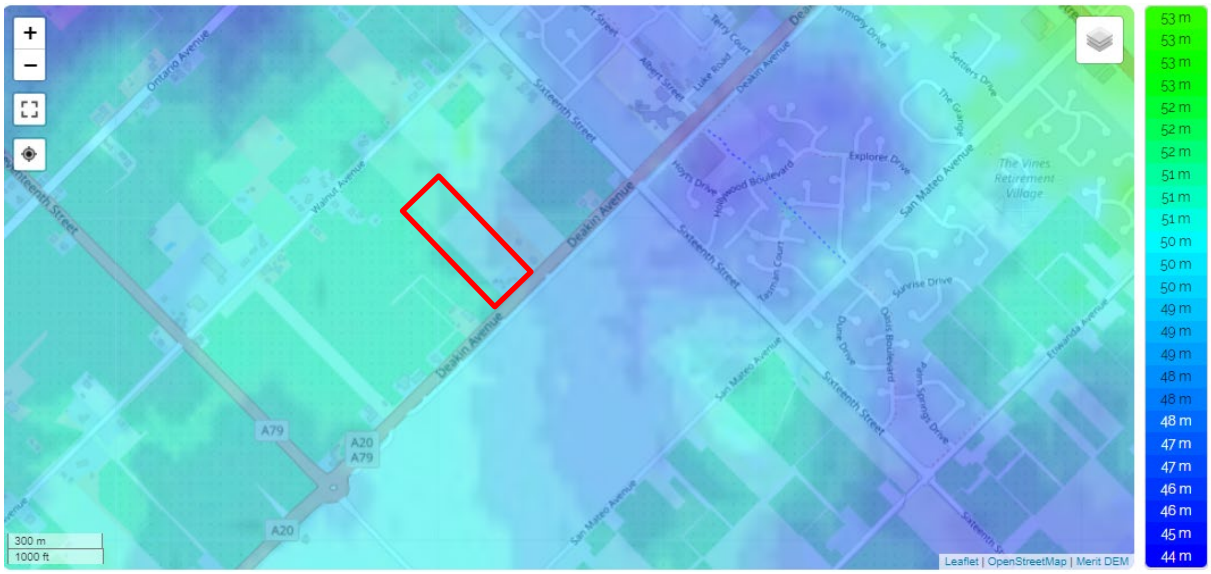
2.2 Environmental Setting

2.2.1 Topography, Drainage and Nearest Waterbodies

Elevation data provided by Pinion indicates the site is flat with a slight fall to the east, towards the intersection of Deakin Avenue and Sixteenth Street (Section 2.4, Pinion, 2022).

Topographic information sourced online indicates that the site elevation is approximately 50 m above the Australian height datum (AHD). Land slopes locally to the east, and regionally to the north and northwest towards Lake Hawthorn, Lake Ranfurly and the Murray River (**Figure 2-1**).

Figure 2-1: Topography of the Site and Surrounding Area



Source: https://en-au.topographic-map.com/maps/j8z1/Mildura/ (topographic-map.com (Mildura District).

Approximate site location

There is no surface water body on-site. The nearest waterways to the site are:

- Unnamed drain/creek (830 m south).
- Robbins Wetland (970 m north).
- Lake Hawthorn (1.5 km northwest).
- Lake Ranfurly (2.5 km north).
- Murray River (4.4 km north).

Existing water supply and drainage around the site includes:

- Urban water pipelines, along Walnut Avenue.
- Rural irrigation pipelines, running along the front and rear of the site along Walnut Avenue and the southeast site boundary.
- Rural drainage pipelines, running along the southeast site boundary.

It is expected that stormwater runoff would be directed to the rural drainage pipelines, running along the southeast site boundary. The rural drainage pipelines are gravity based and drain into Lake Hawthorn via Sixteenth Street (Pinion, 2022).

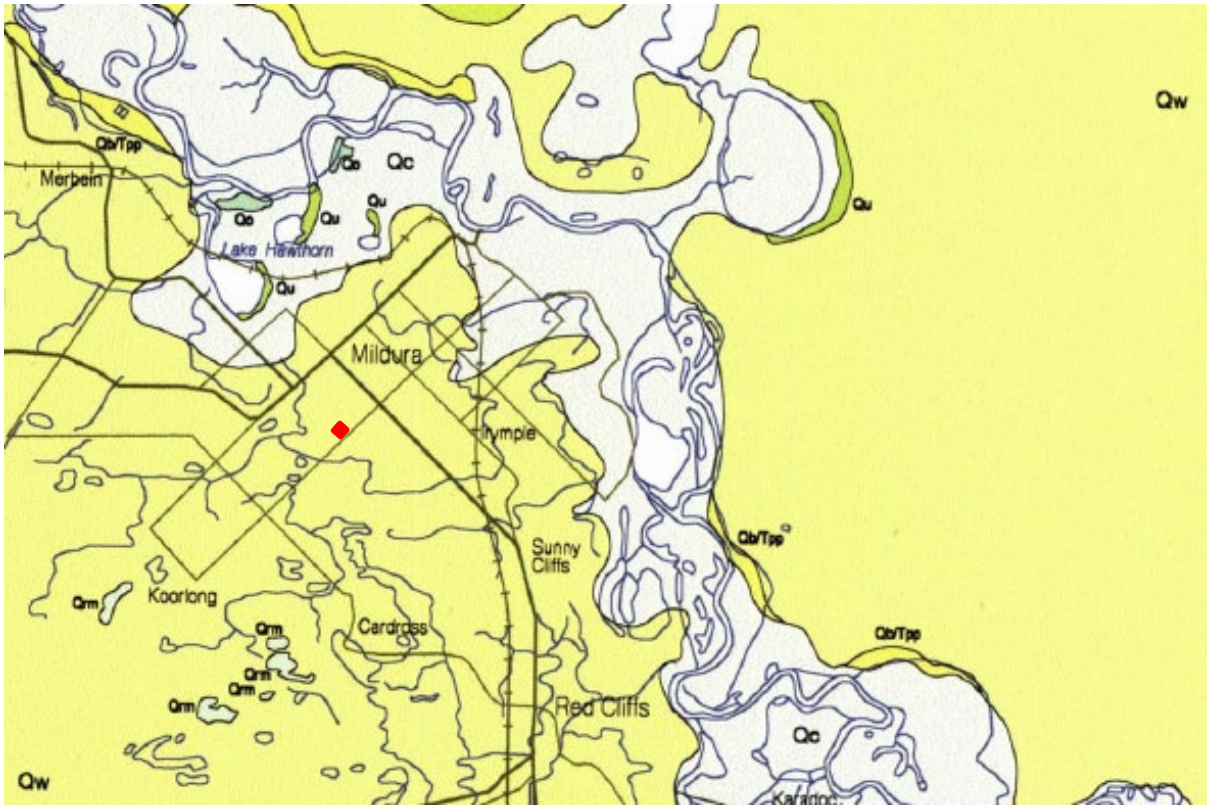
Dial Before You Dig (DBYD) plans provided by Council indicate that stormwater drains are not present in the vicinity of the site (Appendix 8, Pinion, 2022). However, it is noted that a new stormwater drainage system is currently under construction, and the 1.2 m diameter concrete piping for this is laid out on the surface to the rear of the site, which is visible in the Nearmap aerial imagery from October 2021 (Appendix 6, Pinion, 2022). The stormwater collected will follow the same gravity-based path as the rural drainage pipelines, and drain to Lake Hawthorn via Sixteenth Street.

2.2.2 Regional Geology

Geological information provided in the PSI report (Pinion, 2022) was general to the area. The auditor supplemented the PSI information using data provided from the 1:250,000 Geological Map Series (Mildura Map SI 54-11, Edition 2, May 1997). An excerpt of this publication is provided as **Figure 2-2**. The site exists within the Woorinen Formation, which consists of Pleistocene aged dune sand, described as calcareous, clayey, paleosols.

Information obtained from the Atlas of Australian Acid Sulfate Soils indicates a low probability (1-5 %) of occurrence of acid sulfate soil at and surrounding the site.

Figure 2-2: Geology of the Site and Surrounding Area



Source: 1:250,000 Geological Map Series, Mildura (SI 54-11, Edition 2, May 1997)

Approximate site location

Legend:

Qrm	QUATERNARY, Mostly Holocene; Paludal: lagoon and swamp deposits: silt, clay
Qb	QUATERNARY, Mostly Holocene; Blanchetown Clay – Fluvial: clayey sand, sandstone, sand
Qc	QUATERNARY, Mostly Holocene; Coonambidgal Formation – Fluvial, lacustrine: clay, sand, sandy clay
Qo	QUATERNARY, Holocene to Pleistocene; Yamba Formation – Aeolian; source-bordering dune deposits: sand, silt, clay
Qw	QUATERNARY, Pleistocene; Woorinen Formation – Aeolian: dune sand, calcareous, clayey, paleosols.

2.2.3 Local Geology

The local geology is expected to be consistent with the regional geology, noting that the surface soil has been disturbed in some areas due to historical site uses (see **Section 3.5**). The soil conditions observed during sampling are summarised in Section 6 of the PSI report (Pinion, 2022).

2.2.4 Regional Hydrogeology

Pinion (2022) provided a general review of the hydrology and hydrogeological conditions in the area, with reference to 1:250,000 Murray Basin Hydrogeological Map Series (Mildura Map (SI 54-11, 1st Edition, May 1992) (Appendix 4, Pinion, 2022) and information obtained on Visualising Victoria's Groundwater (VVG).

The following information was considered relevant:

- The Murray Basin Hydrogeological Map Series indicates that:
  - The groundwater aquifer is located between depths of 5-20 m bgs;
  - The aquifer thickness is 30 to 40 m; and
  - Groundwater salinity is expected to be between 14,000 mg/L and 35,000 mg/L.
- The Victorian Groundwater Resource Report (GRR) for '*Groundwater catchment: Wimmera – Mallee'* indicates that:
  - groundwater aquifers in the area exist at depths of between 0 – 2 m bgs, and 23 – 40 m bgs; and
  - the shallow aquifer (0 – 2 m bgs) is reported as having an 'unknown' salinity, and the deeper aquifer (23 – 40 m bgs) is expected to have a salinity in the range of 13,001 – 35,000 mg/L.
- Data obtained from the Visualising Victoria's Groundwater (VVG) website indicates that:
  - Groundwater is likely to be encountered at a depth of 10 – 20 m bgs; and
  - The total dissolved solids (TDS) concentration of groundwater beneath the site is expected to be between 13,000 – 35,000 mg/L.
- The assessment consultant provided further local area information:
  - Groundwater was not intercepted at depths of 4m during investigation works conducted by Pinion in the immediate vicinity of the site (covering an area of 24.3 ha with 23 boreholes drilled).
  - Pinion (2022) stated that the shallowest aquifer in the vicinity of the site is at 10-20 m bgs, in the Parilla Sands formation.
- Hydrogeological information reviewed in a nearby audit site (GHD, 2002 (CARMS 46092-A)) supports the desktop hydrogeological information summarised above (groundwater expected to exist 10-15 m bgs within the Parilla Sands aquifer, TDS expected to be 15,000 mg/L to 45,000 mg/L).

The hydrogeological information reviewed provides variable information regarding the depth to groundwater, however, the auditor anticipates that groundwater would be encountered between depths of 10 – 20 m bgs., based on the assessment consultant's local knowledge of the area, and supporting reference material (Murray Basin Hydrogeological Map, VVG website).

Groundwater beneath the site is inferred to have a salinity in the range of 13,000 – 35,000 mg/L, based on the information provided above. Groundwater with this salinity is classified in Segment F (Table 5.3, *Environmental Reference Standard* (ERS), 2021).

The following environmental values of groundwater are protected for groundwater classified as Segment F, based on Table 5.3 of the ERS (2021):

- Water dependent ecosystems and species.
- Water-based recreation (primary contact recreation).
- Traditional Owner cultural values.

- Buildings and structures.
- Geothermal properties.

Locally, the groundwater is inferred to flow in a northerly direction, towards Lake Hawthorn and Lake Ranfurly. Regionally, groundwater is inferred to flow east, towards Adelaide and St Vincent Gulf (Section 2.5, Pinion, 2022).

2.2.5 Groundwater Bore Search

Pinion identified fifteen registered groundwater bores within a 2 km radius of the site (Pinion, 2022).

The auditor conducted an independent groundwater bore search to verify this information. Fourteen of these bores are registered for observation or investigation purposes, with the single remaining bore having no registered use type.

The construction details for the registered bores indicates a groundwater depth consistent with the inferred groundwater depth described in **Section 2.2.4**. Further detail regarding the registered groundwater bores in a 2 km radius of the site is provided in Section 2.5 of the PSI report (Pinion, 2022).

None of these bores were registered for extractive purposes. This is consistent with the desktop salinity data (**Section 2.2.4**), which indicated that the natural salinity of groundwater in the area, classified as Segment F (ERS, 2021) precludes the environmental values of potable water, agriculture and irrigation (irrigation), agriculture and irrigation (stock watering) and industrial and commercial use.

3.0 Site Investigation

This PRSA was based on the findings of a Preliminary Site Investigation (PSI) and targeted soil investigation completed and documented in Pinion (2022). The section summarises the scope and findings of the PSI and targeted soil investigation, and the auditor's assessment their adequacy to support issue of a PRSA statement.

3.1 Site History

The historical ownership details for the site date back to 1887 and indicates the site was owned by various people for horticultural or irrigation purposes until the more recent site use as a garden supplies business, which operated at the site between 2003 and 2014. The site was then purchased by the current owners (Cornerstone Mildura Development Pty Ltd) in 2020.

Further details of the site history review undertaken by Pinion are presented in Section 3 of the PSI report (Pinion 2022).

3.2 Auditor's Opinion on the Adequacy of Site History Review

The auditor has reviewed the PSI report (Pinion 2022) against the recommended elements for completing a site history review set out in:

- Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1):* National Environment Protection Council, 2013.
- Section 3 of *AS4482.1-2005 Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-Volatile and Semi-Volatile Compounds.* Standards Australia, 2005.

The auditor's review is detailed in **Appendix B.** The following minor issues were noted in the PSI report, during the auditors' review of the information provided:

- A typographical error relating to the specific Lot Title for the site was noted in the heading for Table 2. The correct title details are referenced elsewhere in the report.
- In some instances, information sources were referenced with no specific supporting documentation or evidence of the search having been undertaken (e.g. First Mildura Irrigation Trust, Trove, building record search).
- A historical street directory search does not appear to have been undertaken. Nonetheless, details of site ownership were provided through Sands and McDougall records (1860 - 1974) and the historical certificate of title search.

Despite the minor items listed above, the auditor considers the historical review undertaken provided an adequate understanding of the history of the site and potentially contaminating historical activities and was sufficient for the purposes of the PRSA.

3.3 Targeted Soil Investigation

The site history review (**Section 3.1**) identified that the site was historically used as a vineyard (vine area, not processing or other operations areas), representing a risk, albeit very low, of contamination from agricultural chemical use. Risks from agricultural chemical use on vineyard land has been historically investigated on similar nearby historical vineyard land under previous environmental audit ref: 8001371 / 46092-A completed for Lower Murray Water (GHD, 2002). In the GHD 2002 audit, no significant health or ecological risks from metals or pesticides were identified in the comparable former vineyard land portion of the audit area, and no remediation was required. On this basis, the auditor's

opinion was that the subject site was unlikely to be contaminated from the historical vineyard use. However, acting conservatively and after consulting with EPA (refer **Section 5.9**), the auditor agreed to a limited scope of targeted sampling of the very surface soils being incorporated into the PSI to confirm the accumulation of metals (particularly copper) has not occurred.

Pinion undertook a limited scope, targeted soil investigation to confirm the hypothesis of 'no contamination expected to be present in the near surface soils' on the site. The assessment comprised collecting soil using a stainless-steel trowel from seven locations across the site as shown on the Site Map (Appendix 1, Pinion, 2022). Samples were collected from near surface soils; within the top 0.05 m bgs. Pinion recorded the sample descriptions which were consistent across the site (light brown sandy clay loam, with no odour or discolouration potentially indicative of contamination observed).

Samples were analysed for selected metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), organochlorine pesticides (OCP), organophosphorus pesticides (OPP), and phenoxy acid herbicides. The auditor conducted independent data validation. The analytical results compared to the investigation levels for the applicable environmental values are provided in **Table 1**.

3.4 Auditor's Opinion on the Adequacy of the Targeted Soil Assessment

Guidance on undertaking soil investigations for the purposes of undertaking an environmental site assessment is provided in the following documents:

- *National Environment Protection Measure (Assessment of Site Contamination), National Environment Protection Council* (NEPC), 1999 as varied 2013.
- *Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil Part 1: Non-volatile and semi-volatile compounds*, (Standards Australia, 2005).
- *Australia Standard (AS 4482.2) - Guide to the Sampling and Investigation of Potentially Contaminated Soil Part 2: Volatile substances*, (Standards Australia, 1999).
- *IWRG701 - Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.* EPA Victoria 2009.

Primary components of the soil assessment together with the auditor's observations and comments in relation to works conducted, are summarised in the **Table 3.1.**

Table 3.1: Auditor Review of Quality of Soil Sampling

Component of Field Investigation and DQO	Auditor Observations and Comments
Soil sampling coverage AS4482.1 and AS4482.2	Seven samples were taken from the surface soils across the site. The auditor considered the sampling coverage to be appropriate for a PRSA.
Sample collection techniques EPA IWRG701, AS4482.1 and AS4482.2	Samples were collected using a decontaminated stainless-steel trowel directly from each location. The auditor considers the sampling methodology to be appropriate.
Sampling equipment decontamination AS4482.1	The stainless-steel trowel was cleaned between each sample location. No other reusable sampling equipment was used during the soil sampling program.
Field measurements AS4482.2	Visual/olfactory observations were recorded at each sample location.

Component of Field Investigation and DQO	Auditor Observations and Comments
Field documentation (i.e. field notes, bore logs and chain-of-custody records) **AS4482.1, AS4482.2, NEPM B2**	Field documentation included provision of an in-text table, detailing the sample ID, description, sample depth and visual and olfactory observations. The data provided was completed to a satisfactory standard to enable the auditor to interpret the data.
Sample handling, preservation and storage **AS4482.1, IWRG701 and NEPM B2**	Soil samples were collected in jars supplied by the laboratory and stored/transported in chilled insulated containers.
Number and type of field quality control samples **AS4482.1 and AS4482.2**	Field quality control samples collected during the soil investigation works included a field (intra-laboratory) duplicate, secondary (inter-laboratory) duplicate and a rinsate blank. A trip blank was not collected since the sampling program was not intended to assess for the presence of volatile contaminants. The field and secondary sampling frequency meets the frequency of one duplicate per 20 primary samples. The number collected for the sampling overall is considered sufficient to demonstrate the efficacy of decontamination undertaken.
Selection of chemical analytes **AS4482.1 and AS4482.2**	Overall, the range of chemical analytes selected for analysis was considered appropriate based on the history of the site.

Guidance on undertaking laboratory analyses and interpreting quality control results for the purposes of undertaking an environmental site assessment is provided in the following documents:

- *Guideline on Laboratory Analysis of Potentially Contaminated Soil (Schedule B (3), National Environment Protection Measure (Assessment of Site Contamination)*, National Environment Protection Council (NEPC), 1999.
- *Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil Part 1: Non-volatile and semi-volatile compounds*, (Standards Australia, 2005).
- *Australia Standard (AS 4482.2) - Guide to the Sampling and Investigation of Potentially Contaminated Soil Part 2: Volatile substances*, (Standards Australia, 1999).

Primary components of laboratory analysis relevant to this PRSA, together with the auditor's observations in relation to works conducted, are summarised in **Table 3.2.**

Table 3.2: Auditor Review of Quality of Laboratory Analysis

Component of Laboratory Analyses and QC and Objectives	Auditor Observations and Comments
NATA Accreditation	Laboratory analysis was undertaken by: • Envirolab - primary laboratory. • ALS - secondary laboratory. A review of the analytical reports noted that the above laboratories used methods accredited by National Association of Testing Authorities (NATA) to perform the requested analyses.
Sample holding times **IWRG701**	Samples were extracted and analysed within the recommended holding times, except for a single holding time exceedance reported for the interlaboratory sample (S9) for acid herbicides in water.

Component of Laboratory Analyses and QC and Objectives	Auditor Observations and Comments
Laboratory limits of reporting	Laboratory limits of reporting (LOR) were appropriate for all soil quality indicators.
Intra-laboratory (field) field duplicates **AS4482.1**	The relative percent differences (RPDs) for the intra-laboratory (field) duplicates were reported to be within acceptable limits for all samples.
Inter-laboratory (secondary) field duplicates **AS4482.1**	The RPDs for the inter-laboratory (secondary) duplicates were reported to be within acceptable limits for all samples.
Rinsate blanks **IWRG701, AS4482.1**	One rinsate sample was collected. All reported analyses were below laboratory detection limits except a single result for copper. The auditor does not consider that this has impacted the validity of the reported soil results, as all copper concentrations are reported to be below all adopted investigation levels.
Trip blanks **IWRG701, AS4482.1**	A trip blank was not collected since the sampling program was not intended to assess for the presence of volatile contaminants.
Laboratory generated quality control data **IWRG701**	The auditor conducted a review of laboratory generated quality control data, inclusive of: • Frequency of quality control testing; • Method blanks; • Internal laboratory duplicates; • Matrix spikes; and • Surrogate spikes. The review noted two minor non-compliances: • One spike recovery for acid herbicides (2,4-D & 2,4,5-T) was lower than the control limits. An acceptable recovery was obtained for the Laboratory Control Sample (LCS). • Matrix spike recovery was not possible to report for Clopyralid due to sample matrix interference. An acceptable recovery was obtained for the LCS. These non-compliances were not considered to significantly affect the data interpretation.
Use of correct objectives	The soil results were compared to the appropriate quality objectives.
Reporting of unusual or anomalous results	None.

In summary, sufficient sampling was undertaken to provide the auditor with assurance regarding the quality of data and to form an opinion on the contamination status of the site. In the auditor's opinion, the quality and reliability of information generated from the investigation undertaken, considering all limitations as identified above, were sufficient for the purposes of this PRSA.

3.5 Auditor's Site Inspection

Tony Hill of Senversa inspected the site on 15-16 November 2021 to identify potential sources of contamination. The inspection results are summarised in **Table 3.3** and photographs are provided in **Appendix C**.

Table 3.3: Site Inspection Observations

Inspection Item	Feature Identified (from (AS4482.-2005, S3.3)	Detail
A	Areas of discoloured soil, polluted water, affected plant growth and animal populations and significant odours.	No discoloured soil **or odours** was observed, apart from isolated areas of ash and charcoal from burnt timber.
B	The presence of any stockpiled material, imported soil or fill material such as slag, ashes, potential asbestos containing materials, scrap and industrial or chemical waste, as well as any signs of settlement, subsidence and disturbed ground.	The site contained various piles of locally derived soil, some of which contained inert waste debris (timber, metal, firewood, concrete, plastic). The site owner advised the auditor some piles of soil containing inert debris had recently been illegally deposited on the site by others, inferred to have originated from nearby or adjacent development sites. A small earthen loading ramp first visible in 2005 aerial imagery had been constructed from fill material from an unknown source.
C	Assessment of soil loss or deposition that has occurred in the past and evaluation of the future erosion potential.	There were no signs of significant soil loss or deposition due to erosion.
D	The direction of the flow of water run-off from the site and adjacent properties.	The site is flat and expected to drain to the southeast.
E	The depth of any standing water, the direction and rate of flow of rivers, streams or canals, together with their flood levels and any tidal fluctuations	No standing water was present on-site, and none was noted in the surrounding area.
F	Any differences between the present conditions and the information obtained from the site history.	The condition of the site was as expected given the known site history.
G	Location and condition of all visible features, including foundations, positions of former buildings, tanks, pits, wells, drains and bores	The only visible features were associated with services just outside the eastern site boundary.
H	Condition and type of ground cover, e.g. bare ground, asphalt, concrete, gravel, etc.	The site has remained unpaved over its history.
I	Chemical storage and transfer areas, including the presence of waste or chemical containers.	There were no chemical storage areas.
J	The apparent condition and use of adjacent properties	**North**: Low density residential redevelopment (under construction). **South**: Low density residential redevelopment (under construction) to southeast and southwest. Vineyard directly south. **East**: Vacant land. **West**: Walnut Avenue then residential property and vineyards.
K	Location of settlement ponds	No settlement ponds were present on-site.

4.0 Initial Conceptual Site Model

In accordance with Schedule B2 of the National Environment Protection (Assessment of Site Contamination) Measure (NEPC 1999), an important step in the site assessment process is the development of a conceptual site model (CSM) that identifies the potential sources of contamination, the contaminants of concern, the likely media involved and the pathways by which exposure to any contamination at the site may occur.

For exposure to occur, a complete pathway must exist between the source of contamination and the receptor (i.e. the person or ecosystem components potentially affected). Where the exposure pathway is incomplete, there is no exposure and hence no risk via that pathway. An exposure pathway will typically consist of the following elements:

- Source of contamination (e.g. a spill or loss of containment of a hazardous substance).
- Release mechanism (e.g. absorption into soil, leaching through the soil profile to groundwater, emission to air).
- Retention in the transport medium (e.g. soil, groundwater, surface water, air).
- Exposure point/receptor (e.g. where a person comes in contact with contaminated medium, such as dust or soil, contaminated groundwater from a well, or vapours in a building overlying volatile contamination).
- Exposure route (e.g. inhalation, ingestion, absorption through the skin).

4.1 Potential Sources of Contamination

Potential sources or onsite activities which may have resulted in contamination, together with associated hazardous substances and potential contaminants are summarised in **Table 4.1**. This information is based on the historical information obtained by Pinion (2022) and the auditor and observations made during the site inspection.

Table 4.1: Potential Sources of Contamination

Location	Potential Source / Activity	Potential Contaminants
On-site (PRSA Area)		
Entire site	Agricultural activities associated with former vineyard	Metals, herbicides, pesticides.
Stockpile locations	Illegal dumping of wastes	Various depending on the material origin – commonly identified contaminants include metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), coke, ash and asbestos containing material (ACM). Less commonly encountered include pesticides, herbicides, phenolic compounds, cyanide wastes, solvents, polychlorinated phenols, and nutrients.
Northwest and southeast site boundaries.	Potential asbestos cement irrigation and drainage pipes	ACM

Location	Potential Source / Activity	Potential Contaminants
Off-site		
Adjacent and neighbouring properties	Agricultural activities associated with former vineyards.	Metals, herbicides, pesticides.

4.2 Human and Ecological Receptors

Section 2.1, the PRSA Statement (**Appendix A)** and Appendix 9 in the PSI report (Pinion, 2022) detail the land use proposed at the time this PRSA was completed. For the purposes of determining land use suitability in relation to the risk of harm to human health or the environment from contaminated land, waste or pollution, all relevant elements of the environment have been considered.

The range of potentially exposed human receptors, based on the proposed low density residential development, include:

- Residents.
- Visitors.
- Construction and maintenance workers.

Potential ecological receptors of any site derived contamination are expected to be restricted to the on-site terrestrial ecosystems, including:

- Plants.
- Wildlife.
- Soil invertebrates.

Surface water receptors are considered unlikely to be impacted from site derived soil or groundwater contamination, due to the distance to surface water from the site; the nearest surface water receptor is the unnamed drain/creek approximately 830 m to the south. However, as discussed in **Section 2.2.4**, groundwater is expected to move in a northerly direction towards Lake Hawthorn and Lake Ranfurly, located approximately 1.5 km to the northwest and 2.5 km to the north, respectively. Similarly, stormwater runoff is expected to flow through rural irrigation pipelines and drain into Lake Hawthorn, as discussed in **Section 2.2.1** and Section 3.5 of the PSI report (Pinion, 2022).

Groundwater bores in the vicinity of the site are not registered for extractive purposes. The groundwater beneath and in the vicinity of the site has an elevated natural salinity (TDS >10,000 mg/L) that precludes the environmental values associated with potable water, irrigation and stock watering, and industrial and commercial uses.

There are no known water dependent ecosystems or species that exist in the groundwater beneath or near the site, and as such there are not considered to be any ecological receptors associated with the groundwater environment.

Extractive use of groundwater for water-based recreation (primary contact recreation) is an applicable environmental value based on the classification of groundwater (Segment F). However, it is considered unlikely that this use will be realised based on the saline nature of the groundwater and the presence of a reticulated water supply in the township.

4.3 Potential and Complete Exposure Pathways

Future use of the site as a low-density residential development is likely to permit direct contact with soil. During construction or sub-surface maintenance exposure to soil will also occur. For the receptors detailed above, the potential exposure pathways may include the following:

- Site residents directly contacting, ingesting and/or inhaling dust from surface soils.
- Construction and maintenance worker direct contact with soil, inhalation and ingestion of dust.
- Plant and invertebrate health within contaminated soils.
- Wildlife directly contacting, ingesting and/or inhaling dust from surface soils.

5.0 Preliminary Risk Screen Assessment

The findings of the PSI (**Section 3.0**) have been used by the auditor to perform a PRSA of the site in accordance with EPA (2021b).

5.1 PRSA Details

The details of the site, environmental auditor who performed the PRSA, the site owner and PRSA timeframe are presented in the **Executive Summary**.

5.2 Background and Reason for PRSA

This PRSA was undertaken to satisfy a request for information from Mildura Rural City Council associated with a planning permit application.

5.3 PRSA Scope and Methodology

The PRSA scope and methodology is summarised as follows:

- The PRSA was conducted in accordance with the November 2021 draft of EPA Publication 2021: *Guideline for conducting preliminary risk screen assessments* (EPA, 2021b).
- The site is planned to be redeveloped for residential purposes.
- The scope included reviewing and documenting information provided in the PSI report (**Attachment 1**), a site inspection by the auditor and targeted soil sampling.

5.4 Documentation Reviewed

The auditor reviewed the following report:

- Pinion Advisory (2022), *Preliminary Site Investigation, 672-688 Walnut Avenue, Mildura, VIC*. February 2022 (Pinion, 2022).

5.5 Quality and Completeness of Prior Assessment(s)

The auditor's review of the completeness of the PSI with reference to the requirements of the ASC NEPM (NEPC, 2013) and AS4482 is documented in **Appendix B**.

5.6 Summary of Historical Land Use Activities

Historical use of the site includes:

- Vineyards that existed on the site from the 1890s until early 2003, after which they were cleared from the site.
- The site was used as a landscaping supplies business between 2003 and *circa* 2014, and various inert landscape supply materials and firewood were stored and sold from the northern portion of the site.
- A private motorcycle track was constructed in the southern portion of the site around 2005.

- The landscaping supplies business ceased operating on the site in 2014, after which the site has remained vacant.
- The site was purchased by the current owners (Cornerstone Mildura Development Pty Ltd) in February 2020.

5.7 Assessment of Site Condition

5.7.1 Likelihood of Contamination

The desktop investigation and site inspection indicated a low likelihood of contamination at the site, with potential contamination sources limited to:

1 Historical use of agricultural chemicals within the former vineyard.

2 Illegal dumping of wastes / stockpiled soil.

3 Isolated ACM irrigation and drainage pipes.

The auditor's opinion on the significance of these potential contamination sources is discussed below.

Use of agricultural chemicals within the former vineyard

Pesticides (including herbicides, fungicides) are expected to have been used at the site during the period in which it operated as a vineyard. Particular to vineyards is the application of foliar fungicides containing metals, predominantly copper, which can increase soil metal concentrations such as copper and zinc (Chaignon et al., 2003). Such use of pesticides in commercial agriculture production is listed as having a medium potential for contamination in *Planning Practice Note 30 – Potentially Contaminated Land* (DELWP, 2021). However, as detailed in **Section 3.3** risks from agricultural chemical use on vineyard land has been historically investigated on similar nearby historical vineyard land under a previous environmental audit, and no significant health or ecological risks from metals or pesticides were identified. This local, directly relevant finding is consistent with a study performed by the NSW EPA that reviewed orchard and market garden soil sampling results from across NSW prior to the preparation of its discussion paper: *Assessment of orchard and market garden contamination* (NSW EPA, 1995). The NSW EPA review found that "*there was a relatively low potential for residual pesticide levels in these soils to pose a risk to human health or the environment, and that significant contamination appears to be rare*".

On the basis of the above information, the auditor formed the opinion that the subject site was unlikely to be contaminated land due to historical vineyard use. However, acting conservatively and after consulting with EPA, the auditor agreed to incorporation of a limited scope of targeted sampling of the very surface soils into the PSI to confirm the hypothesis of 'no contamination expected to be present in the near surface soils' (refer **Section 5.7.2** below).

Illegal dumping of wastes / stockpiled soil

The auditor is of the opinion that the isolated, small piles of locally derived soil onsite do not constitute a contamination risk warranting an environmental audit to be recommended. Wastes observed to be present within some of the stockpiles was noted to be inert materials (timber, metal, firewood, concrete, plastic), therefore only representing a risk to the aesthetic environmental value of land, and only if retained on-site post redevelopment. For these stockpiles, further routinely undertaken work is required to classify the material in accordance with the *Environment Protection Regulations 2021* for either screening and retention on-site, or disposal off-site to a lawful place as industrial waste. This routine industrial waste management requirement has been referenced as 'Other information' in the PRSA Statement (**Appendix A**).

The auditor is of the opinion the stockpiled soil, once classified and managed in accordance with *Environment Protection Regulations 2021* will not impact upon the applicable environmental values of land under the future residential land use setting.

Potential asbestos cement irrigation and drainage pipes

Three known irrigation and drainage pipes exist along the southeast boundary of the site, constructed of ACM (non-friable) concrete, clay earthenware and PVC. Similar underground drainage pipework is known to exist more broadly across the current and former agricultural areas in Mildura. Underground drainage pipework networks containing non-friable ACM are routinely decommissioned during property redevelopment and this will not prevent or restrict the proposed use of the site. The auditor does not consider the remnant ACM underground drainage pipework to represent a significant risk to the environmental values of land under the future residential land use setting, and therefore does not warrant an environmental audit to be recommended.

The auditor's assessment of the likelihood of contamination is consistent with the conclusions of the PSI (Pinion, 2022). The auditor agrees that the conclusions in the PSI are appropriate based on the information presented and reviewed. [3]

5.7.2 Results of Site Characterisation Sampling and Analysis

The soil investigation comprised collecting surface soil using a stainless-steel trowel from seven locations across the site as shown on the Site Map (Appendix 1, Pinion, 2022). Samples were collected within the top 0.05 m bgs. Pinion recorded the sample descriptions which were consistent across the site (light brown sandy clay loam, with no odour or discolouration potentially indicative of contamination observed). The samples were analysed for metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), organochlorine pesticides (OCP), organophosphorus pesticides (OPP) and phenoxy acid herbicides.

The auditor conducted independent data validation of the analytical results and compared the concentrations reported to ecological and human health investigation and screening (Tier 1 risk assessment) levels applicable to a low density residential land use setting (**Table 1**). All results were below the adopted investigation and screening levels, confirming the hypothesis that historical use of agricultural chemicals with the former vineyard has not resulted in soil contamination.

5.7.3 Potential Impacts on Environmental Values

Assessment of possible impacts on environmental values associated with the proposed use of the site are documented in **Table 5.1** and **Table 5.2**.

Table 5.1: Potential Impacts on Applicable Environmental Values of Land

Environmental Value	Comment
Land Dependent Ecosystems and Species (modified and highly modified ecosystems) **Production of Food, Fibre and Flora**	The PSI, together with the site inspection and targeted soil assessment indicates that the site is not impacted by potential contaminants of concern. Therefore, there is no identified impact on the environmental values of land dependent ecosystems and species and production of food, flora and fibre.
Human Health	The PSI, together with the site inspection and targeted soil assessment indicates that the site is not impacted by potential contaminants of concern. Therefore, there is no identified impact on the environmental value of human health.
Buildings and Structures	The PSI, together with the site inspection indicates that the site is not impacted by potential contaminants of concern. Therefore, there is no identified impact on the environmental value of buildings and structures.
Aesthetics	The auditor is of the opinion the stockpiled soil on-site, once classified and managed in accordance with *Environment Protection Regulations 2021* will not impact upon the applicable environmental values of land under the future

[3] Amendment by Tony Hill – 20/07/2022

Environmental Value	Comment
	residential land use setting. Reference to the requirement to classify the material in accordance with the *Environment Protection Regulations 2021* for either screening and retention on-site, or disposal off-site to a lawful place as industrial waste has been referenced as 'Other information' in the PRSA Statement (**Appendix A**).

Table 5.2: Potential Impacts on Applicable Environmental Values of Groundwater

Environmental Value	Comment
Water dependent ecosystems and species	The nearest inferred surface water receptors to the site are the unnamed drain/creek (830 m south) and Lake Hawthorn approximately 1.5 km to the northwest. These surface waters are generally too distant from the site to be affected if site derived contamination was present.
Water-based recreation (primary contact recreation)	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Traditional Owner cultural values	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Buildings and structures	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Geothermal properties	Based on historical and current uses of the site and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.

Potential Impacts on Protected Beneficial Uses of Surface Water

The nearest inferred surface water receptors to the site are the unnamed drain/creek (830 m south) and Lake Hawthorn approximately 1.5 km to the northwest. These surface waters are generally considered too distant to be affected by activities at the site.

Potential Impacts on Proposed Use or Development

Cornerstone Mildura Development Pty Ltd has advised that the proposed future use of the site is for low density residential purposes. As discussed in **Section 5.7.1**, the assessment has found it unlikely that the site is contaminated land. Therefore, an environmental audit would not be required for the use or proposed use of the site. This outcome is consistent with the definition of contaminated land in the *Environment Protection Act 2017* under section 35(1)(b) which considers the creation of a risk of harm to human health or the environment regarding the environmental values of land and water. Since the assessment has found it unlikely that the site is contaminated land, no assessment of a created risk of harm to human health or the environment in an environmental audit would be necessary.

During redevelopment of the site, the aesthetically impacted stockpiled soil present on the site requires classification and management in accordance with the *Environment Protection Regulations 2021*. This requirement has been referenced as 'Other information' in the PRSA Statement (**Appendix A**).

5.8 Auditor Support Team Used

The auditor did not require the use any of his expert support team in conducting this PRSA.

5.9 Consultation with EPA Victoria

On the 17 November 2021, the auditor sought confirmation from EPA Victoria of the auditor's opinion that it was appropriate, and in accordance with the PRSA guidance, that targeted surface soil sampling could be incorporated into the PSI supporting the PRSA process. EPA replied to the auditor on 23 December 2021 concurring with the auditor's opinion and interpretation of the PRSA guidance.

6.0 Technical Report Limitations/Disclaimers

This PRSA was prepared for the person requesting the PRSA in accordance with Part 8.3 of the *Environment Protection Act 2017*. The PRSA report and statement have been prepared to support a planning permit application to develop the site.

The PRSA is based on a review of the condition of the site at the time of assessment, as described in the PSI report attached to the PRSA report and observed during site inspections conducted by the auditor. PRSA reports are based on the conditions encountered and information reviewed at the time of preparation, and do not consider any changes that may have occurred since the date of completion.

The scope of work performed as part of the PRSA process may not be appropriate to satisfy the needs of any other person. Any other person's use of, or reliance on, the PRSA report and statement, or the findings, conclusions, recommendations or any other material presented or made available to them, is at that person's sole risk.

In drawing conclusions, the auditor used reasonable care to avoid reliance upon data and information that may be inaccurate, however a degree of uncertainty is inherent in all environmental investigations and there remains the possibility that variations may occur between sample locations. The PRSA report this statement are limited by and rely upon the scope of the review, and the information provided by Cornerstone Mildura Developments Pty Ltd and their consultants and representatives through documents provided to the auditor. The auditor's conclusions presented in this report are therefore based on the information made available to them and arising from their own observations conducted during the PRSA.

7.0 References

Legislation and Regulations

State of Victoria, *Environment Protection Act 2017*.

State of Victoria, *National Environment Protection Council (Victoria) Act* 1995.

State of Victoria, *Environment Protection Regulations* 2021, S.R. No. 47/2021 (25 May 2021).

State of Victoria, *Environment Reference Standard,* Victoria Government Gazette No. S245 (26 May 2021).

General References

DELWP (2021) Potentially Contaminated Land, Planning Practice Note 30. Department of Environment, Land, Water and Planning, Victoria, July 2021.

EPA (2021a), *Provision of statements and reports for environmental audits and preliminary risk screen assessments*. Publication 2022, Environment Protection Authority Victoria.

EPA (2021b), *Guideline for conducting of preliminary risk screen assessments,* draft EPA Publication 2021, Environment Protection Authority Victoria.

Ministerial Direction No. 1 – Potentially Contaminated Land 2021.

NEPC (2013) *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)*, Adelaide: National Environment Protection Council.

Standards Australia (1999) *Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances,* Australian Standard: AS4882.2-1999.

Standards Australia (2005) *Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds,* Australian Standard: AS4882.1-2005.

Standards Australia (2009) *Piling - Design and Installation,* Australian Standard: AS2159-2009.

Site-specific References

Chaignon et al, (2003), Chaignon, I Sanchez-Neira, P Herrmann, B Jaillard, P Hinsinger, Copper bioavailability and extractability as related to chemical properties of contaminated soils from a vine-growing area, Environmental Pollution, Volume 123, Issue 2, 2003,Pages 229-238.

GHD (2002) *Environmental Audit Report (CARMS 46092-1-A)*, Lots A & C, Corner of 14th Street and San Mateo Avenue, Mildura, March 2002.

NSW EPA (1995). A*ssessment of orchard and market garden contamination : Contaminated sites discussion paper*. New South Wales Environment Protection Authority. Contaminated Sites Section. NSW.

Pinion Advisory (2022) Preliminary Site Investigation, 672-688 Walnut Avenue, Mildura, VIC (reference 32MN2EN_ESA), February 2022.

Appendix A: Preliminary Risk Screen Assessment Statement

Preliminary risk screen assessment statement

Under Part 8.3 of the *Environment Protection Act 2017*

Publication F1031 published September 2021

This statement is a summary of the findings of a preliminary risk screen assessment conducted under Part 8.3 of the *Environment Protection Act 2017* for:

672-688 Walnut Avenue, Mildura

Further details are provided in the preliminary risk screen assessment report that accompanies this statement.

Section 1: Preliminary risk screen assessment overview

Environmental auditor details

Name:	Tony Hill
Company:	Senversa Pty Ltd
Address:	L6, 15 William Street, Melbourne VIC 3000
Phone:	0423 286 341
Email:	tony.hill@senversa.com.au

Site owner/occupant

Name:	James Li
Company:	Cornerstone Mildura Development Pty Ltd

Environmental auditor engaged by

Name:	Yeshni Purchase
Company:	MH2 Engineering and Architectural Services
Relationship to site owner:	Representative of Cornerstone Mildura Development Pty Ltd

Reason for preliminary risk screen assessment

Planning scheme:	Mildura Rural City Council planning permit application request for information.
Other:	

Section 2: Assessment scope

Site details

Address:	672-688 Walnut Avenue, Mildura
Title details:	Lot 1 TP821650S
Area (hectares):	4.0464

☒ a plan of the site is attached

Use or proposed use assessed

☒ Sensitive use (including land used for residential use, a child care centre, pre-school, or primary school) or secondary school or children's playground
- ☐ high density
- ☒ other (lower density)

☐ Recreation/open space
☐ Parks and reserves
☐ Agricultural
☐ Commercial
☐ Industrial
☐ Other

Environmental elements assessed

☐ Ambient air
- ☐ all environmental values were considered **OR**
- ☐ all environmental values other than the following were considered:

☐ Ambient sound
- ☐ all environmental values were considered **OR**
- ☐ all environmental values other than the following were considered:

☒ Land
- ☒ all environmental values that apply to the land use category were considered **OR**
- ☐ all environmental values that apply to the land use category, other than the following, were considered:

☒ Water
- ☒ Surface water
  - ☒ all environmental values that apply to the applicable segment were considered **OR**
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:
- ☒ Groundwater
  - ☒ all environmental values that apply to the applicable segment were considered **OR**
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:

Preliminary risk screen assessment statement

Standards considered

Environment Reference Standard 2021
Environmental Auditor Guidelines – Provision of statements and reports for environmental audits and preliminary risk screen assessments (EPA Publication 2022), August 2021.
Guidelines for conducting preliminary risk screen assessments (DRAFT) (EPA Publication, 2021), November 2021.
National Environment Protection Council, 1999. National Environment Protection (Assessment of Site Contamination) Measure (as amended 2013).
Standards Australia, 2005, AS 4482.1-2005, Australian Standard: Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds.
Standards Australia, 1999, AS 4482.2-1999, Australian Standard: Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances.

Assumptions made during the assessment or any limitations

Nil

Exclusions from the assessment and the rationale for these

~~Nil~~ This PRSA was to assess the risk of harm to human health or the environment from contaminated land. On this basis, the following elements of the environment were excluded from the PRSA:
Ambient air – impact to the air environment as described in the ERS (2021) was only considered through an assessment of potential for sources of volatile contamination, landfill gas and aesthetic odour issues. Odour associated with surrounding land uses was not assessed.
Ambient sound – the site is currently zoned General Residential (GRZ1) under the Mildura Planning Scheme; however, the local area contains a mixture of commercial and residential uses. An assessment of ambient sound is not considered applicable. Furthermore, ambient sound is not considered to be a relevant consideration when conducting a PRSA but is a factor which can impact on an environmental value.[1]

This statement is accompanied by the following preliminary risk screen assessment report

Title:	Preliminary Risk Screen Assessment, 672-688 Walnut Avenue, Mildura
Report no:	220222_MILDURA
Date:	22 February 2022

[1] Amendment by Tony Hill – 20/07/2022

Section 3: Assessment outcome

Based on my assessment, I am of the opinion that an environmental audit is **not required** for the following land uses, **including** the use or proposed use for which the site has been assessed:

(Tick as appropriate and strike out those uses not assessed and for which the need for an audit has not been determined)

- ☒ Sensitive use (including land used for residential use, a child care centre, pre-school, or primary school) or secondary school or children's playground
  - ☐ high density
  - ☒ other (lower density)
- ☐ Recreation/open space
- ☐ Parks and reserves
- ☐ Agricultural
- ☐ Commercial
- ☐ Industrial
- ☐ Other

Other information

Stockpiled soil present on the site requires classification and subsequent management in accordance with the *Environment Protection Regulations 2021*.

Irrigation and drainage pipes exist along the southeast boundary of the site, some of which is constructed of non-friable asbestos containing material (concrete). This pipework will not prevent or restrict the proposed use of the site, however if removed during redevelopment it needs to be disposed of as a priority waste (packaged waste asbestos) in accordance with the *Environment Protection Regulations 2021* and handled in accordance with the *Occupational Health and Safety Regulations 2017.* [2]

Note: An assessment that an audit is not required does not include any judgement as to whether responsibilities under section 39 of the *Environment Protection Act 2017* (duty to manage contaminated land) exist for the person in management or control of the land. Please refer to EPA publication 1977, *Assessing and controlling contaminated land risks: A guide to meeting the duty to manage for those in management or control of land* (https://www.epa.vic.gov.au/about-epa/publications/1977*).*

[2] Amendment by Tony Hill – 20/07/2022

Section 4: Environmental auditor's declaration

I state that:

- I am appointed as an environmental auditor by the Environment Protection Authority Victoria under the *Environment Protection Act 2017*.
- The findings contained in this statement represents a true and accurate summary of the findings of the preliminary risk screen assessment that I have completed.

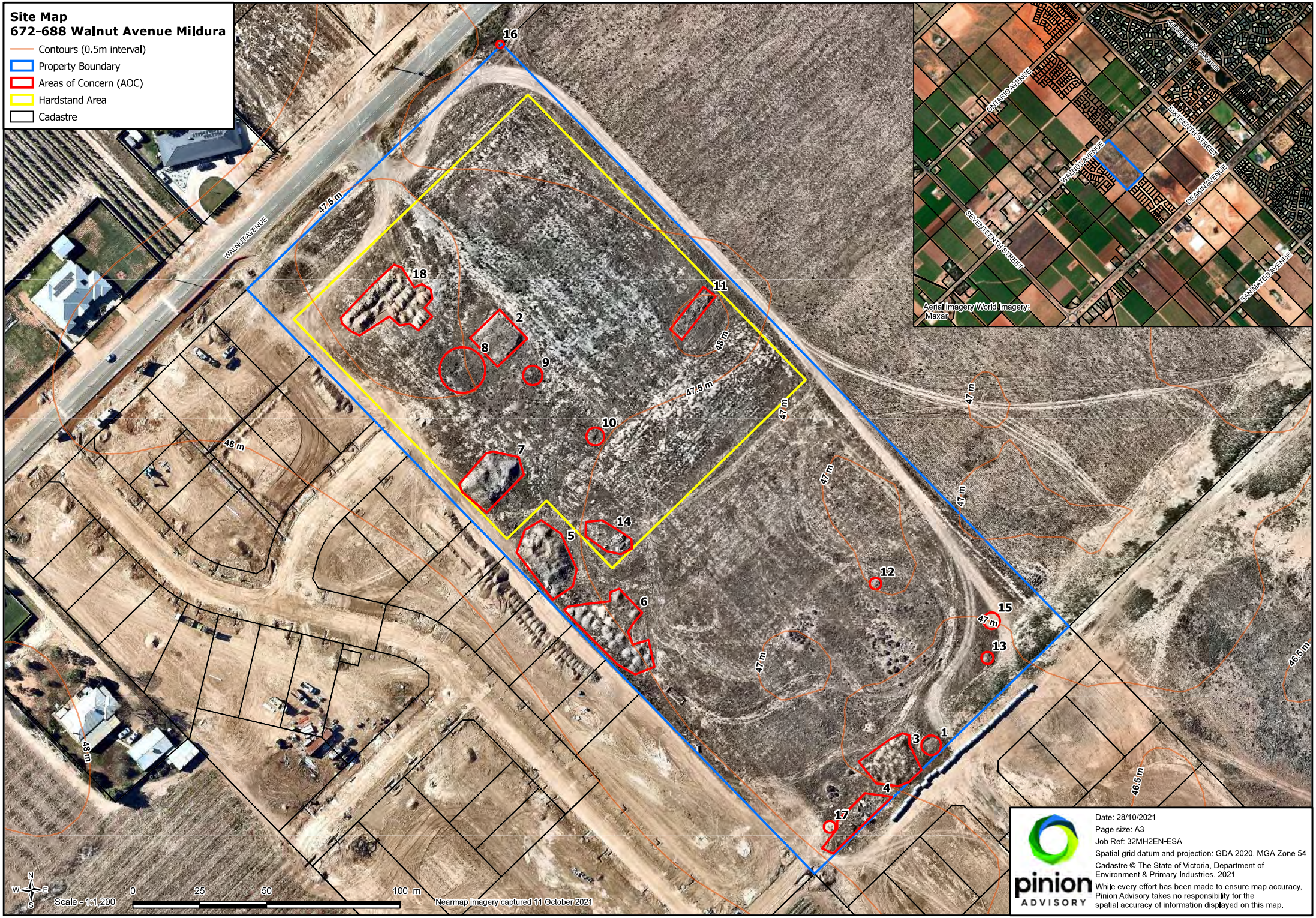
Date:	22 February 2022
Signed:	
Name:	Tony Hill
	Environmental Auditor

EPA VICTORIA

Figures

Figure 1: Site Map (from Pinion 2022)

Figure 2: Title Plan TP821650S


Site Map
672-688 Walnut Avenue Mildura
Contours (0.5m interval)
Property Boundary
Areas of Concern (AOC)
Hardstand Area
Cadastre
WALNUT AVENUE
ONTARIO AVENUE
SEVENTEENTH STREET
DEAKIN AVENUE
SAN MATEO AVENUE
Aerial Imagery World Imagery: Maxar
47.5 m
48 m
47 m
46.5 m
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
N
W
E
S
Scale - 1:1,200
0
25
50
100 m
Nearmap imagery captured 11 October 2021
pinion ADVISORY
Date: 28/10/2021
Page size: A3
Job Ref: 32MH2EN-ESA
Spatial grid datum and projection: GDA 2020, MGA Zone 54
Cadastre © The State of Victoria, Department of Environment & Primary Industries, 2021
While every effort has been made to ensure map accuracy, Pinion Advisory takes no responsibility for the spatial accuracy of information displayed on this map.

TITLE PLAN

EDITION 1

TP 821650S

LOCATION OF LAND

Parish: MILDURA
Township: -
Section: -
Crown Allotment: -
Crown Portion: 2 (PT)

Last Plan Reference: LP 2382
Derived From: VOL. 3592 FOL. 205

Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land/Easement Information

ENCUMBRANCES

THE RESERVATIONS AND CONDITIONS CONTAINED IN TRANSFER No.302343

THIS PLAN HAS BEEN PREPARED BY LAND REGISTRY, LAND VICTORIA FOR TITLE DIAGRAM PURPOSES

COMPILED: Date: 06/02/2008

VERIFIED: A. DALLAS
Assistant Registar of Titles

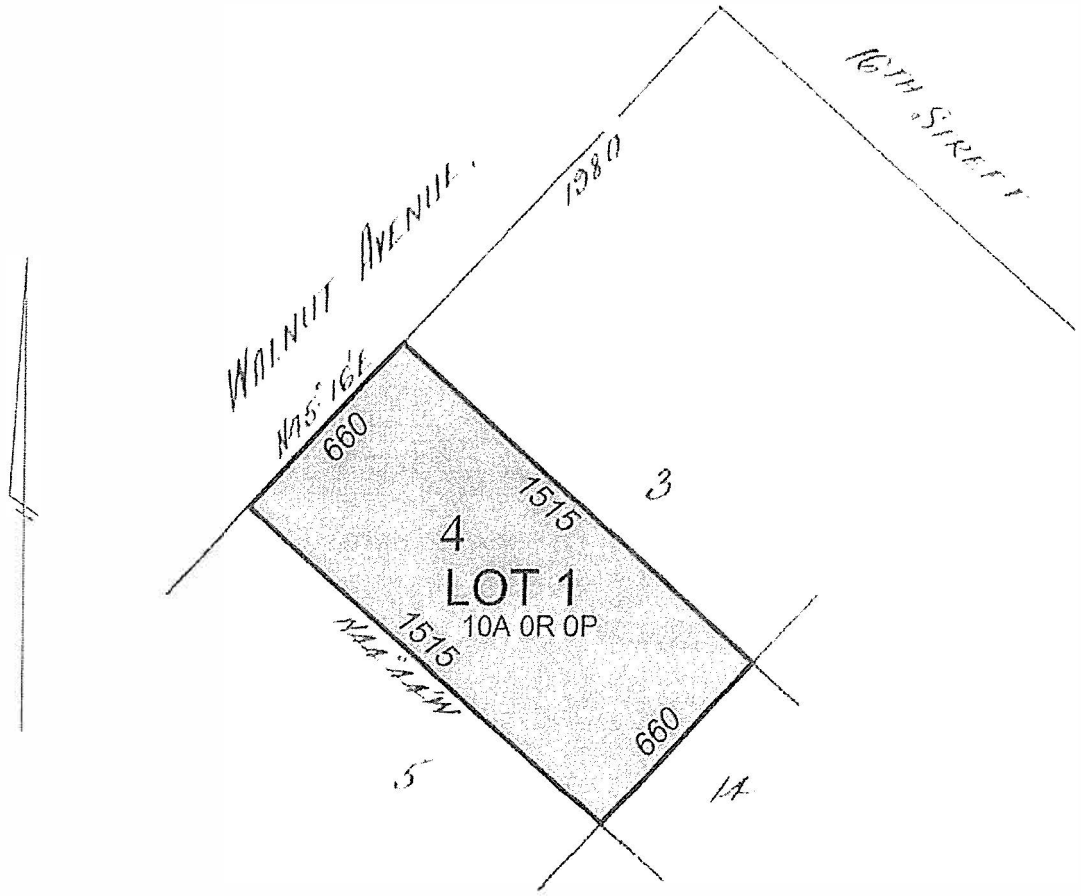


TABLE OF PARCEL IDENTIFIERS
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962
LOT 1 = LOT 4 BLOCK E SECTION 44 ON LP 2382

LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 Sheets

Tables

Table 1: Soil Analysis Results

Table 1 - Soil Analysis Results
Preliminary Risk Screen Assessment
672-688 Walnut Avenue, Mildura
Cornerstone Mildura Development Pty Ltd
M19348

				Location Code	**S1**	**S2**	**S3**	**S4**	**S5**		**S6**	**S7**	
				Field ID	S1	S2	S3	S4	S5	S9	S6	S7	S8
				Date	25/01/2022	25/01/2022	25/01/2022	25/01/2022	25/01/2022	25/01/2022	25/01/2022	25/01/2022	25/01/2022
				Sample Type	Normal	Normal	Normal	Normal	Normal	Interlab_D	Normal	Normal	Field_D
				Lab Report No.	29701	29701	29701	29701	29701	EM2201158	29701	29701	29701
	Unit	EQL	NEPC 2013 - Human Health Setting 'A' - Residential	NEPC 2013 - Land Dependent Ecosystems and Species - Urban Residential / Public Open Space									
Metals													
Arsenic	mg/kg	4	100[#1]	100[#5]	6	5	<4	5	5	6	5	5	5
Cadmium	mg/kg	0.4	20[#1]		<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4	<0.4	<0.4
Chromium	mg/kg	1	100[#2]	200[#6]	12	12	9	12	14	16	14	12	14
Copper	mg/kg	1	6,000[#1]	70[#7]	47	50	25	41	50	50	41	43	47
Lead	mg/kg	1	300[#3]	1,130[#8]	12	12	6	11	12	11	11	11	12
Mercury	mg/kg	0.1	40[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	1	400[#1]	35[#7]	14	16	11	14	16	17	14	14	16
Zinc	mg/kg	1	7,400[#1]	110[#7]	28	30	17	30	31	34	30	27	30
Organochlorine Pesticides													
a-BHC	mg/kg	0.05	0.086[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
b-BHC	mg/kg	0.05	0.3[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
d-BHC	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
g-BHC (Lindane)	mg/kg	0.05	0.57[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Aldrin + Dieldrin	mg/kg	0.05	6[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Chlordane	mg/kg	0.05	50[#1]		-	-	-	-	-	<0.05	-	-	-
DDT	mg/kg	0.1		180[#9]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1
4,4-DDE	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
DDD	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
DDT+DDE+DDD	mg/kg	0.05	240[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Endosulfan sulfate	mg/kg	0.05	380[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Endrin	mg/kg	0.05	10[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Chlordane (cis)	mg/kg	0.05	36[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Chlordane (trans)	mg/kg	0.05	36[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.05			-	-	-	-	-	<0.05	-	-	-
Heptachlor	mg/kg	0.05	6[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.05	0.07[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	300[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1
Endosulfan	mg/kg	0.05	270[#1]		-	-	-	-	-	<0.05	-	-	-
Organophosphorus Pesticides													
Azinophos Methyl	mg/kg	0.05	190[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Carbophenothion	mg/kg	0.05			-	-	-	-	-	<0.05	-	-	-
Chlorfenvinphos	mg/kg	0.05	44[#4]		-	-	-	-	-	<0.05	-	-	-
Chlorpyrifos	mg/kg	0.05	160[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	0.05	630[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Demeton-S-methyl	mg/kg	0.05			-	-	-	-	-	<0.05	-	-	-
Diazinon	mg/kg	0.05	44[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	0.05	1.9[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Dimethoate	mg/kg	0.05	140[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Ethion	mg/kg	0.05	32[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
Fenthion	mg/kg	0.05			-	-	-	-	-	<0.05	-	-	-
Malathion	mg/kg	0.05	1,300[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Methyl parathion	mg/kg	0.2	16[#4]		-	-	-	-	-	<0.2	-	-	-
Monocrotophos	mg/kg	0.2			-	-	-	-	-	<0.2	-	-	-
Prothiofos	mg/kg	0.05			-	-	-	-	-	<0.05	-	-	-
Ronnel	mg/kg	0.1	3,900[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
Pesticides													
3,5-Dichlorobenzoic acid	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
Fenamiphos	mg/kg	0.05	16[#4]		-	-	-	-	-	<0.05	-	-	-
Parathion	mg/kg	0.1	380[#4]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1
Pirimphos-ethyl	mg/kg	0.05			-	-	-	-	-	<0.05	-	-	-
Herbicides													
Dinoseb	mg/kg	1	63[#4]		<1	<1	<1	<1	<1	-	<1	<1	<1
2,6-Dichlorophenoxyacetic acid	mg/kg				<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
2,4,5-Trichlorophenoxy Acetic Acid	mg/kg	0.02	600[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
2,4,5-TP (Silvex)	mg/kg	0.02	510[#4]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
Hedonal	mg/kg	0.02	900[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
2,4-dichlorophenoxybutanoic acid	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
2,4-Dichlorprop	mg/kg	0.02			<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
2,4,6-Trichlorophenoxy-acetic acid	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	mg/kg	0.02			-	-	-	-	-	<0.02	-	-	-
2-Chlorophenoxyacetic acid	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
4-Chlorophenoxy acetic acid	mg/kg	0.02			<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
Acifluorfen	mg/kg	2			<2	<2	<2	<2	<2	-	<2	<2	<2
Actril (loxynil)	mg/kg	1			<1	<1	<1	<1	<1	-	<1	<1	<1
Bromoxynil	mg/kg	0.5	5.3[#4]		<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
Clopyralid	mg/kg	0.02			<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
DCPA (Chlorthal) Diacid	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
Dicamba	mg/kg	0.02	1,900[#4]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
Fluroxypyr	mg/kg	0.02			-	-	-	-	-	<0.02	-	-	-
2-Methyl-4-chlorophenoxyacetic Acid	mg/kg	0.02	600[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.02	600[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
Mecoprop	mg/kg	0.02	600[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
Picloram	mg/kg	0.02	4,500[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
Triclopyr	mg/kg	0.02			<0.5	<0.5	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5
Fungicides													
Hexachlorobenzene	mg/kg	0.05	10[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1

Comments
#1 NEPC (2013) - HIL 'A'.
#2 NEPC (2013) - HIL 'A'. Value is for Chromium (VI). Refer Cr III and Cr VI results if speciated data are available.
#3 NEPC (2013) - HIL 'A'. Assumes 50% bioavailability. Consider site-specific bioavailability where appropriate.
#4 USEPA RSLs (November 2021 Update) - Residential.
#5 NEPC (2013) EIL - Urban Residential and Public Open Space. Value applies to aged arsenic (contamination present in soil for at least two years). For fresh contamination refer Schedule B7 of the NEPM.
#6 NEPC (2013) EIL - Urban Residential and Public Open Space. Value is for chromium III. Initial screening value applicable to all aged soils (see text). Derive site-specific value if contamination is fresh (<2 years) or if EILs are exceeded.
#7 NEPC (2013) EIL - Urban Residential and Public Open Space. Initial screening value applicable to all aged soils (see text). Derive site-specific value if contamination is fresh (<2 years) or if EILs are exceeded.
#8 NEPC (2013) EIL - Urban Residential and Public Open Space. Initial screening value applicable to all aged soils (see text). Derive site-specific value if contamination is fresh (<2 years) or if EILs are exceeded. Assumes ABC of 30 mg/kg
#9 NEPC (2013) EIL - Urban Residential and Public Open Space. Value applies to both fresh and aged contamination.

Senversa Pty Ltd

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