

Preliminary Site Investigation (PSI)

Arumpo Street,
Renmark

Prepared for:

JHN Investments Pty
Ltd & The Trustee for
Callop Le Family Trust

Prepared by:

EHS  **Support**TM

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Document Control

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REVISION HISTORY

Date	Revision No.	Key Changes
3/10/2025	A	Draft Report
13/10/2025	A	Updated Asbestos Remediation Plan proposed placement area for ACM impacted Fill. Final Report.

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Acronyms

Acronym	Definition
ACM	Asbestos-Containing Material
ADWG	Australian Drinking Water Guidelines
AHD	Australian Height Datum
AMP	Asbestos Management Plan
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure
ASLP	Australian Standard Leach Procedure
AST	Above Ground Storage Tank
BGL	Below Ground Level
BTEXN	Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene
CCA	Copper Chromium Arsenic (treated timber)
CEMP	Construction Environment Management Plan
CSM	Conceptual Site Model
DP	Deposited Plan (land division)
DSI	Detailed Site Investigation
EIL	Ecological Investigation Level
EPA	Environment Protection Authority
ESL	Ecological Screening Level
EV	Environmental Value
GAR	Guideline for the Assessment and Remediation of Site Contamination (SA EPA)
HIL	Health Investigation Level
HSL	Health Screening Level
LCS	Laboratory Control Sample
LOR	Limit of Reporting
mBGL	metres below ground level
mAHD	Australian Height Datum
NHMRC	National Health and Medical Research Council
OCP	Organochlorine Pesticide
PAH	Polycyclic Aromatic Hydrocarbon
PCA	Potentially Contaminating Activity
PCB	Polychlorinated Biphenyl
PCSM	Preliminary Conceptual Site Model
PD14	Practice Direction 14 (Site Contamination Assessment)
PDI Act	Planning, Development and Infrastructure Act 2016
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SMF	Synthetic Mineral Fibre
SRP	Site Remediation Plan
SVOC	Semi-Volatile Organic Compound
TDS	Total Dissolved Solids



Acronym	Definition
TRH	Total Recoverable Hydrocarbons
WQEPP	Water Quality Environment Protection Policy

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Executive Summary

JHN Investments Pty Ltd & The Trustee for Callop Le Family Trust engaged EHS Support Pty Ltd (EHS Support) to undertake a Preliminary Site Investigation (PSI) to support the subdivision of a rural block of land located at Lot 39 Arumpo Street, Renmark, South Australia into 48 allotments, herein described as **the site** and as identified in **Figure 1** (attached). The PSI will support a development application to Council for a change in land use to a more sensitive use in accordance with the Planning Development and Infrastructure Act 2016 (PDI Act) and Practice Direction 14 (PD14). In addition the scope was developed to address data gaps identified in previous investigations, including a prior PSI, Detailed Site Investigation (DSI), and addendum PSI conducted by Tonkin. These earlier assessments highlighted several areas requiring further investigation to facilitate development approval for the entire site.

The objectives of the investigation were as follows:

- Undertake a desktop PSI in general accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended in 2013 (ASC NEPM) and the South Australian Environment Protection Authority 2019 Guideline (GAR).
- Prepare the PSI in accordance with the PDI Act and PD14.
- Undertake a site contamination investigation to determine if potentially contaminating activities (PCAs) have occurred at the site or adjacent properties (within 60 m), as defined by PD14.
- Address specific data gaps identified in previous investigations, including:
 - Confirmation of the presence or absence of bonded asbestos-containing material (ACM) on the site.
 - Assessment of contamination status of soils beneath waste stockpiles and copper chromium arsenic (CCA) treated timber.
 - Assessment of soil beneath the above ground storage tank (AST) previously used for diesel storage.

To meet the above objectives, the following scope of work was completed in accordance with the SA EPA 2019 Guideline for the assessment and remediation of site contamination (EPA GAR) and PD14:

- A Preliminary Site Investigation including the following information in accordance with the EPA GAR and ASC NEPM:
 - Site information summary;
 - Site history summary;
 - Summary of publicly available information;
 - Local geology and hydrogeology;
 - The environmental values for the site; and
 - Preliminary Conceptual Site Model (PCSM).
- In addition to the above, the following information was included in the PSI to address PD14:
 - Summary of current land use and proposed land use with reference to the land use sensitivity hierarchy.
 - Summary of Class 1 and 2 PCAs occurring on or adjacent (Class 1 only within 60 m) of the site.
- Site inspection by an experienced EHS Support field scientist and a licensed asbestos assessor, including:
 - Transect inspection of areas with suspected bonded ACM, collection and laboratory analysis of fragments, and remediation of surface soils as required.
 - cursory inspection of onsite buildings and structures for hazardous materials relevant to demolition.
- Inspection and sampling of soils beneath waste stockpiles and the AST, with up to 20 surface soil samples analysed for contaminants including metals, PAHs, OCPs, TRH BTEXN, phenoxy herbicides, and asbestos.
- Minor remedial excavations and validation of localised diesel/oil spills at four locations.



- Provision of an executed contamination declaration form.
- Preparation of this report.

Based on the findings of the PSI, the following conclusions have been made:

- Multiple investigations have been conducted for a portion of Lot 39 Arumpo Street, Renmark. EPA reviewed reports submitted with previous development application and stated that; no realistic human health exposure pathways identified for the proposed use, the EPA did not consider site contamination to exist based on current information and the implementation of the CEMP will manage any unexpected finds and mitigate exposure risk during development. Site can be made suitable for the proposed use, subject to conditions of submission of site suitability by a site contamination consultant and localised remediation is completed.
- Site inspection revealed:
 - No evidence of contamination in residential areas or around. Asbestos was present in the building.
 - Hydrocarbon staining and faint odours in some shed areas, but these were surficial.
 - Asbestos fragments identified in soil and debris, especially near sheds and pickers' quarters.
 - General waste (plastic, metal, timber, etc.) was present, but not indicative of gross contamination.
- No potentially contaminating activities (PCAs) associated with businesses on the site from 1910–1991.
- Aerial Imagery review confirmed the site has been used for horticulture/agriculture since at least 1945. Structures (homestead, sheds) have remained in similar locations over time. No significant changes in land use, with continued agricultural and rural residential surroundings.
- No records of site contamination, protection orders, or authorisations/applications on the site.
- Some EPA licences for petrol stations and marinas exist within 1 km, but not considered relevant due to distance from site.
- Soil sampling did not identify gross soil contamination at the site in areas where potential PCAs were identified.
- Shallow hydrocarbon staining in the four areas identified were considered to represent an aesthetic issue and were excavated from proposed residential allotments and placed within proposed internal road alignments where they will not pose an aesthetic issue.
- Asbestos-containing materials were confirmed in the residence, Shed 3, and the Old Pickers' Quarter. Asbestos fragments were also identified in soil and debris in the central sheds and quarters area, as well as south and east tracks within the five-acre division.
- Remaining areas outside of the central sheds, quarters area and the south and east tracks were assessed to be visually free of bonded ACM on the surface of the site.
- Synthetic Mineral Fibre insulation was present in the main roof space of the residence and possibly in the hot water service that will need to be managed if demolished.
- Lead-based paint was likely present on external and internal surfaces of the residence, outhouse, sheds, and pickers' quarters, consistent with the age of the property. Lead building products were observed in rooftop chimney flashing, soldered gutter joints, and leadlight windows that will need to be managed if demolished.
- Older fluorescent light fixtures in the residence and Shed 3 may contain PCBs and mercury that will need to be managed if demolished.
- The scope of work was considered sufficient to meet the objectives of the assessment.



1 Introduction

JHN Investments Pty Ltd & The Trustee for Callop Le Family Trust engaged EHS Support Pty Ltd (EHS Support) to undertake a Preliminary Site Investigation (PSI) to support the subdivision of a rural block of land located at Lot 39 Arumpo Street, Renmark, South Australia into 48 allotments, herein described as **the site** and as identified in **Figure 1 (as attached)**.

The PSI will support a development application to Council for a change in land use to a more sensitive use in accordance with the Planning Development and Infrastructure Act 2016 (PDI Act) and Practice Direction 14 (PD14). This scope was developed to address data gaps identified in previous investigations that targeted portions of the site and included a prior PSI, Detailed Site Investigation (DSI), and addendum PSI conducted by Tonkin. These earlier assessments highlighted several areas requiring further investigation to facilitate development approval for the entire site.

1.1 Objectives

The objectives of the investigation were as follows:

- Undertake a desktop PSI in general accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended in 2013 (ASC NEPM) and the South Australian Environment Protection Authority 2019 Guideline (GAR).
- Prepare the PSI in accordance with the PDI Act and PD14.
- Assess whether potentially contaminating activities (PCAs) have occurred at the site or adjacent properties (within 60 m), as defined by PD14.
- Address specific data gaps identified in previous investigations, including:
 - Confirmation of the presence or absence of bonded asbestos-containing material (ACM) on the surface of the site.
 - Assessment of contamination status of soils beneath waste stockpiles and copper chromium arsenic (CCA) treated timber.
 - Assessment of soil beneath the above ground storage tank (AST) previously used for diesel storage.

1.2 Scope of Works

To meet the above objectives, the following scope of work was completed in accordance with the SA EPA 2019 Guideline for the assessment and remediation of site contamination (EPA GAR) and PD14:

- A Preliminary Site Investigation including the following information in accordance with the EPA GAR and ASC NEPM:
 - Site information summary;
 - Site history summary;
 - Summary of publicly available information;
 - Local geology and hydrogeology;
 - The environmental values for the site; and
 - Preliminary Conceptual Site Model (PCSM).
- In addition to the above, the following information was included in the PSI to address PD14:
 - Summary of current land use and proposed land use with reference to the land use sensitivity hierarchy.
 - Summary of Class 1 and 2 PCAs occurring on or adjacent (Class 1 only within 60 m) of the site.



- Site inspection by an experienced EHS Support field scientist and a licensed asbestos assessor, including:
 - Transect inspection of areas with suspected bonded ACM, collection and laboratory analysis of fragments, and remediation of surface soils as required.
 - Cursory inspection of onsite buildings and structures for hazardous materials relevant to demolition.
- Inspection and sampling of soils beneath waste stockpiles and the AST, with up to 20 surface soil samples analysed for contaminants including metals, PAHs, OCPs, TRH BTEXN, phenoxy herbicides, and asbestos.
- Minor remedial excavations and validation of localised diesel/oil spills at four locations.
- Provision of an executed contamination declaration form.
- Preparation of this report.



2 Area Description and Environmental Setting

2.1 Site Information Summary

The site information summary is provided in **Table 2-1**.

Table 2-1 Details, Description, and Environmental Setting of the Assessment Area

Item	Details
Person Requesting Work	JHN Investments Pty Ltd & The Trustee for Callop Le Family Trust
Site Address	Lot 39 Arumpo St, Renmark, SA
Certificate of Title Details	CT Volume 6160 Folio 537
Property Description	The site is approximately 3.1 km northwest of Renmark. The lot is irregular in shape, with elongated rectangular western, southern, and eastern boundaries and an irregular northern boundary. It is bordered by Ral Ral Avenue to the northeast, extends west to Arumpo Street, and extends further south.
Site Area	12.47 ha
Site Owner	JHN Investments Pty Ltd & The Trustee for Callop Le Family Trust
Municipality	Renmark Paringa Council
Current Land Use	The land is currently Primary Production land use with auxiliary residential property in the South Western portion of the site. The site is zoned as 'Rural Living broad hectare under the Planning and Design Code under the <i>Planning, Development and Infrastructure Act 2016</i> .
Proposed Land Use	The site is proposed to be redeveloped into 48 residential allotments.
Surrounding Land Use	• North: Agricultural and rural residential. • East: Agricultural and rural residential, Bookmark Avenue and Renmark Horse & Pony Club with Bookmark Creek beyond. The river Murray is in approximately 4.7 km. • South: Agricultural and rural residential, Bookmark Avenue with Bookmark Creek beyond. • West: Agricultural and rural residential.
Topography	The site is generally flat with an elevation of approximately 20 m Australian Height Datum (AHD) and is generally flat.
Hydrology and Drainage	Assumed based on topography surface water from the site will pool on site or drain locally to the road verge.

2.2 Land Use

The majority of the site appears to have historically been used for Primary Production (currently the cultivation of grapes) with auxiliary residential properties on the eastern boundary of the site, and shedding associated with as before mentioned residences and agricultural on the south southeastern boundary. The proposed land use is multiple residential allotments (Residential Class 1). The change in land use is considered to represent a change to a more sensitive land use with reference to the land use sensitivity hierarchy in PD14, item 6 to item 1 in Table 1.



2.3 Geology

2.3.1 Regional Geology

A review of the Department for Energy and Mining surface geology database (1: 100,000, Map Reference: 7029) indicated that the site is underlain by the Woorinen Formation and comprised of Pleistocene aeolian sediments and described as Sand, pale reddish-brown silty and clayey quartz, pedogenic carbonates associated with the Murray Basin. There is potential that clayey sediments of the Coonambidgal Formation are present at the site, as it occurs extensively across the floodplain.

2.3.2 Acid Sulfate Soils

A review of the CSIRO Atlas of Australian Acid Sulfate Soils indicated an extremely low probability of acid sulfate soil occurrence. A high probability of acid sulfate soil occurrence was identified to the south west (approximately 625 m) within Bookmark Creek associated with the River Murray and within the 1 km buffer zone.

2.3.3 Soil Salinity

The site was identified to be within a Moderate zone (2%-10%) for water table induced salinity and within a Low zone (<2 dS/m to 4 dS/m) for non water table salinity.

2.4 Hydrogeology

2.4.1 Regional Hydrogeology

Renmark is situated in the northwestern part of the Murray Basin, South Australia. The region is covered by the Renmark 1:100,000 hydrogeological map sheet, which is part of the Commonwealth Murray Basin Hydrogeological Series (Geoscience Australia, 2001). The Murray Basin is a closed groundwater basin containing Cainozoic unconsolidated sediments and sedimentary rock up to 600 m in thickness, and contains a number of regional aquifer systems.

Surface geology at the site and local region is represented by the Woorinen Formation, which are quaternary in age and are generally 5 m thick and unsaturated in area of higher topographic relief. The main water table aquifer occurs in the underlying Loxton Sands. This aquifer forms a regionally extensive unconfined to semi-confined aquifer, into which the channel of the ancestral River Murray is incised. Within this channel, the semi-confined Monoman Sands aquifer has been deposited.

The Loxton Sands aquifer and the Monoman Sands aquifer are considered to be in direct hydraulic connection with the site. There is potential that clayey sediments of the Coonambidgal Formation which overlie the Monoman Sands are present at the site, as it occurs extensively across the floodplain.

The Lower Loxton Clay and Bookpurnong Beds separate the overlying units from the regional Murray Group which is located at approximately 60 metres below ground level (mBGL) or -40 metres Australian Height Datum (mAHD).

The local groundwater flow was inferred to be from west to east towards the Bookmark Creek/Murray River however will be highly influenced by local hydrology.



2.4.2 Environmental Values of Groundwater

An assessment of environmental values (EV) was undertaken for groundwater underlying the site based on the four-step process described in the SA EPA GAR, revised in 2019 (SA EPA, 2018).

Step 1: Determination of Protected Environmental Values of Groundwater Using the WQEPP

The Environment Protection (Water Quality) Policy 2015 (WQEPP) provides for the identification of protected environmental values of groundwater in TDS ranges. Ranges are presented in the table to clause 3, schedule 1 of the WQEPP. A review of TDS ranges in a 2 km buffer from the site was reviewed against the TDS ranges for EV in the WQEPP and provided in **Table 2-2**. Groundwater TDS concentrations for the site ranged between 7,020 mg/L to 64,880 mg/L.

Table 2-2 Environmental Values of Groundwater Using the WQEPP

Environmental Value	TDS (mg/L)	Applicable EV
Drinking water	<1,200	No
Primary irrigation and general water use	<3,000	No
Livestock drinking water and aquaculture	<13,000	Yes

Table Notes:

EV – Environmental Values

Step 2: Application of a Buffer Distance for Protection of Surface Water

The EPA recommends a 2 km radius of the site be set to establish a buffer distance for the protection of surface waters that may be receiving water bodies for groundwater. The nearest surface water is an augmented portion of Bookmark Creek (~1.2 km southeast), with Mundagunda Creek and the River Murray further east. Low-lying land approximately 500 m east from the site is subject to inundation during River Murray floods.

Step 3: Review of Available Groundwater Data Using WaterConnect (Groundwater Data)

A review of registered groundwater wells in a 2 km buffer from site was undertaken (WaterConnect, 24 September 2025). No bores were identified onsite; 44 bores were found in the surrounding 2 km buffer, the purpose of the bores is summarised in **Table 2-3**.

Table 2-3 Registered Bore Use Summary Onsite

Registered Use	Number of Wells	Status	Depth Range (m)	Depth to Water (m)
Drainage	2	BKF (2)	24.69–71.63	nan–nan
Investigation	4	NL (2), DRY (1), DMG (1)	7.0–19.0	0.09–3.29
Monitoring	2	Not Specified (2)	7.6–8.04	1.11–1.28
Observation	36	ABD (28), Not Specified (5), UFL (3)	2.42–9.0	-0.37–3.64

Table Notes:

BKF – Backfilled

NL – Not Located

DRY – Bore was dry at time of inspection

DMG – Damaged bore

ABD – Abandoned bore

UFL – Uncontrolled Flowing



Groundwater bore data is provided in the WaterConnect search (**Appendix A**).

Step 4: Application of EPA Recognised Criteria

The Environmental Values for the site are provided in **Table 2-4**.

Table 2-4 Environmental Values of Groundwater

Environmental Value	Justification	Recognised Criteria
Aquatic ecosystems (inland waters)	Murray River within 2 km of site.	Australian and New Zealand Guidelines 2018 (ANZG, 2018)
Recreational use	Proximity to the Murray River which is used for recreational uses	Modified criteria from the National Water Quality Management Strategy Australian Drinking Water Guidelines 6, version 3.8 (ADWG, 2022). 2011, Updated September 2022. Criteria modified based on guidance provided in National Health and Medical Research Council (NHMRC, 2008, updated 2019), Health and aesthetic criteria.
Primary industries – livestock drinking water	TDS <13,000 mg/L at some registered bores	Australian and New Zealand Guidelines 2018 (ANZG, 2018)



3 Site History Assessment

3.1 Previous Investigation

The following reports deemed relevant to this investigation were provided for review and are summarised below;

- Tonkin (2023). Preliminary Site Investigation, Lot 39 Arumpo St, Renmark SA, Peter and Koula Spanos, Ref: 221553R001, Rev A, dated: 9 February 2023. Tonkin Consulting, Adelaide.
- Tonkin (2024). Detailed Site Investigation – Lot 39 Arumpo Street, Renmark West, SA. Tonkin Consulting, Adelaide.
- Tonkin (2025). Addendum due to change in proposed land division, Lot 39 Arumpo St, Renmark West, SA. Tonkin Consulting, Adelaide.

All reports were developed to assess a development in the eastern portion of the proposed site (approximately 20,010 m³) however references the whole site (123,610 m³) as presented in **Figure 1 (as attached)**.

3.1.1 *Tonkin 2023 Preliminary Site Investigation*

This report presents the findings of a Preliminary Site Investigation (PSI) for Lot 39 Arumpo Street, Renmark West, SA, commissioned by Peter and Koula Spanos and prepared by Tonkin.

The PSI was requested by the Renmark Paringa Council as part of the development approvals process, in accordance with Planning SA's Practice Direction 14 – Site Contamination Assessment (2011). The investigation was intended to inform the suitability of the site for proposed land division and residential development.

The PSI involved a review of the historical use of the property, which was approximately 123,610 m² (reviewed whole property and not proposed development), irregular in shape, and used for horticultural and rural residential purposes. The review aimed to identify any potentially contaminating activities associated with past and present land use.

A physical inspection of the site was conducted to observe conditions and identify any visible signs of contamination or potentially contaminating activities. The inspection was conducted on the 16 December 2022 by a Tonkin Senior Engineer (not named).

The PSI developed a Conceptual Site Model (CSM) to assess potential linkages between contaminant sources, exposure pathways, and sensitive receptors. The most notable potentially contaminating activities identified were horticultural/agricultural practices across the site.

The PSI concluded that the overall risk rating for residential development in the eastern portion of the site was moderate. It recommended a limited soil investigation to determine the contamination status of surface soils in the proposed development footprint.

The investigation also identified potential asbestos containing material north of the shed (south southeastern boundary), concluding that it will not impact the proposed development (eastern portion of the proposed site (20,010 m³)) however was within the greater property boundary. They recommended that the asbestos is to be tested and removed from the broader site by a licensed contractor.

Based on the PSI findings, the development application was referred to the Environment Protection Authority (EPA) for further direction regarding site suitability and the need for remediation or additional investigation.



3.1.2 *Tonkin 2024 Detailed Site Investigation*

This report presented the findings of a Detailed Site Investigation (DSI) for Lot 39 Arumpo Street, Renmark West, SA, commissioned by Peter and Koula Spanos and prepared by Tonkin. The DSI was requested by the Renmark Paringa Council and the Environment Protection Authority (EPA) to address data gaps identified in the earlier Preliminary Site Investigation (PSI) as part of the development approvals process.

3.1.2.1 Objectives

- Assess the nature and extent of actual or potential site contamination identified in the PSI.
- Determine risks posed to human and environmental receptors relative to the proposed land use.
- Identify the suitability of the land for the proposed use and any necessary remediation.

3.1.2.2 Methodology

- Eight boreholes were advanced to 0.5 m below ground level in the proposed residential development area.
- 24 soil samples were collected; eight surface soil samples (including a duplicate) were analysed for heavy metals and organochlorine/organophosphorus pesticides.
- Results were compared against ASC NEPM Health Investigation Levels (HILs) Level A – Residential and Ecological Investigation Levels (EILs) – Urban Residential.
- No samples were analysed for BTEX or hydrocarbons, so Ecological Screening Levels (ESLs) and TPH management levels were not assessed.

3.1.2.3 Findings

- The site's soil was predominantly high plasticity grey clay, with increased moisture within irrigated vine areas.
- No exceedances of adopted criteria for metals or pesticides were detected with all pesticide concentrations below laboratory limits of reporting (LOR).
- Quality control was satisfactory, with no significant outliers or issues in laboratory analysis.
- No asbestos-containing materials (ACM) were identified in the proposed development area, though asbestos was noted north of the shed outside the development footprint.

3.1.2.4 Recommendations

- No contamination existed within the surface soils of the proposed development area.
- No remediation was required prior to development.
- A Construction Environment Management Plan (CEMP) was recommended for the site prior to construction.
- Excavation works should monitor for unexpected contamination (e.g., staining, odour, ACM, C&D waste).

3.1.3 *Tonkin 2024 Construction Environmental Management Plan*

It is understood that a Construction Environmental Management Plan was developed by Tonkin Consulting in May 2024 in reference to the area defined in the PSI and DSI. This report was not provided to EHS-Support.



3.1.4 EPA Development Application Referral Response

The application (22034949) was referred to the Environment Protection Authority (EPA) by the Assessment Manager at Riverland Regional Assessment Panel in accordance with section 122 of the Planning, Development and Infrastructure Act 2016, Schedule 9(3)(9AB) of the Planning, Development and Infrastructure (General) Regulations 2017 and Part 9.1 of the Planning and Design Code. The application proposed land division for a sensitive use.

The letter stated that the response was in accordance with section 122(5)(b)(ii) of the Planning, Development and Infrastructure Act.

The Site Contamination Declaration Form submitted with the development application (prepared by Michael Allder of Tonkin and dated 9 February 2023) identified site contamination exists or may exist as a result of the following potentially contaminating activities (PCAs):

- On-site - Agricultural activities (Class 2)
- Adjacent land - Service stations (Class 1) – Note; the EPA requested that this is omitted.

The EPA considered the following reports;

- Preliminary Site Investigation, Lot 39 Arumpo St, Renmark SA, Peter and Koula Spanos. Reference: 22153R001, dated 9 February 2023, prepared by Tonkin Consulting (the PSI report).
- Letter report titled Detailed Site Investigation – Lot 39 Arumpo Street, Renmark West, SA dated 8 February 2024 by Tonkin Consulting (the letter report).
- Construction Environmental Management Plan, Lot 39 Arumpo St, Renmark SA dated 1 May 2024 by Tonkin Consulting (the CEMP).

The EPA concluded that;

- No audit required:
 - No realistic human health exposure pathways identified for the proposed use.
 - EPA does not consider site contamination to exist based on current information.
 - Implementation of the CEMP will manage any unexpected finds and mitigate exposure risk during development.
- Site can be made suitable for the proposed use, subject to conditions.
- A site contamination consultant is the appropriate professional to determine site suitability

The EPA directed the following conditions be attached to any approval:

- Remediation works must be undertaken in accordance with the CEMP (Tonkin Consulting, 1 May 2024) and overseen by a suitably qualified site contamination consultant.
- Land division certificate (under section 138 of the Planning, Development and Infrastructure Act 2016) must not be issued until a statement of site suitability is provided, certifying that required remediation has been completed and the land is suitable for the proposed use.
- The statement of site suitability must be issued by a site contamination consultant (as per regulation 3(6) of the Planning, Development and Infrastructure (General) Regulations 2017).

The EPA noted that the applicant must take into account their general environmental duty under section 25 of the Environment Protection Act 1993 to prevent pollution and environmental harm during site activities, including construction.



3.1.5 *Tonkin 2025 Addendum Letter*

A memorandum, prepared by Tonkin for Peter and Koula Spanos, provided an addendum to previous site contamination investigations for Lot 39 Arumpo Street, Renmark West, SA, following a change in the proposed land division.

The original Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI) covered the entire allotment and identified horticultural/agricultural activities as potential sources of contamination. The DSI found no contamination in surface soils, and a Site Remediation Plan (SRP) was deemed unnecessary. The EPA subsequently requested a Construction Environment Management Plan (CEMP), which was completed in May 2024. However, was not available for the preparation of this PSI.

The development application for dividing the land into two allotments was approved, conditional on remediation works per the CEMP and a statement of site suitability. However, the location of the new allotment was changed in the latest survey drawings (revision D), moving it further from the previously identified asbestos fragments

This addendum updated the PSI, DSI, and CEMP to reflect the new land division. The PSI originally covered the whole allotment, including the new proposed area.

The memo discussed that bonded ACM fragments were previously identified north of the shed in the southeast, outside the new allotment. The updated allotments were located further from the area impacted with bonded ACM fragments, reducing risk and no construction will occur outside the development area. Based on the scenario presented in the Addendum, the asbestos could remain undisturbed and isolated as per the CEMP. Of the eight soil samples collected in the DSI, three (H6, H7, H8) were within the new allotment. All results showed no contamination, and the likelihood of contamination from historical activities was considered very low.

The memo concluded that the new allotment area was suitable for rural residential development, with no contamination present. The offsite asbestos does not pose a risk, and mitigation measures (isolation) will be implemented. No further investigation or remediation was recommended for the new development area.

3.2 Site Inspection

Prior to the execution of the soil investigation on 25 August 2025, Natalie Newman of EHS-Support completed a site inspection, a photographic log is provided in **Appendix C**, the following observations were made;

Residence Area

- Former underground water tank (empty) was present north of the Residence. Some organic matter and anthropogenic waste were present in this area (rope, small plastic pieces, a small piece of timber) however no evidence of contamination was observed.
- An unused piece of machinery was observed ~10 m east of the water tank. No evidence of contamination as observed at the soil surface in its vicinity.

Large trees were present near the Residence. A well-like circular depression (~0.5 m deep, 0.5 m wide) lined with bricks was present adjacent to the Residence. Some bricks, timber, and solenoids were stored in this area.

- Evidence of an old water tank was present on the western side of the Residence, next to a decrepit outhouse. Rusted corrugated metal sheeting was present, and a mound of orange-brown dirt and yellow sand (~0.3 m high) was present where the centre of the tank would have been.
- No visual or olfactory evidence of contamination was observed in the remaining areas surrounding the residence.



Shed 2

- Several small patches of light staining with faint hydrocarbon odour were observed in the central area of Shed 2. Stained areas ranged from approximately 0.12 m² to 1.5 m² but collectively covered an area of ~10 m² (Surface Stain Area 1).
- Agricultural machinery was stored in the shed.
- A drum of sodium hypochlorite was present on the western side of the shed. A bag of white crystals (possibly NPK) was stacked on top of the drum, and a few half-empty bags of fertiliser were present alongside the drum.
- Small volume of soil (0.1 m³) and organic matter (twigs/leaves/straw) was observed close by the drum. No indicators of contamination observed.
- Blue powdery spheres were observed scattered on the shed floor, possibly fertilizer or rodent bait.
- An Above-ground Storage Tank (AST) was historically stored east of the shed. Hydrocarbon staining was present beneath 2 timber poles immediately next to the shed (Surface stain Area 2): two adjacent areas of staining approximately 0.4 m² total (Surface stain Area 3 and 4). Soil was excavated via shovel to 0.3 mBGL at with no hydrocarbon odour was observed.
- Staining was observed approximately 8 m east of the shed and covered ~20 m². The stained soil was excavated with a shovel to 0.3 mBGL, where hydrocarbon odour remained present.
- A few timber fence poles lay in the centre of the area adjacent to Shed 2, possibly CCA treated.
- Some disturbed soil was observed adjacent to the north-eastern corner of the shed; orange sheet plastic and other small pieces of plastic waste were present.

Small volume of soil (approximately 4 m x 0.2 m x 0.1 m) was observed under the large tree in the area of Shed 2. No visual or olfactory contamination indicators were observed.

- Disturbed soil with some material waste and what appeared to be white crystals (possibly spilled fertilizer) was observed south-east of Shed 2 on the southern side of the roadway.

Shed 3

- No visual or olfactory evidence of contamination was observed in the Shed or surrounding area. Some ACM fragments were identified in the dirt road running north of the Shed.
- Shed floor was dirt and almond hulls in the northern portion and concrete in southern portion.

Shed 4

- Shed floor was covered with droppings as it was used as a coop.
- Disturbed soil, plastic waste, fruit stones, organic matter, ACM fragments were observed immediately south outside the shed wall.
- Disturbed soil, brick fragments, and ACM fragments were found immediately west outside the shed wall under a dead tree.

Between Shed 4 and Pickers Quarters

- The area was largely vacant, with evidence of waste strewn across the area.
- Approximately 10-20 pieces of waste (plastic, wood, ACM, metal) were found in a 1 m² area.
- Three burn pile areas were identified where ash was present on surface soils. Small pieces of burnt plastic or metal were present in the burn areas.
- A decrepit car body was present east of the Pickers Quarters. No evidence of staining was observed around the car.

Old Pickers Quarters

- Miscellaneous waste was strewn across the area surrounding the Pickers Quarters; waste was most concentrated in the section immediately south of the Quarters up to road that lines the property border. ACM was found across this area, surrounding the house in all directions. Waste was also present east and west of the Quarters. General waste observed included:



- o Plastic – tin sheets, bottle caps, pens, clips, soft plastic from packets, miscellaneous pieces that had broken down to less than 0.5cm
- o Metal – charred cans, small unidentified pieces
- o Timber – some fragments of wood
- o Styrofoam
- o Concrete
- o Glass
- Brick, charcoal, metal, and fibrous sheeting was observed immediately adjacent to the Quarter’s walls on the east and north sides.

3.3 Historical Business Directories

A review of PCAs associated with business records within a 150 m buffer was undertaken via the Historical Business Directories and Universal Business Directory (Hardie Grant and Sands & McDougall) records from 1910-1991. Records indicate there has been no PCAs associated with businesses on the site. Several business were listed with road and area matches, with Wickham Engineering a potential PCA.

Based on the review of aerial imagery summarised below, the 1945 and 1956 aerial images do not show any businesses adjacent to the site that could have caused site contamination.

3.4 Aerial Imagery

A review of historical aerial imagery was conducted for the site as summarised in **Table 3-1**, with images provided in **Appendix B**.

Table 3-1 Review of Historical Aerial Imagery

Date	Observation on-site	Observation offsite
1945	The site was cultivated for horticulture with regular blocks and internal tracks. A small homestead/yard with trees and several sheds were visible near the western side. A row of narrow elongated structures was present just inside the southern boundary, aligned east–west (agricultural structures; specific use not discernible).	Surrounding land was predominantly orchards/vineyards with rectangular field patterns. Ral Ral Avenue was present along the eastern side and Arumpo Street along the western side ; a major road corridor ran east–west near the northern edge with scattered rural buildings near intersections.
1956	Horticultural use continued across the site with planted rows and several small structures along internal tracks. Minor realignment of plot boundaries was visible. The western portion of the site appeared flooded.	The surrounding area appeared flooded. The northern road corridor remained the dominant feature, with limited additional development evident.
1967	Vineyard/orchard rows were more uniform across the site with improved internal access. Small sheds/outbuildings were present near the northern and western boundaries. No significant changes.	Surrounding orchards appeared more consolidated with additional plantings. Low-density rural dwellings were present along Ral Ral Av. and intersecting roads; Arumpo Street remained a rural frontage.
1979	No significant changes.	No significant changes. Open paddocks occurred to the northeast beyond Ral Ral Av; several sheds and rural residences fronted the road corridors.



Date	Observation on-site	Observation offsite
1989	Mixed cropping and fallow blocks were present across the site; some southern plots appeared recently cleared or replanted. Buildings/outbuildings remained near the western edge.	Rural-residential density increased slightly along Ral Ral Av. and Arumpo Street while horticulture persisted on surrounding lots.
1999	Most on-site blocks were planted; internal north-south and east-west tracks were visible. Small building clusters remained near the western and central areas.	Additional dwellings and farm sheds were visible along the road frontages, particularly Ral Ral Avenue. Off-site land continued to be used for horticulture.
2005	Crop rotation was evident with alternating planted and bare rows; a small shed/yard area was visible near the central-north of the site. No other changes.	More of rural dwellings near the northern intersection were evident.
2011	No significant changes	No significant changes
2015	Dense plantings occurred in the northern and western blocks; the northeastern corner was bare/cleared. Existing small structures remained.	No significant changes
2021	Mixed mature plantings and a few fallow plots were present across the site. Internal access tracks and entry points were clearly defined; no large new buildings were visible.	No significant changes. Minor new sheds were visible east of the site along Ral Ral Av.

3.5 SA EPA Records

3.5.1 EPA Site Contamination Index

A review of the SA EPA Site Contamination Index was undertaken for the site and surrounding regions within 1 km (**Appendix B**). The EPA Contamination Index returned no records for the site or within the 1 km buffer area.

3.5.2 Environment Protection and Clean Up Order

A review of EPA Environment Protection Order and Cleanup Orders (**Appendix B**) identified no records for the site or within the 1 km buffer.

3.5.3 SA EPA Authorisations and Applications

A review of the SA EPA public register for Authorisations and Applications (**Appendix B**) was undertaken for the site and a 1 km radius surrounding. No authorisations or applications were recorded on site. Six records were found with the 1 km radius at two properties, and are summarised in **Table 3-2**.



Table 3-2 EPA Authorisations and Applications

Record No.	Record Type	Record Status	Entity	Site Address	Activity	EPA Register Status	Premise or Road Match	Distance From Site (m)	Direction
51007	LICENCE	Issued	SHANE RICHARD COOMBS, KIM MICHELLE COOMBS	323 Ral Ral Avenue, Renmark West, SA 5341	Petrol Station	Current EPA Register	Premise Match	129	North
ENL18GPWYC	LICENCE APPLICATION	Authorisation Updated	SHANE RICHARD COOMBS, KIM MICHELLE COOMBS	323 Ral Ral Avenue, Renmark West, SA 5341	Petrol Station	Current EPA Register	Premise Match	129	North
39062	LICENCE APPLICATION	Proceed To Authorisation	Captain Cook Cruises Pty Ltd	Allotment 803 (DP 27497) Goolwa Street, Renmark SA 5341	Abrasive blasting, Marinas and boating facilities, Surface coating works (spray painting or powder coating)	Current EPA Register	Premise Match	422	East
39062	LICENCE	Issued	CAPTAIN COOK CRUISES PTY LTD	Allotment 803 (DP 27497) Goolwa Street, RENMARK, 5341, SA	Abrasive blasting, Marinas and boating facilities, Surface coating works (spray painting or powder coating)	Current EPA Register	Premise Match	422	East
51530	LICENCE	Issued	PM RIVER CRUISES PTY LTD	Allotment 803 DP 27497 Goolwa Street, RENMARK SA 5341	Marinas and boating facilities	Current EPA Register	Premise Match	422	East
ENL28K2EU2C	LICENCE APPLICATION	Authorisation Updated	PM RIVER CRUISES PTY LTD	Allotment 803 DP 27497 Goolwa Street, RENMARK SA 5341	Marinas and boating facilities	Current EPA Register	Premise Match	422	East



3.5.4 Contamination Assessment Areas or Groundwater Prohibition Areas

No Contamination Assessment Areas or Groundwater Prohibition Areas were identified for the site or within the 1 km buffer.

3.6 PFAS Investigation & Management Programs

A review of the SA EPA PFAS Site Investigations, the Defence PFAS Investigation & Management Program Data and the Airservices Australia National PFAS Management Program Data was undertaken for the site and surrounding regions within 2 km (**Appendix B**). No records were returned for the site or within the 2 km buffer.

No records of Airservices Australia National PFAS Management Programs were recorded on site, or within a 2 km radius of the site.

3.7 Defence Sites and Unexploded Ordnance

A search of Defence 3 Year Regional Contamination Program was undertaken for the site and surrounding regions within 2 km (**Appendix B**). No records were returned for the site or within the 2 km buffer.

3.8 Waste Management and Liquid Fuel Facilities

A review of the National Waste Management Facilities Database, EPA Approved Container Collection Depots, and National Liquid Fuel Facilities (**Appendix B**) was undertaken for the site and a 1 km buffer, with no records returned.

No National Liquid Fuel Facilities or Waste Management Facilities were identified onsite or within the buffer.

3.9 Heritage

No heritage places were identified on the site or within a 1 km buffer (**Appendix B**).

3.10 Summary of Site History

- Multiple investigations have been conducted for a portion of Lot 39 Arumpo Street, Renmark. EPA reviewed reports submitted with previous development application and stated that; no realistic human health exposure pathways identified for the proposed use, the EPA did not consider site contamination to exist based on current information and the implementation of the CEMP will manage any unexpected finds and mitigate exposure risk during development. Site can be made suitable for the proposed use, subject to conditions of submission of site suitability by a site contamination consultant and localised remediation is completed.
- Site inspection revealed:
 - No evidence of contamination in residential areas or around. Asbestos was present in the building.
 - Hydrocarbon staining and faint odours in some shed areas, but these were surficial.
 - Asbestos fragments identified in soil and debris, especially near sheds and pickers' quarters.
 - General waste (plastic, metal, timber, etc.) was present, but not indicative of gross contamination.
- No potentially contaminating activities (PCAs) associated with businesses on the site from 1910–1991.



- Aerial Imagery review confirmed the site has been used for horticulture/agriculture since at least 1945. Structures (homestead, sheds) have remained in similar locations over time. No significant changes in land use, with continued agricultural and rural residential surroundings.
- No records of site contamination, protection orders, or authorisations/applications on the site.
- Some EPA licences for petrol stations and marinas exist within 1 km, but not considered relevant due to distance from site.



4 Potential Contaminating Activities

A desktop review of historical information and the site inspection has provided an assessment of the potential for soil contamination on the site, in reference to PD14 and Schedule 3 (Site Contamination) of the *South Australia Environment Protection Regulations 2023*, resulting in the potential PCAs listed in **Table 4-1**.

Table 4-1 Summary of Potential Contaminating Activities

Activity	PCA under PD14 and Class	PCA under ER 2023	Location
Disposal of asbestos	Class 1	Yes	Figure 2 for assessed extent.
Fuel storage ¹	No	Yes	Refer to Figure 2 .

The previous PSI identified class 2 agricultural activities to have occurred onsite. However, based on our site inspections, the agricultural activities that were observed to have occurred on the site did not include the specific activities listed in PD14 for a Class 2 potentially contaminating activity (PCA) and in the Environment Protection Regulation 2023. As such no Class 2 PCA associated with agricultural activities has occurred on the site.

¹ Domestic Liquid organic substances – storage > 500 L



5 Preliminary Conceptual Site Model (PCSM)

A site-specific Preliminary Conceptual Site Model (PCSM) has been developed to identify various receptors (human health and environment) and potential exposure routes/pathways to determine the presence/absence of complete exposure pathways to receptors. An exposure pathway is the link between a contaminant source and a receptor.

The preliminary conceptual site model uses information obtained throughout this investigation. For an identifiable risk to exist, an exposure pathway must be present which requires each of the following to be identified:

- Presence of substances that may cause harm (Source)
- Presence of a receptor which may be harmed (Receptor)
- Existence of a means of exposing a receptor to the source (Exposure Pathway) and assessing whether exposure pathways are complete or incomplete.

Where either a source, receptor or exposure pathway is absent, there is no risk of exposure to a sensitive receptor from a contamination source.

The uncontrolled disposal of asbestos and fuel storage via a single AST were the two PCAs identified on site.

5.1 Sources of contamination

- Asbestos Fragments in Soil
 - Origin: historical demolition and uncontrolled disposal to surface.
 - Location: Surface and subsurface soils (<100 mm) as presented in **Figure 2 (as attached)**.
- Above Ground Fuel Storage
 - Origin: Leaks, spills, or overflows from tanks, pipework, or refuelling activities.
 - Location: Adjacent to shed as presented in **Figure 2 (as attached)**.

Contaminants of Concern

- Asbestos present as fragments, pieces, or fibres in soil
- Petroleum Hydrocarbons (TPH, BTEX, PAHs) from diesel, oil, and lubricants.

5.2 Migration Pathways

Asbestos;

- Airborne dust/fibre generation from soil disturbance (excavation, landscaping, vehicle movement).

Hydrocarbons

- Vertical migration through soil to groundwater.
- Lateral migration via surface water runoff.

5.3 Receptors

Human Health;

- Site workers (construction, maintenance, landscaping).
- Future residents.

Environment

- Groundwater (potential for hydrocarbon contamination).
- Surface water bodies (runoff).
- Flora and fauna (direct contact, ingestion).



5.4 Exposure Pathways

Summary of potential exposure pathways are presented in **Table 5-1**.

Table 5-1 Potential Exposure Pathway Summary

Source	Pathway	Receptor	Exposure Route	Status
Asbestos Soil	Dust generation	Human	Inhalation	Potentially complete
Fuel Storage	Soil/Water migration	Human Environment	Ingestion, Inhalation	Unlikely complete
	Vapour migration	Human Environment	Inhalation	Unlikely complete



6 Investigation

6.1 Soil Investigation

6.1.1 Regulatory Framework

The soil investigation was undertaken with reference to the National Environment Protection Council's (NECP's) National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM 1999), as amended in 2013 (ASC NEPM 2013) and the SA EPA GAR (SA EPA, 2019).

6.1.2 Program

Soil Investigation locations are presented in **Figure 2 (as attached)**. The investigation program was designed and executed by EHS Support, with fieldwork completed by Natalie Newman;

- Conducted over three days: 24th, 25th, and 26th August 2025
- Total of 34 sample locations (SS01–SS34) were established across the site.
- At each location, soil samples were collected using a shovel, targeting shallow depths (typically 0.1–0.5 meters) to assess topsoil and near-surface conditions, and contamination observations.

The program focused on identifying contamination risks associated with fuel storage, historical horticultural and agricultural activities identified during the development of the PSI, as well as visual or olfactory indicators of potential contamination identified during the site inspection.

6.1.3 Assessment Criteria

The ASC NEPM (2013) provides a framework for screening levels to evaluate potential risks to human health from site contamination (Tier 1 Risk Assessment Criteria). Soil investigation and screening levels are the concentrations of a contaminant, that if exceeded may require further assessment. Adopted criteria were;

- **ASC NEPM 2013 Table 1A(3) Residential A/B Soil HSL for Vapour Intrusion, Sand:**
Criteria were adopted from the National Environment Protection (Assessment of Site Contamination) Measure 2013 (NEPM 2013), Table 1A(3), which provides Health Screening Levels (HSLs) for vapour intrusion into residential settings (A/B) for sandy soils.
Reference: National Environment Protection Council (NEPC), 2013. National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, Table 1A(3).
- **ASC NEPM 2013 Table 1A(1) HILs Residential A Soil:**
Health Investigation Levels (HILs) for standard residential land use (Res A) were adopted from NEPM 2013, Table 1A(1).

In addition to the Tier 1 Risk Assessment Criteria, soil results were also compared to the SA EPA (2010) Current criteria for classifying waste for the purpose of waste disposal, should this be required it will need to be managed in accordance with the *South Australian Environment Protection Authority (SA EPA), 2013. Standard for the Production and Use of Waste Derived Fill.*



6.1.4 Results

6.1.4.1 Field Observations

In general, the site's geology was consistent with a floodplain or alluvial setting, dominated by sandy and silty clays with occasional gravel. Typical stratigraphy and key observations included:

- Topsoil: comprised soft/loose, unconsolidated sediments, including sandy clay, sandy silt, clayey sand, and silty sand. These materials were typically brown or orange-brown, with low to medium plasticity, and were mostly dry or slightly moist.
- Subsoil: comprised loose to medium dense, silty sand, gravelly sand, and clayey silt, poorly graded, and ranged from fine to coarse grained.

No groundwater was encountered during the investigation.

Hydrocarbon odour and staining was observed in four discrete areas as shown on **Figure 2 (as attached)**.

Observations of suspected bonded ACM identified on the surface of the site are presented in the HAZMAT report in **Appendix D**.

Aesthetic issues were observed across the site including waste on the surface of the site and spilled fertilizer and rat poison in and around the sheds on site. Aesthetic issues were not indicative of gross contamination.

6.1.4.2 Analytical Results

Analytical results are presented in **Table 1 (as attached)**. Laboratory reports are provided in **Appendix E**.

Exceedances of the Residential A/B Soil HSL for Vapour Intrusion (Sand) C10-C16 Fraction (F2 minus Naphthalene) criteria were recorded in samples; SS10_0.2, SS14_0.0, SS17_0.0-0.2 and SS23, and C6-C10 (F1 minus BTEX) SS17_0.0-0.2 and SS23. These samples were collected from stained surficial soils at four locations (**Figure 2, as attached**).

Due to the localised shallow nature of the hydrocarbon impacts, the stained soil was excavated and placed within the proposed internal road alignment. Validation samples Base 1 to Base 4 were collected from the base of the excavation and analysed for TRH/BTEXN. All recorded concentrations below detection or the adopted HSL screening criteria. Detail on excavation works and soil management is presented in **Section 7.1**.

All remaining soil samples analysed, recorded concentrations below detection or the adopted human health screening criteria.

In general, chemical concentrations in soil were compliant with **Intermediate Waste** due to elevated concentrations of copper and zinc. Australian Standard Leach Procedure (ASLP) analysis was not undertaken as material will most likely be retained on site.

6.1.5 Quality Assurance and Quality Control (QA/QC)

QA/QC was achieved through appropriate field sampling methodologies, replicate sampling, analysis, and laboratory procedures. A summary of the QA/QC undertaken for this project is provided in **Appendix F**. The results are valid and considered appropriate for the scope of work delivered.



6.2 Hazardous Materials Survey

A hazardous materials survey was conducted at the site, by Hazmat Australia & Asbestos SA on behalf of EHS Support. The inspection took place on the 25th, 26th, and 28th of August 2025 and included a detailed assessment of the residence, associated sheds, old chicken coup, and pickers' quarters. The Hazardous Materials Report is provided in **Appendix D** in full and summarised below.

The investigation focused on identifying asbestos-containing materials (ACMs), synthetic mineral fibres (SMF), lead in paints and building products that are likely to contain hazardous materials like; polychlorinated biphenyls (PCBs) in fluorescent lights, mercury-containing lamps, ozone-depleting substances in air conditioners, radioactive isotopes in smoke detectors, and stored chemicals and energy systems. The assessment included visual inspection, emu pick of surface soils where suspected bonded ACM was identified and laboratory analysis for confirmation.

The emu picking efforts were able to remediate surface soils in most areas except for an area around the central sheds and the south and east tracks.

6.2.1 Key Findings

Asbestos: Asbestos-containing materials were confirmed in the residence (fibrous cement sheeting, wall and ceiling linings, and electrical board), Shed 3 (electrical mounting board), and the Old Pickers' Quarters (ceiling linings and stored debris). Four out of eleven samples tested positive for chrysotile asbestos. Asbestos fragments were also identified in soil and debris in the central sheds and quarters area, as well as south and east tracks within the five-acre division.

Synthetic Mineral Fibre: SMF insulation was present in the main roof space of the residence and possibly in the hot water service.

Lead: Lead-based paint was likely present on external and internal surfaces of the residence, outhouse, sheds, and pickers' quarters, consistent with the age of the property. Lead building products were observed in rooftop chimney flashing, soldered gutter joints, and leadlight windows

PCBs and Mercury: Older fluorescent light fixtures in the residence and Shed 3 may contain PCBs and mercury.

6.2.2 Recommendations

All asbestos containing materials should be removed by licensed contractors prior to demolition or refurbishment, in accordance with relevant regulations and codes of practice.

Lead based paints and building products, PCBs, mercury-containing lamps, and other hazardous materials should be managed and disposed of following regulatory guidelines.

Asbestos contaminated soil should be managed appropriately to ensure risk is mitigated with respect to the proposed end use.



7 Waste Management

7.1 Hydrocarbon Impacted Soil

As detailed in **Section 6.1.4.2**, exceedances of the Residential A/B Soil HSL for Vapour Intrusion (Sand) C10-C16 Fraction (F2 minus Naphthalene) criteria were recorded in four locations (SS10_0.2, SS14_0.0, SS17_0.0-0.2 and SS23), and F1 minus BTEX at two of the four (SS17_0.0-0.2 and SS23) (**Figure 2, as attached**). The C10-C16 Fraction (F2 minus Naphthalene) and F1 minus BTEX concentration did not exceed the Commercial/Industrial D Soil HSL (current site use).

Impacts were associated with small volume spills of diesel and heavy machinery lubricants/oils that represented an aesthetic issue more so than a risk to human health (due to the low contaminant mass and localised nature of the impact). To address the aesthetic issue presented by these stained soils, the material was excavated (**Figure 3, as attached**) and stockpiled on site within proposed road alignments. The intention is to retain these stained soils beneath the road base and bitumen seal. The internal road alignments will align with the commercial industrial land use assumptions and the as there will be no access to soils in this portion of the site, the risk to sensitive receptors was considered negligible.

Validation samples Base 1 to Base 4 demonstrated the hydrocarbon impacted soils had been removed from the shallow soils within the proposed residential allotments.

7.2 Asbestos Impacted Soil

7.2.1 *Central Sheds and Quarter's Area*

As presented in 'Table 23. Central sheds and Quarter's area, debris in soil', of the Hazardous Materials Report is **Appendix D**. Asbestos-containing fibrous cement fragments were identified on were identified mixed within the soil. These fragments were visually assessed and presumed to contain asbestos.

7.2.1.1 Works Completed

An emu pick of the track's surface was conducted, resulting in the collection of 11 kg of fibrous cement fragments from the area. The affected zone covered approximately 4,000 m², with contamination likely present at shallow depths. The area was visually inspected by the licenced asbestos assessor following the removal.

7.2.1.2 Residual Risk

Residual risk remains due to the presence of additional bonded ACM fragments either on or buried just below the surface. The report stated that the remaining soil may be lightly contaminated or impacted with hidden debris, particularly at shallow depths (down to approximately 50–75 mm in the southern section and up to 100 mm in the northern section of the affected area), further effort was recommended in the marked area.

7.2.2 *Five Acre Division, South and East Tracks*

As presented in 'Table 24. Five acre division, south and east tracks, debris in soil', of the Hazardous Materials Report is **Appendix D**. Asbestos-containing fibrous cement fragments were identified on the surface of the south and east tracks within the five-acre division. These fragments were visually assessed and presumed to contain asbestos.



7.2.2.1 Works Completed

An emu pick of the track's surface was conducted, resulting in the collection of 0.5 kg of fibrous cement fragments from the affected area. This process targeted the immediate removal of accessible asbestos debris to reduce the risk of fibre release and potential exposure. The area was visually inspected by the licenced asbestos assessor following the removal.

7.2.2.2 Residual Risk

Residual risk remains due to the potential presence of additional fibrous cement fragments or asbestos-containing material buried just below the surface. The report stated that the remaining soil may be lightly contaminated or impacted with hidden debris, further effort was recommended in the marked area.

7.2.3 *Asbestos in Soil Remediation*

An Asbestos Remediation Plan has been prepared to address asbestos in soil identified at the central sheds and quarters area and the south and east tracks and is presented in **Appendix G**. The proposed approach involves;

- Delineate the area requiring remediation and restrict access until remediation is complete.
- Surface scrape of the impacted soil to a depth sufficient to remove remaining asbestos-containing fragments.
- Ongoing visual inspections are recommended to monitor for any further emergence of asbestos fragments during remediation.
- If solid asbestos material is observed, it will be collected and disposed of as asbestos waste in accordance with regulatory requirements.

All scraped soil that may contain low volumes of asbestos fragments will be placed directly beneath the future road pavement. The location of the asbestos impacted fill will be surveyed and the works presented in an Asbestos Remediation Validation Report.

Prior to placement beneath road alignments, gravimetric sampling of the scraped soil will be undertaken to assess the %w/w concentration of asbestos. Providing the results comply with the ASC NEPM criteria for bonded ACM in soil below 0.1 mBGL, no further management actions will be considered warranted. If concentrations exceed the ASC NEPM criteria, an asbestos management plan (AMP) will be prepared for the containment area.



8 Conceptual Site Model

The Conceptual Site Model (CSM) has been updated from the PCSM based in the outcome of the investigation. An exposure pathway is the link between a contaminant source and a receptor.

Where either a source, receptor or exposure pathway is absent, there is no risk of exposure to a sensitive receptor from a contamination source.

The hydrocarbon contamination has been excavated and will be managed within the road reserve, beneath the road base and bitumen seal. The internal road alignments will align with the commercial industrial land use assumptions and the as there will be no access to soils in this portion of the site, the risk to sensitive receptors was considered negligible. Validation samples Base 1 to Base 4 demonstrated the hydrocarbon impacted soils had been removed from the shallow soils within the proposed residential allotments.

Residual risk remains due to the presence of potential bonded ACM fragments either within the identified buildings and on or buried just below the surface that was not removed during the 'emu pick' within the Central Sheds and Quarter's Area, and Five Acre Division, South and East Tracks.

8.1 Sources of contamination

- Asbestos Fragments in Soil and Building
 - Origin: building product/construction, historical demolition, and uncontrolled disposal to surface.
 - Location: Surface and subsurface soils (<100 mm) as presented in **Figure 2 (as attached)**.

Contaminants of Concern

- Asbestos present as solid material in construction products, fragments, pieces, or fibres in soil

8.2 Migration Pathways

Asbestos;

- Airborne dust/fibre generation from disturbance (excavation, landscaping, vehicle movement and alteration to building).

8.3 Receptors

Human Health;

- Site workers (construction, maintenance, landscaping).
- Future residents.

8.4 Exposure Pathways

Summary of exposure pathways are presented in **Table 8-1**.

Table 8-1 Exposure Pathway Summary

Source	Pathway	Receptor	Exposure Route	Status
Asbestos Soil	Dust generation	Human	Inhalation	Potentially complete



9 Conclusion

Based on the findings of the PSI, the following conclusions have been made:

- Multiple investigations have been conducted for a portion of Lot 39 Arumpo Street, Renmark. EPA reviewed reports submitted with previous development application and stated that; no realistic human health exposure pathways identified for the proposed use, the EPA did not consider site contamination to exist based on current information and the implementation of the CEMP will manage any unexpected finds and mitigate exposure risk during development. Site can be made suitable for the proposed use, subject to conditions of submission of site suitability by a site contamination consultant and localised remediation is completed.
- Site inspection revealed:
 - No evidence of contamination in residential areas or around. Asbestos was present in the building.
 - Hydrocarbon staining and faint odours in some shed areas, but these were surficial.
 - Asbestos fragments identified in soil and debris, especially near sheds and pickers' quarters.
 - General waste (plastic, metal, timber, etc.) was present, but not indicative of gross contamination.
- No potentially contaminating activities (PCAs) associated with businesses on the site from 1910–1991.
- Aerial Imagery review confirmed the site has been used for horticulture/agriculture since at least 1945. Structures (homestead, sheds) have remained in similar locations over time. No significant changes in land use, with continued agricultural and rural residential surroundings.
- No records of site contamination, protection orders, or authorisations/applications on the site.
- Some EPA licences for petrol stations and marinas exist within 1 km, but not considered relevant due to distance from site.
- Soil sampling did not identify gross soil contamination at the site in areas where potential PCAs were identified.
- Shallow hydrocarbon staining in the four areas identified were considered to represent an aesthetic issue and were excavated from proposed residential allotments and placed within proposed internal road alignments where they will not pose an aesthetic issue.
- Asbestos-containing materials were confirmed in the residence, Shed 3, and the Old Pickers' Quarter. Asbestos fragments were also identified in soil and debris in the central sheds and quarters area, as well as south and east tracks within the five-acre division.
- Remaining areas outside of the central sheds, quarters area and the south and east tracks were assessed to be visually free of bonded ACM on the surface of the site.
- Synthetic Mineral Fibre insulation was present in the main roof space of the residence and possibly in the hot water service that will need to be managed if demolished.
- Lead-based paint was likely present on external and internal surfaces of the residence, outhouse, sheds, and pickers' quarters, consistent with the age of the property. Lead building products were observed in rooftop chimney flashing, soldered gutter joints, and leadlight windows that will need to be managed if demolished.
- Older fluorescent light fixtures in the residence and Shed 3 may contain PCBs and mercury that will need to be managed if demolished.
- The scope of work was considered sufficient to meet the objectives of the assessment.
- A site contamination declaration form is provided in **Appendix H**.



10 References

- ANZG. (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anz-guidelines.
- Department for Environment and Water. (2022). *Adelaide Plains Prescribed Wells Areas 2020-21: water resources assessment*, DEW Technical Note 2022/17, Government of South Australia, Department for Environment and Water, Adelaide.
- [Environment Protection Authority \(2024\). EPA Development Application Referral Response: Land Division – one allotment into two allotments, 55 Arumpo Street, Renmark West. EPA Reference: PDI 570, Development Application Number: 22034949. Letter to Renmark Paringa Council, 24 June 2024. Available at: EPA South Australia \[Accessed 29 September 2025\].](#)
- National Environment Protection Council. (1999, as amended 2013). National Environment Protection (Assessment of Site Contamination) Measure.
- South Australian Environment Protection Authority (SA EPA). (2018, revised 2019). Guidelines for the assessment and remediation of site contamination.
- Tonkin (2023). Preliminary Site Investigation, Lot 39 Arumpo St, Renmark SA, Peter and Koula Spanos, Ref: 221553R001, Rev A, dated: 9 February 2023. Tonkin Consulting, Adelaide.
- Tonkin (2024). Detailed Site Investigation – Lot 39 Arumpo Street, Renmark West, SA. Tonkin Consulting, Adelaide.
- Tonkin (2025). Addendum due to change in proposed land division, Lot 39 Arumpo St, Renmark West, SA. Tonkin Consulting, Adelaide
- Geoscience Australia (2001) Hydrogeology of the Murray Basin, Renmark Sheet, 1:100,000. Commonwealth of Australia.



11 Limitations

EHS Support Pty Ltd (“EHS Support”) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of JHN Investments Pty Ltd & The Trustee for Callop Le Family Trust and only those third parties who have been authorised in writing by EHS Support to rely on the report. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in **Section 1**.

The methodology adopted and sources of information used by EHS Support are outlined in this report. EHS Support has made no independent verification of this information beyond the agreed scope of works and EHS Support assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to EHS Support was false.

The site inspection was not completed by EHS Support, detail was provided directly by Neilly Group Engineers and this report was updated using information provided. This report was prepared between 25 August and 3 October 2025 and is based on the conditions encountered and information reviewed at the time of preparation. EHS Support disclaims responsibility for any changes that may have occurred after this time.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

Where conditions encountered at the site are subsequently found to differ significantly from those anticipated in this report, EHS Support must be notified of any such findings and be provided with an opportunity to review the recommendations of this report.

Whilst to the best of our knowledge information contained in this report is accurate at the date of issue, subsurface conditions, including groundwater levels can change in a limited time. Therefore this document and the information contained herein should only be regarded as valid at the time of the investigation unless otherwise explicitly stated in this report.



Figures



Internal Document Control Information:
User Name: Chathuri.Nisansala; Date and Time Printed: 9/26/2025 1:51 PM; Document Path: Y:\GIS Projects\Neilly Group\Arumpo\20250926 PSI\03 Mapping\Figures.aprx

Site Location Plan

015306090120 Meters

1:1,600 [Page Size: A3]

LEGEND

Site boundary

Arumpo PSI
Arumpo St, Renmark West SA
5341

EHS

Support

Adelaide

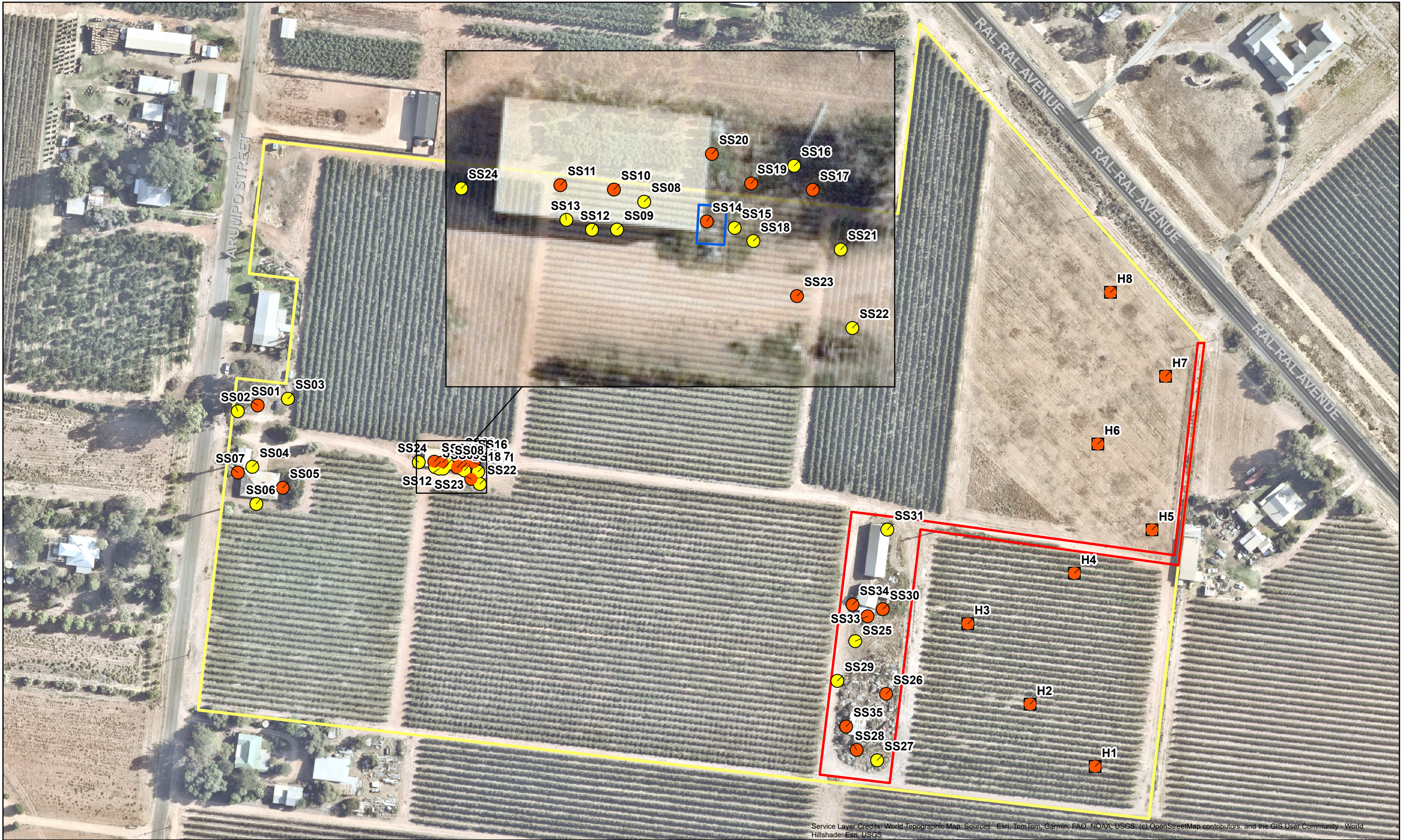
range

Figure 1

CREATED BY:	C. Nisansala
APPROVED BY:	J. Kirk
PROJECT REF. NO:	PTY.07104
MAP PROJECTION:	Transverse Mercator
GRID/DATUM:	GDA2020 MGA Zone 54
SCALE:	1:1,600
AERIAL IMAGE SOURCE:	ESRI Basemap

N

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Sample Location Plan

LEGEND

Site boundary

ACM

AST

Analysed

No

Yes

Scope

EHS-Support (2025)

Tonkin (2024)

Arumpo PSI
Arumpo St, Renmark West SA
5341

Figure 2

CREATED BY:	C. Nisansala
APPROVED BY:	J. Kirk
PROJECT REF. NO:	PTY.07104
MAP PROJECTION:	Transverse Mercator
GRID/DATUM:	GDA2020 MGA Zone 54
SCALE:	1:1,600
AERIAL IMAGE	ESRI Basemap
SOURCE:	

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Hydrocarbon Excavation Plan

015306090120

Meters

1:1,600 [Page Size: A3]

LEGEND

- Site boundary
- Base locations

Arumpo PSI
Arumpo St, Renmark West SA
5341

Figure 3

CREATED BY:	C. Nisansala
APPROVED BY:	J. Kirk
PROJECT REF. NO:	PTY.07104
MAP PROJECTION:	Transverse Mercator
GRID/DATUM:	GDA2020 MGA Zone 54
SCALE:	1:1,600
AERIAL IMAGE SOURCE:	ESRI Basemap

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Tables

Table 1 - Soil Analytical Results

PTY.07104

	Metals															
	Arsenic	Barium	Beryllium	Cadmium	Chromium (hexavalent) (filtered)	Chromium (III+VI)	Chromium (Trivalent)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Silver	Zinc
	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	4	1	1	0.4	1	1		1	1	10	1	1	0.1	1	1	1
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																
SA EPA Waste Fill Criteria	20	300	20	3	1			170	60		300	500	1	60		200
NEPM 2013 Table 1A(1) HILs Res A Soil	100		60	20	100			100	6,000		300	3,800	40	400		7,400
NEPM 2013 Table 1A(1) HILs Res B Soil	500		90	150	500			600	30,000		1,200	14,000	120	1,200		60,000

Sample Code	Field ID	Date	Lab Report Number																
MGI0052-01	SS01	25 Aug 2025	MGI0052	12	--	--	<0.40	--	16	--	--	270	--	69	--	<0.10	12	--	390
MGI0052-05	SS05	25 Aug 2025	MGI0052	<4.0	--	--	0.55	--	11	--	--	40	--	39	--	0.11	6.7	--	490
MGI0052-07	SS07	25 Aug 2025	MGI0052	<4.0	--	--	<0.40	--	9.1	--	--	11	--	15	--	<0.10	5.7	--	410
MGI0052-12	SS10_0.2	25 Aug 2025	MGI0052	<4.0	--	--	0.44	--	13	--	--	33	--	34	--	<0.10	9.0	--	250
MGI0052-13	SS11	25 Aug 2025	MGI0052	<4.0	--	--	<0.40	--	8.1	--	--	37	--	7.9	--	<0.10	7.3	--	78
MGI0052-16	SS14_0.0	25 Aug 2025	MGI0052	6.8	--	--	<0.40	--	21	--	--	46	--	15	--	<0.10	8.5	--	250
MGI0052-21	SS17_0.0-0.2	25 Aug 2025	MGI0052	<4.0	--	--	<0.40	--	14	--	--	50	--	18	--	<0.10	9.6	--	340
MGI0052-24	QC02.A	25 Aug 2025	MGI0052	5.0	--	--	<0.40	--	18	--	--	56	--	17	--	<0.10	10	--	560
MGI0052-26	SS19	26 Aug 2025	MGI0052	5.3	56	<1.0	<0.40	<1.0	16	16	5.2	39	8,800	18	330	<0.10	8.8	<1.0	240
MGI0052-27	SS20	26 Aug 2025	MGI0052	<4.0	--	--	<0.40	--	16	--	--	59	--	19	--	<0.10	12	--	230
MGI0052-30	SS23	26 Aug 2025	MGI0052	<4.0	--	--	<0.40	--	8.7	--	--	18	--	4.8	--	<0.10	6.5	--	41
MGI0052-33	SS26	26 Aug 2025	MGI0052	4.8	--	--	<0.40	--	18	--	--	18	--	9.6	--	<0.10	13	--	53
MGI0052-35	SS28	26 Aug 2025	MGI0052	<4.0	100	<1.0	0.47	<1.0	19	19	6.0	48	13,000	68	390	<0.10	12	<1.0	440
MGI0052-37	SS30	26 Aug 2025	MGI0052	4.2	--	--	<0.40	--	11	--	--	45	--	38	--	<0.10	5.9	--	390
MGI0052-40	SS33	26 Aug 2025	MGI0052	13	--	--	1.1	--	13	--	--	53	--	88	--	<0.10	12	--	920
MGI0052-41	SS34	26 Aug 2025	MGI0052	5.0	--	--	0.99	--	18	--	--	53	--	69	--	<0.10	11	--	680
MGI0052-42	SS35	26 Aug 2025	MGI0052	4.1	--	--	0.69	--	23	--	--	1,100	--	62	--	<0.10	15	--	800
MGI0146-01	Base 1	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-02	Base 2	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-03	Base 3	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-04	Base 4	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Material excavated

Environmental Standards

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand

Standard for the production and use of Waste Derived Fill, Table 8, 2013, SA EPA Waste Fill Criteria

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

2013, NEPM 2013 Table 1A(1) HILs Res B Soil

Table 1 - Soil Analytical Results

PTY.07104

	BTEX								TRH							TPH				
	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
	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	1	0.2	0.5	1	2	1	1	0.2	25	25	50	50	100	100	50	25	50	100	100	50
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand	3	0.5 0.5 0.5 0.5	160 220 310 540	55			40 60 95 170			45 70 110 200		110 240 440								
SA EPA Waste Fill Criteria		1	1.4	3.1			14									65				1,000
NEPM 2013 Table 1A(1) HILs Res A Soil																				
NEPM 2013 Table 1A(1) HILs Res B Soil																				

Sample Code	Field ID	Date	Lab Report Number																				
MGI0052-01	SS01	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-05	SS05	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-07	SS07	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-12	SS10_0.2	25 Aug 2025	MGI0052	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<1.0	<0.20	28	28	460	460	1,500	310	2,300	<25	240	1,400	580	2,200
MGI0052-13	SS11	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-16	SS14_0.0	25 Aug 2025	MGI0052	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<1.0	<0.20	<25	<25	220	220	54,000	3,600	58,000	<25	86	26,000	30,000	56,000
MGI0052-21	SS17_0.0-0.2	25 Aug 2025	MGI0052	<7.0	<0.20	<0.50	1.7	8.1	5.5	14	15	300	280	13,000	13,000	14,000	<100	27,000	83	7,600	21,000	110	29,000
MGI0052-24	QC02.A	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-26	SS19	26 Aug 2025	MGI0052	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<1.0	<0.20	<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
MGI0052-27	SS20	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-30	SS23	26 Aug 2025	MGI0052	<2.0	<0.20	<0.50	<1.0	<2.0	1.3	1.3	1.3	140	140	4,200	4,200	5,000	<100	9,200	40	2,300	7,200	<100	9,500
MGI0052-33	SS26	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-35	SS28	26 Aug 2025	MGI0052	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<1.0	<0.20	<25	<25	<50	<50	110	<100	110	<25	<50	<100	110	110
MGI0052-37	SS30	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-40	SS33	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-41	SS34	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-42	SS35	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-01	Base 1	05 Sep 2025	MGI0146	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<1.0	<0.20	<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
MGI0146-02	Base 2	05 Sep 2025	MGI0146	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<1.0	<0.20	<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
MGI0146-03	Base 3	05 Sep 2025	MGI0146	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<1.0	<0.20	<25	<25	<50	<50	<100	<100	<50	<25	<50	<100	<100	<50
MGI0146-04	Base 4	05 Sep 2025	MGI0146	<1.0	<0.20	<0.50	<1.0	<2.0	<1.0	<1.0	<0.20	<25	<25	<50	<50	570	<100	570	<25	<50	370	260	630

Material excavated

Environmental Standards
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
Standard for the production and use of Waste Derived Fill, Table 8, 2013, SA EPA Waste Fill Criteria
2013, NEPM 2013 Table 1A(1) HILs Res A Soil
2013, NEPM 2013 Table 1A(1) HILs Res B Soil

Table 1 - Soil Analytical Results
PTY.07104

	Inorganics	Other			Phenols																					
	Cyanide Total	3,5-Dichlorobenzoic acid	Actril (loxynil)	Chlordane (gamma)	384-Methylphenol (m&p-creso)	2,3,5,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,6-D	2,6-Dichlorophenol	2,3,4,5 & 2,3,4,6-Tetrachlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-Nitrophenol	Pentachlorophenol	Picloram	Phenol	Phenolics Total	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	1	0.1	0.4	0.2	0.2	0.2	0.2	0.2	4	0.5	0.2	0.4	0.2	0.2	0.2	10	20	1	4	2	0.5	0.2	0.2	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																										
SA EPA Waste Fill Criteria	500																								0.5	
NEPM 2013 Table 1A(1) HILs Res A Soil																						100	4,500	3,000		
NEPM 2013 Table 1A(1) HILs Res B Soil																						130	6,600	45,000		

Sample Code	Field ID	Date	Lab Report Number																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Material excavated

Environmental Standards
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
Standard for the production and use of Waste Derived Fill, Table 8, 2013, SA EPA Waste Fill Criteria
2013, NEPM 2013 Table 1A(1) HILs Res A Soil
2013, NEPM 2013 Table 1A(1) HILs Res B Soil

Table 1 - Soil Analytical Results

PTY.07104

	Chlorinated Hydrocarbons	Halogenated Benzenes	Herbicides																			VIC EPA 1828.2 OCP (Total)*	
	Tetrachloroethene	Hexachlorobenzene	2,4,5-Trichlorophenoxy Acetic Acid	2,4,5-TP (Silvex)	2,4-Dichlorophenoxyacetic acid (2,4-D)	2,4-Dichloroprop	2,4,6-Trichlorophenoxy-acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Chlorophenoxyacetic acid	4-Chlorophenoxyacetic acid	Acifluorfen	Bentazone	Bromoxynil	Chloramben	Clopyralid	Dicamba	Dinoseb	Fluroxypyr	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	Mecoprop		Triclopyr
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	MG/KG
EQL	1	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	1	0.5	1	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.1
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																							
SA EPA Waste Fill Criteria																							
NEPM 2013 Table 1A(1) HILs Res A Soil		10	600		900														600	600	600		
NEPM 2013 Table 1A(1) HILs Res B Soil		15	900		1,600														900	900	900		

Sample Code	Field ID	Date	Lab Report Number																							
MGI0052-01	SS01	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-05	SS05	25 Aug 2025	MGI0052	--	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<1.0	<0.50	<1.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	0.35
MGI0052-07	SS07	25 Aug 2025	MGI0052	--	<0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.25
MGI0052-12	SS10_0.2	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-13	SS11	25 Aug 2025	MGI0052	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<20	<10	<5.0	<10	<5.0	<5.0	<10	<10	<5.0	<5.0	<5.0	<5.0	--
MGI0052-16	SS14_0.0	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-21	SS17_0.0-0.2	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-24	QC02.A	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-26	SS19	26 Aug 2025	MGI0052	<1.0	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<1.0	<0.50	<1.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	--
MGI0052-27	SS20	26 Aug 2025	MGI0052	--	<0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1
MGI0052-30	SS23	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-33	SS26	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-35	SS28	26 Aug 2025	MGI0052	<1.0	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<1.0	<0.50	<1.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	--
MGI0052-37	SS30	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-40	SS33	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-41	SS34	26 Aug 2025	MGI0052	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<1.0	<0.50	<1.0	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	--
MGI0052-42	SS35	26 Aug 2025	MGI0052	--	<0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.10
MGI0146-01	Base 1	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-02	Base 2	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-03	Base 3	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-04	Base 4	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Material excavated

Environmental Standards

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand

Standard for the production and use of Waste Derived Fill, Table 8, 2013, SA EPA Waste Fill Criteria

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

2013, NEPM 2013 Table 1A(1) HILs Res B Soil

Table 1 - Soil Analytical Results
PTY.07104

	Organochlorine Pesticides																				
	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
	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
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																					
SA EPA Waste Fill Criteria				2					2										2		
NEPM 2013 Table 1A(1) HILs Res A Soil				6						240					10				6		300
NEPM 2013 Table 1A(1) HILs Res B Soil				10						600					20				10		500

Sample Code	Field ID	Date	Lab Report Number																			
MGI0052-01	SS01	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-05	SS05	25 Aug 2025	MGI0052	0.35	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.35	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MGI0052-07	SS07	25 Aug 2025	MGI0052	0.25	<0.10	<0.10	<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
MGI0052-12	SS10_0.2	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-13	SS11	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-16	SS14_0.0	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-21	SS17_0.0-0.2	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-24	QC02.A	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-26	SS19	26 Aug 2025	MGI0052	<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
MGI0052-27	SS20	26 Aug 2025	MGI0052	<0.10	<0.10	<0.10	<0.10	<0.10	0.54	<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
MGI0052-30	SS23	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-33	SS26	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-35	SS28	26 Aug 2025	MGI0052	0.90	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MGI0052-37	SS30	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-40	SS33	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-41	SS34	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0052-42	SS35	26 Aug 2025	MGI0052	<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
MGI0146-01	Base 1	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-02	Base 2	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-03	Base 3	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MGI0146-04	Base 4	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Material excavated

Environmental Standards
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
Standard for the production and use of Waste Derived Fill, Table 8, 2013, SA EPA Waste Fill Criteria
2013, NEPM 2013 Table 1A(1) HILs Res A Soil
2013, NEPM 2013 Table 1A(1) HILs Res B Soil

Table 1 - Soil Analytical Results

PTY.07104

	PCBs							
	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
	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
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand								
SA EPA Waste Fill Criteria								2
NEPM 2013 Table 1A(1) HILs Res A Soil								1
NEPM 2013 Table 1A(1) HILs Res B Soil								1

Sample Code	Field ID	Date	Lab Report Number								
MGI0052-01	SS01	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-05	SS05	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-07	SS07	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-12	SS10_0.2	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-13	SS11	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-16	SS14_0.0	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-21	SS17_0.0-0.2	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-24	QC02.A	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-26	SS19	26 Aug 2025	MGI0052	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MGI0052-27	SS20	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-30	SS23	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-33	SS26	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-35	SS28	26 Aug 2025	MGI0052	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MGI0052-37	SS30	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-40	SS33	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-41	SS34	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0052-42	SS35	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--
MGI0146-01	Base 1	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--
MGI0146-02	Base 2	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--
MGI0146-03	Base 3	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--
MGI0146-04	Base 4	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--

Material excavated

Environmental Standards

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand

Standard for the production and use of Waste Derived Fill, Table 8, 2013, SA EPA Waste Fill Criteria

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

2013, NEPM 2013 Table 1A(1) HILs Res B Soil

Table 1 - Soil Analytical Results

PTY.07104

	Pesticides	PAH																			Solvents	General Chemistry
	Mirex	Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	MTBE	Moisture Content
	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	0.2	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.05	0.5	0.1
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand														3								
SA EPA Waste Fill Criteria							1													5		
NEPM 2013 Table 1A(1) HILs Res A Soil	10																3	3	3	300		
NEPM 2013 Table 1A(1) HILs Res B Soil	20																4	4	4	400		

Sample Code	Field ID	Date	Lab Report Number																						
MGI0052-01	SS01	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.1
MGI0052-05	SS05	25 Aug 2025	MGI0052	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.050	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.050	--	--	7.6
MGI0052-07	SS07	25 Aug 2025	MGI0052	<0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2
MGI0052-12	SS10_0.2	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.50	--	9.7
MGI0052-13	SS11	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.4
MGI0052-16	SS14_0.0	25 Aug 2025	MGI0052	--	<2.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.96	1.9	<0.50	<0.50	<0.50	<0.50	4.8
MGI0052-21	SS17_0.0-0.2	25 Aug 2025	MGI0052	--	<2.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<8.0	1.6	1.7	0.96	1.9	<0.50	3.3	<0.50	7.0
MGI0052-24	QC02.A	25 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.9
MGI0052-26	SS19	26 Aug 2025	MGI0052	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	0.055	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	0.055	<0.50	--	6.8
MGI0052-27	SS20	26 Aug 2025	MGI0052	<0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.6
MGI0052-30	SS23	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.50	--	5.0
MGI0052-33	SS26	26 Aug 2025	MGI0052	--	<0.20	<0.10	<0.10	<0.10	<0.10	0.069	<0.10	<0.10	<0.10	0.16	<0.10	<0.10	<0.10	<0.10	0.17	<0.50	<0.50	<0.50	0.40	--	6.5
MGI0052-35	SS28	26 Aug 2025	MGI0052	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	0.087	<0.10	<0.10	<0.10	0.14	<0.10	<0.10	<0.10	<0.10	0.15	<0.50	<0.50	<0.50	0.38	<0.50	7.7
MGI0052-37	SS30	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
MGI0052-40	SS33	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11
MGI0052-41	SS34	26 Aug 2025	MGI0052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11
MGI0052-42	SS35	26 Aug 2025	MGI0052	<0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.0
MGI0146-01	Base 1	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.50	--	10
MGI0146-02	Base 2	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.50	--	6.9
MGI0146-03	Base 3	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.50	--	11
MGI0146-04	Base 4	05 Sep 2025	MGI0146	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.50	--	8.0

Material excavated

Environmental Standards
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand
Standard for the production and use of Waste Derived Fill, Table 8, 2013, SA EPA Waste Fill Criteria
2013, NEPM 2013 Table 1A(1) HILs Res A Soil
2013, NEPM 2013 Table 1A(1) HILs Res B Soil

Table 2 - Soil QA/QC Relative Percentage Difference

PTY.07104

	Chemistry		Metals						
	Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc
EQL	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	0.1	4	0.4	1	1	1	0.1	1	1

Date	Field ID	Lab Report Number	Sample Type									
25 Aug 2025	SS17_0.0-0.2	MGI0052	Normal	7.0	<4.0	<0.40	14	50	18	<0.10	9.6	340
25 Aug 2025	QC02.A	MGI0052	Field_D	6.9	5.0	<0.40	18	56	17	<0.10	10	560
RPD				1	22	0	25	11	6	0	4	49
25 Aug 2025	SS17_0.0-0.2	MGI0052	Normal	7.0	<4.0	<0.40	14	50	18	<0.10	9.6	340
25 Aug 2025	QC02.B	EM2516023	Interlab_D	8.0	6	<1	18	46	12	<0.1	11	340
RPD				13	40	0	25	8	40	0	14	0

Environmental Standards

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
Standard for the production and use of Waste Derived Fill, Table 8, 2013, SA EPA Waste Fill Criteria
Standard for the production and use of Waste Derived Fill, Table 9, 2013, SA EPA Intermediate Waste - Total Dry Weight Concentrations
Current criteria for the classification of waste—including Industrial and Commercial Waste (Listed) and Waste Soil , 2010, SA EPA Low-level Contaminated - Total Dry Weight Concentrations
2013, NEPM 2013 Table 1A(1) HILs Res A Soil

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

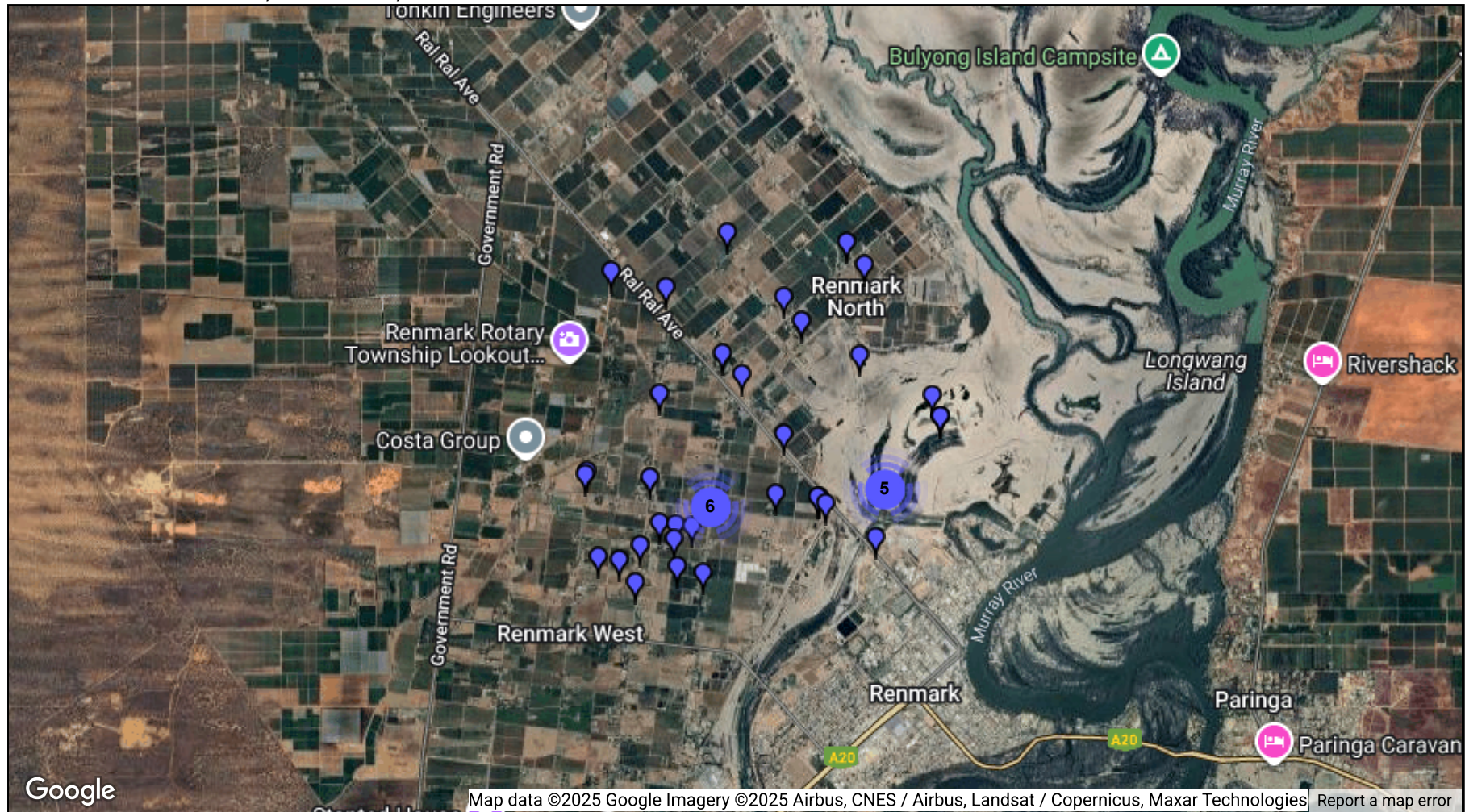


Appendix A WaterConnect Report



Government of South Australia WaterConnect

Circle Centre -34.152888,140.727182, Radius 2km



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Groundwater Data Report



Unit No	Date	Cased To (m)	Max Depth (m)	Latest Depth (m)	TDS (mg/L)	TDS Date	Purpose	Aquifer	Status	Yield (L/sec)	Yield Date	Permit No	Obs No	SWL (m)	SWL Date	SWL Status	Salinity Status
7029-148	17/12/1948	24.69	24.69	24.69	35664	10/12/1949	DRN	Qam	BKF								
7029-254	16/11/1948		71.63	0	38699	14/01/1949	DRN	Tyw	BKF	15.15	08/12/1948	246252					
7029-850	01/01/1952						OBS	Qam	ABD				RMK155	1.76	13/10/1962	H	N
7029-851	01/01/1952						OBS	Qam	ABD				RMK156	1.53	30/06/1963	H	N
7029-852	01/01/1952						OBS	Qam	ABD				RMK157	1.2	30/06/1963	H	N
7029-855							OBS	Qam	ABD				RMK160	2.21	03/08/1973	H	N
7029-856							OBS	Qam	ABD				RMK161	2.3	10/08/1957	H	N
7029-857	01/01/1952						OBS	Qam	ABD				RMK162	2.46	07/07/1955	H	N
7029-858	01/01/1952						OBS	Qam	ABD				RMK163	1.3	20/11/1968	H	N
7029-859	01/01/1952						OBS	Qam	ABD				RMK164	2.32	10/08/1957	H	N
7029-860	01/01/1952						OBS	Qam	ABD				RMK165	2.9	19/01/1957	H	N
7029-861	01/01/1952						OBS	Qam	ABD				RMK166	2.76	24/01/1960	H	N
7029-862	01/01/1952						OBS	Qam	ABD				RMK167	2.42	03/08/1973	H	N
7029-863	01/01/1953						OBS	Qam	ABD				RMK168	1.58	19/01/1957	H	N
7029-864	01/01/1953						OBS	Qam	ABD				RMK169	1.64	30/06/1963	H	N
7029-865	01/01/1952						OBS	Qam	ABD				RMK170	3.45	24/01/1960	H	N
7029-866	01/01/1952						OBS	Qam	ABD				RMK171	1.53	30/06/1963	H	N
7029-867	01/01/1952						OBS	Qam	ABD				RMK172	1.45	19/01/1957	H	N
7029-868	01/01/1952						OBS	Qam	ABD				RMK173	1.74	20/11/1968	H	N
7029-869	01/01/1952						OBS	Qam	ABD				RMK174	2.73	30/06/1963	H	N
7029-870	01/01/1952						OBS	Qam	ABD				RMK175	2.09	30/06/1963	H	N
7029-875	01/01/1952						OBS	Qam	ABD				RMK180	1.99	27/09/1956	H	N
7029-876	01/01/1952						OBS	Qam	ABD				RMK181	2.98	29/04/1956	H	N
7029-877	01/01/1952						OBS	Qam	ABD				RMK182	2.52	19/11/1955	H	N
7029-878	01/01/1952						OBS	Qam	ABD				RMK183	2.79	29/04/1956	H	N
7029-879	01/01/1952						OBS	Qam	ABD				RMK184	1.72	19/11/1955	H	N
7029-880	01/01/1952						OBS	Qam					RMK185	1.72	19/11/1955	H	N
7029-881	01/01/1952						OBS	Qam	ABD				RMK186				
7029-882	01/01/1952						OBS	Qam	ABD				RMK187	1.78	19/11/1955	H	N
7029-883	01/01/1952						OBS	Qam	ABD				RMK188	2.84	07/10/1955	H	N
7029-884	01/01/1952						OBS	Qam	ABD				RMK189	3.64	29/04/1956	H	N
7029-977		2.47	3.47				OBS	Qam						1.38	08/01/1998		
7029-979		1.42	2.42				OBS	Qam						0.88	08/02/1988		
7029-980		3.53	4.53				OBS	Qam						1.24	11/08/1989		
7029-1054	04/05/1988	7.5	9	4.95	42604	04/05/1988	OBS	Qam				21251	RMK242	1.17	15/11/2023	C	N
7029-1055	04/05/1988	3	3	1.6	42000	04/05/1988	OBS	Qhac	UFL			21251	RMK243	-0.37	10/11/2020	C	N
7029-1056	04/05/1988	5.75	7	3.6	42604	04/05/1988	OBS	Qam	UFL			21252	RMK244	0.99	15/11/2023	C	N

Unit No	Date	Cased To (m)	Max Depth (m)	Latest Depth (m)	TDS (mg/L)	TDS Date	Purpose	Aquifer	Status	Yield (L/sec)	Yield Date	Permit No	Obs No	SWL (m)	SWL Date	SWL Status	Salinity Status
7029-1057	04/05/1988	5.75	6.75	6.75			OBS	Qhac	UFL			21252	RMK245	0.91	15/11/2023	C	N
7029-1272	26/05/1998	19	19	16.85	9661	26/05/1998	INV	Qam	DRY			45493	RMK320	2.82	26/11/2024	C	N
7029-1277	26/06/1998	19	19	7.1	7020	26/06/1998	INV	Qam	NL			45498	RMK319	0.09	11/11/2020	C	N
7029-1281	24/06/1998	1.5	8	6.25	11015	24/06/1998	INV	Qhac	DMG			45502	RMK310	3.29	26/11/2024	C	N
7029-1282	24/06/1998	1	7	7	44520	23/06/1998	INV	Qam	NL			45503	RMK311	2.68	13/01/2002	H	N
7029-2658		8	7.6	7.6	53060	25/09/2017	MON	Qam						1.11	14/06/2018	N	N
7029-2659		8	8.04	8.04	64880	25/09/2017	MON	Qam						1.28	14/06/2018	N	N

44 records



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Appendix B Lotsearch Report



LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 24 Jan 2023 16:05:38

Reference: LS039898 EP

Address: 55 Arumpo Street, Renmark West, SA 5341

Disclaimer:

The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features. You should obtain independent advice before you make any decision based on the information within the report. The detailed terms applicable to use of this report are set out at the end of this report.

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	PSMA Australia Limited	01/11/2021	01/11/2021	Quarterly	-	-	-	-
EPA Site Contamination Index	EPA South Australia	06/01/2023	06/01/2023	Monthly	1000m	0	0	0
EPA Environmental Protection Orders	EPA South Australia	19/12/2022	19/12/2022	Monthly	1000m	0	0	0
EPA Environmental Authorisations	EPA South Australia	19/12/2022	19/12/2022	Monthly	1000m	0	0	6
EPA Assessment Areas	EPA South Australia	18/10/2022	18/10/2022	Quarterly	1000m	0	0	0
EPA Groundwater Prohibition Areas	EPA South Australia	23/01/2023	20/08/2022	Monthly	1000m	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	06/01/2023	06/01/2023	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	06/01/2023	06/01/2023	Monthly	2000m	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	13/12/2022	13/12/2022	Monthly	2000m	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	02/09/2022	02/09/2022	Quarterly	2000m	0	0	0
National Waste Management Facilities Database	Geoscience Australia	26/05/2022	07/03/2017	Annually	1000m	0	0	0
EPA Collection Depots	EPA South Australia	20/12/2022	20/08/2022	Quarterly	1000m	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	23/08/2022	15/03/2012	Annually	1000m	0	0	0
Historical Business Directories (Premise & Intersection Matches)	Hardie Grant, Sands & McDougall			Not required	150m	0	0	0
Historical Business Directories (Road & Area Matches)	Hardie Grant, Sands & McDougall			Not required	150m	-	5	5
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant, Sands & McDougall			Not required	500m	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant, Sands & McDougall			Not required	500m	-	0	0
Mines and Mineral Deposits	Department for Energy and Mining	18/10/2022	18/10/2022	Quarterly	1000m	0	0	0
Groundwater Aquifers	Department for Environment and Water	29/03/2021	01/01/2008	Annually	1000m	1	1	1
Drillholes	Department for Environment and Water	19/10/2022	07/10/2022	Quarterly	2000m	0	0	50
Surface Geology 1:100,000	Department for Energy and Mining	12/07/2018	01/07/2018	As required	1000m	1	1	2
Geological Linear Structures 1:100,000	Department for Energy and Mining	12/07/2018	01/07/2018	As required	1000m	0	0	0
Atlas of Australian Soils	ABARES	19/05/2017	17/02/2011	As required	1000m	1	1	2
Soil Types	Department for Environment and Water	12/07/2018	01/07/2009	As required	1000m	1	1	3
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000m	1	1	1
Acid Sulfate Soil Potential	Department for Environment and Water	06/04/2022	18/02/2020	Annually	1000m	1	1	2
Soil Salinity - Watertable Induced	Department for Environment and Water	23/08/2022	09/06/2016	Annually	1000m	1	1	3
Soil Salinity - Non-watertable	Department for Environment and Water	19/04/2022	18/02/2020	Annually	1000m	1	1	2
Soil Salinity - Non-watertable (magnesia patches)	Department for Environment and Water	19/04/2022	18/02/2020	Annually	1000m	1	1	1

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Planning and Design Code - Zones	Attorney-General's Department	13/12/2022	23/06/2022	Monthly	1000m	1	3	4
Planning and Design Code - Subzones	Attorney-General's Department	13/12/2022	20/01/2022	Monthly	1000m	1	1	1
Land Use Generalised 2020	Department of Planning, Transport and Infrastructure	18/10/2022	07/03/2022	Annually	1000m	1	5	10
Commonwealth Heritage List	Australian Government Department of Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000m	0	0	0
National Heritage List	Australian Government Department of Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000m	0	0	0
State Heritage Areas	Department for Environment and Water	06/04/2022	18/02/2020	Annually	1000m	0	0	0
SA Heritage Places	Department for Environment and Water	19/10/2022	23/09/2021	Quarterly	1000m	0	0	0
Aboriginal Land	Department for Energy and Mining	06/04/2022	08/04/2018	Annually	1000m	0	0	0
Planning and Design Code - Overlays - Bushfire	Attorney-General's Department	13/12/2022	13/12/2022	Monthly	1000m	1	1	1
Bushfires and Prescribed Burns History	Department for Environment and Water	06/04/2022	24/02/2020	Annually	1000m	0	0	0
Planning and Design Code - Overlays - Flooding	Attorney-General's Department	13/12/2022	13/12/2022	Monthly	1000m	1	2	2
Groundwater Dependent Ecosystems Atlas	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000m	0	0	1
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000m	0	0	2
Ramsar Wetland Areas	Department for Environment and Water	28/03/2022	18/02/2020	Annually	1000m	0	0	0

Site Diagram

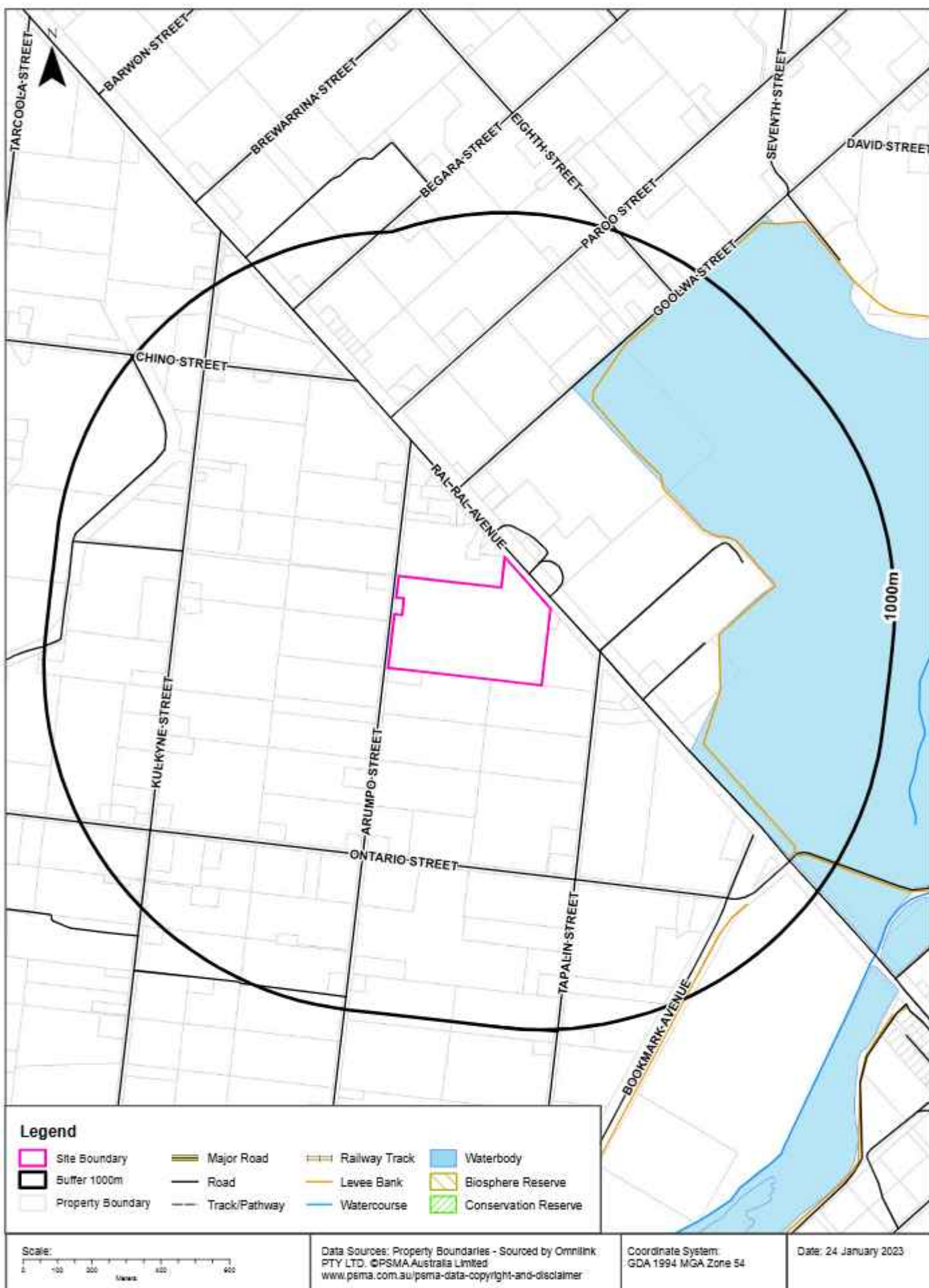
55 Arumpo Street, Renmark West, SA 5341



Legend  Site Boundary  Internal Parcel Boundaries	Total Area: 123279m ² Total Perimeter: 1.58km Disclaimers: Measurements are approximate only and may have been simplified or smaller lengths removed for readability. Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.	Scale:  Data Source Aerial Imagery: © Aerometrex Pty Ltd	
		Coordinate System: GDA 1994 MGA Zone 54	Date: 24 January 2023

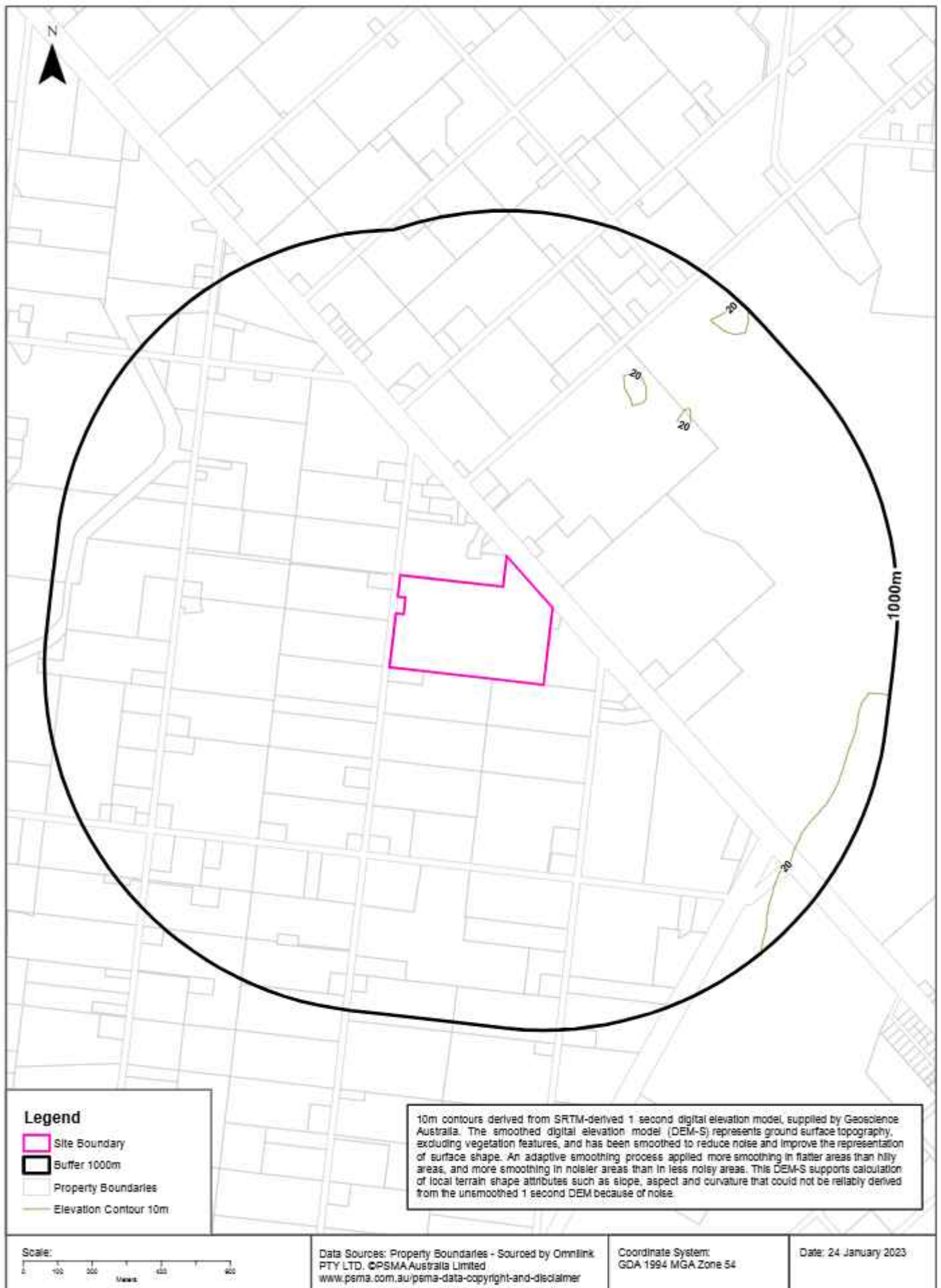
Topographic Features

55 Arumpo Street, Renmark West, SA 5341



Elevation Contours

55 Arumpo Street, Renmark West, SA 5341



EPA Contaminated Land

55 Arumpo Street, Renmark West, SA 5341

EPA Site Contamination Index

Sites on the EPA Contamination Index within the dataset buffer:

Notification No	Type	Address	Activity	Status	LocConf	Dist	Dir
N/A	No records in buffer						

Site Contamination Index Data Source: EPA South Australia

EPA Public Register

55 Arumpo Street, Renmark West, SA 5341

EPA Environment Protection and Clean Up Orders

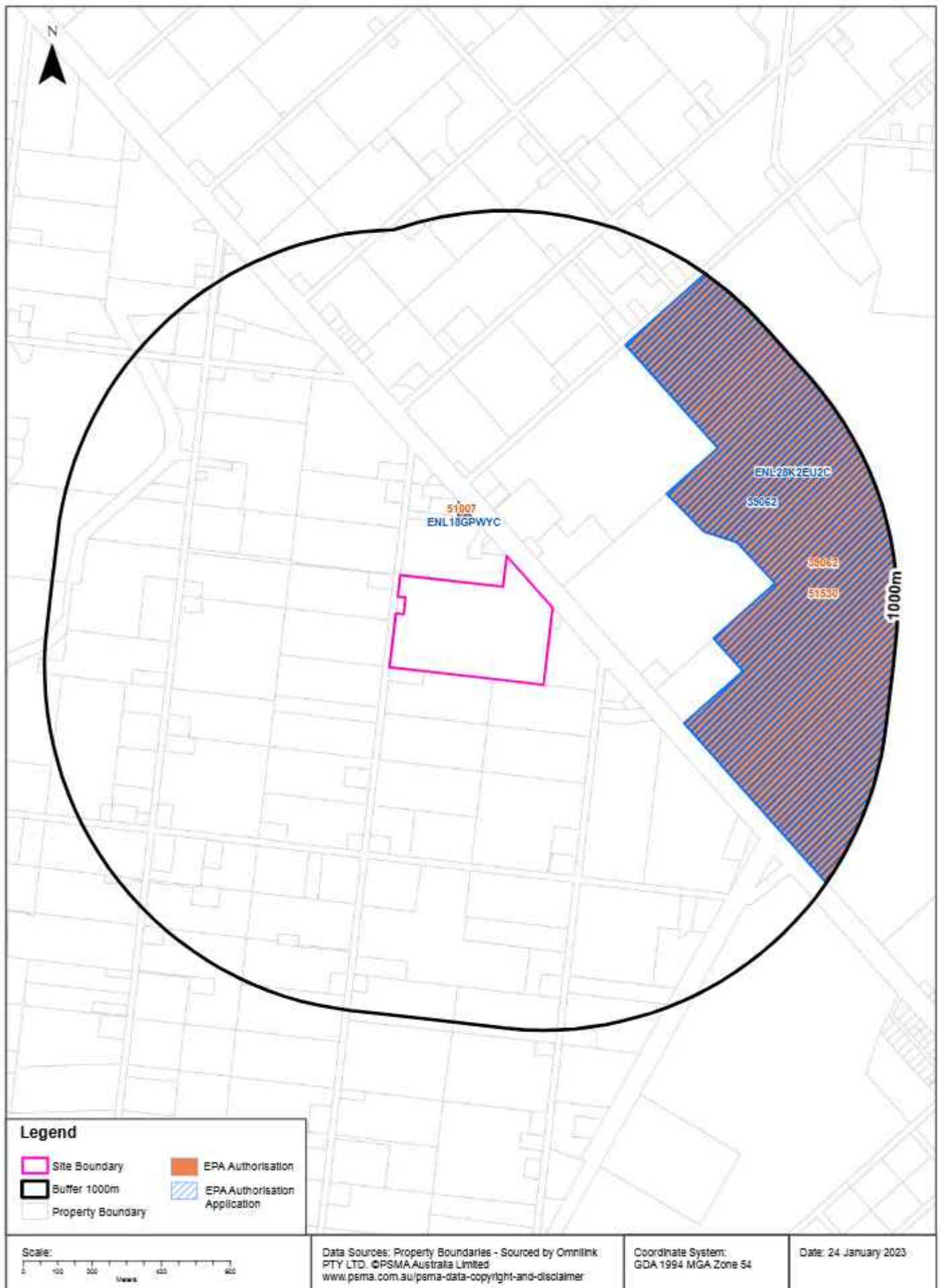
EPA Environment Protection and Clean Up Orders, within the dataset buffer:

Record No.	Record Type	Record Status	Entity	Site Address	Activity	EPA Register Status	LocConf	Dist	Dir
N/A	No records in buffer								

Authorisations Data Source: EPA South Australia

EPA Authorisations and Applications

55 Arumpo Street, Renmark West, SA 5341



EPA Public Register

55 Arumpo Street, Renmark West, SA 5341

EPA Authorisations and Applications

EPA Authorisations and Authorisation Applications within the dataset buffer:

Record No.	Record Type	Record Status	Entity	Site Address	Activity	EPA Register Status	LocConf	Dist	Dir
51007	LICENCE	Issued	SHANE RICHARD COOMBS, KIM MICHELLE COOMBS	323 Ral Ral Avenue, RENMARK WEST SA 5341	Petrol stations	Current EPA Register	Premise Match	129m	North
ENL18 GPWY C	LICENCE APPLICATION	Authorisation Updated	SHANE RICHARD COOMBS, KIM MICHELLE COOMBS	323 Ral Ral Avenue, RENMARK WEST SA 5341	Petrol stations	Current EPA Register	Premise Match	129m	North
39062	LICENCE	Issued	CAPTAIN COOK CRUISES PTY LTD	Allotment 803 (DP 27497) Goolwa Street, RENMARK, 5341, SA	Abrasive blasting, Marinas and boating facilities, Surface coating works (spray painting or powder coating)	Current EPA Register	Premise Match	422m	East
39062	LICENCE APPLICATION	Proceed To Authorisation	Captain Cook Cruises Pty Ltd	Allotment 803 (DP 27497) Goolwa Street, Renmark SA 5341	Abrasive blasting, Marinas and boating facilities, Surface coating works (spray painting or powder coating)	Current EPA Register	Premise Match	422m	East
51530	LICENCE	Issued	PM RIVER CRUISES PTY LTD	Allotment 803 DP 27497 Goolwa Street, RENMARK SA 5341	Marinas and boating facilities	Current EPA Register	Premise Match	422m	East
ENL28 K2EU2 C	LICENCE APPLICATION	Authorisation Updated	PM RIVER CRUISES PTY LTD	Allotment 803 DP 27497 Goolwa Street, RENMARK SA 5341	Marinas and boating facilities	Current EPA Register	Premise Match	422m	East

Authorisations Data Source: EPA South Australia

EPA Assessment and Groundwater Prohibition Areas

55 Arumpo Street, Renmark West, SA 5341

EPA Assessment Areas

EPA Assessment Areas within the dataset buffer:

Map Id	Supplied Ref	Area Name	Map Link	Status	Location Confidence	Distance	Direction
N/A	No records in buffer						

Assessment Areas Data Source: EPA South Australia

EPA Assessment and Groundwater Prohibition Areas

55 Arumpo Street, Renmark West, SA 5341

EPA Groundwater Prohibition Areas

EPA Groundwater Prohibition Areas within the dataset buffer:

Map Id	Site Name	Location Confidence	Distance	Direction
N/A	No records in buffer			

Groundwater ProhibitionAreas Data Source: EPA South Australia

PFAS Investigation & Management Programs

55 Arumpo Street, Renmark West, SA 5341

Defence PFAS Investigation & Management Program Investigation Sites

Sites being investigated by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

Defence PFAS Investigation & Management Program Data Custodian: Department of Defence, Australian Government

Defence PFAS Investigation & Management Program Management Sites

Sites being managed by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

Defence PFAS Investigation & Management Program Data Custodian: Department of Defence, Australian Government

Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map ID	Site Name	Impacts	Location Confidence	Distance	Direction
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

55 Arumpo Street, Renmark West, SA 5341

Defence 3 Year Regional Contamination Investigation Program

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc. Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

Waste Management and Liquid Fuel Facilities

55 Arumpo Street, Renmark West, SA 5341

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Class	Revised Date	Location Confidence	Distance	Direction
N/A	No records in buffer								

Waste Management Facilities Data Source: Australian Government Geoscience Australia
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EPA Approved Container Collection Depots

EPA approved container collection depots within the dataset buffer:

MapId	Name	Address	Suburb	Loc Conf	Distance	Direction
N/A	No records in buffer					

Collection Depot Data Source: EPA South Australia

National Liquid Fuel Facilities

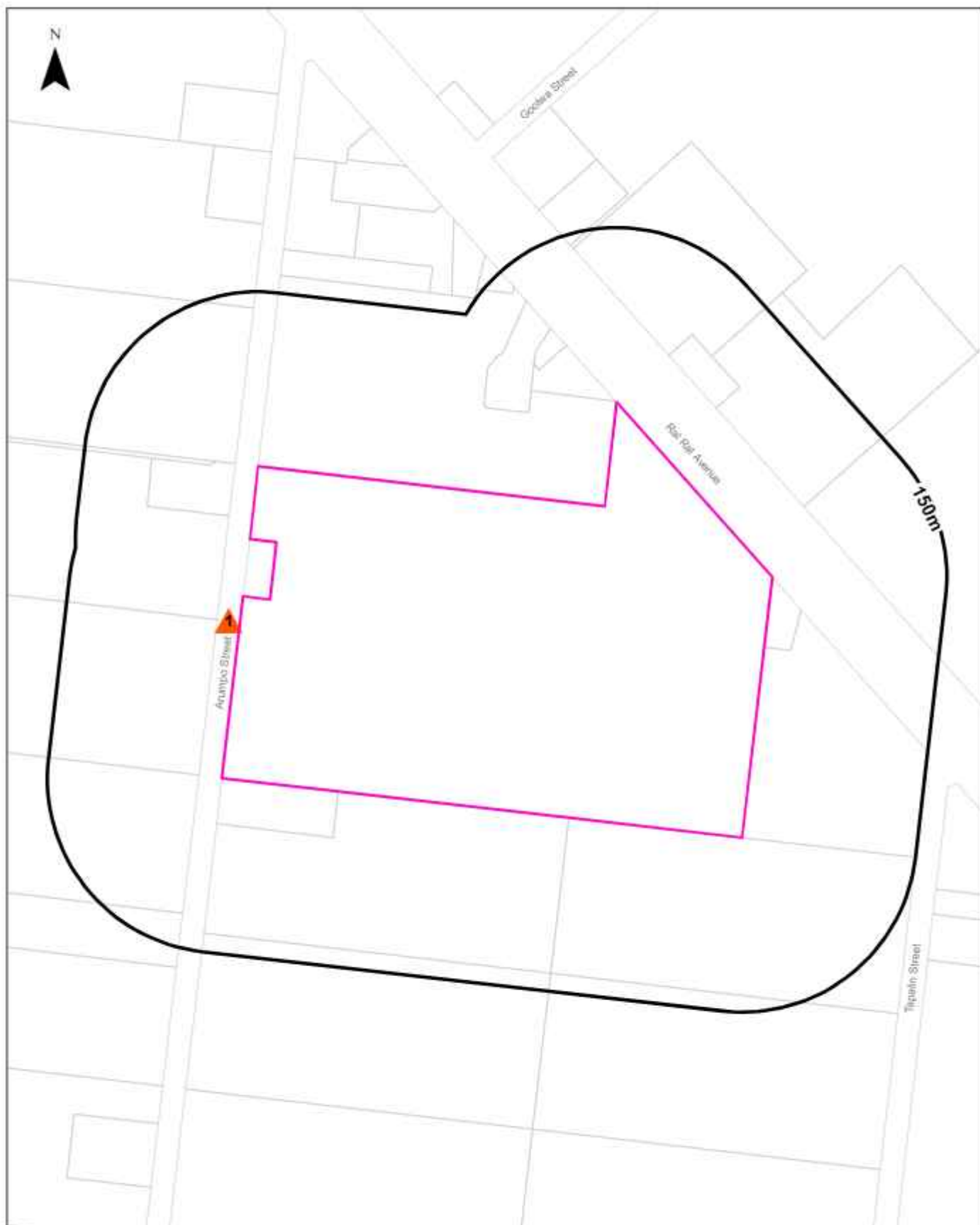
National Liquid Fuel Facilities within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist	Dir
N/A	No records in buffer										

National Liquid Fuel Facilities Data Source: Geoscience Australia
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Historical Business Directories

55 Arumpo Street, Renmark West, SA 5341



Legend

- Site Boundary
- Buffer 150m
- Property Boundary
- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- ▲ Business directory records mapped to a road corridor
- Business directory records mapped to a general area

Scale:



Coordinate System:
GDA 1994 MGA Zone 54

Date: 24 January 2023

Data Sources: Reproduced with permission of UBO and Hardie Grant Media Pty Ltd DO 01/08/2018
Sands & McDougall's Directory - Digitised by State Library Victoria
Property Boundaries - Sourced by Omnalink PTY LTD. ©PSMA Australia Limited 2023
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Historical Business Directories

55 Arumpo Street, Renmark West, SA 5341

Business Directory Records 1910-1991 Premise or Road Intersection Matches

Universal Business Directory and Sands & McDougall Directory records, from years 1991, 1973, 1965, 1955, 1950, 1940, 1930, 1920 & 1910, mapped to a premise or road intersection within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
N/A	No records in buffer						

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Business Directory Records 1910-1991

Road or Area Matches

Universal Business Directory and Sands & McDougall Directory records, from years 1991, 1973, 1965, 1955, 1950, 1940, 1930, 1920 & 1910, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	BUILDERS &/OR BUILDING CONTRACTORS.	Neindorf. E. A, Arumpo St., Renmark	15275	1991	Road Match	8m
	CARPENTERS &/OR JOINERS.	Pearce, R B, Arumpo St., Renmark	15302	1991	Road Match	8m
	BUILDERS &/OR BUILDING CONTRACTORS.	Pearce, R. B, Arumpo St., Renmark	15276	1991	Road Match	8m
	ENGINEERS-AGRICULTURAL.	Wickham Engineering Pty. Ltd, Arumpo St., Renmark	15388	1991	Road Match	8m
	ENGINEERS-GENERAL.	Wickham Engineering Pty. Ltd, Arumpo St., Renmark	15392	1991	Road Match	8m

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Historical Business Directories

55 Arumpo Street, Renmark West, SA 5341

Dry Cleaners, Motor Garages & Service Stations 1930-1991 Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories and Sands & McDougall's Directories, from years 1991, 1973, 1965, 1955, 1950, 1940 & 1930, mapped to a premise or road intersection, within the dataset buffer.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
N/A	No records in buffer						

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Dry Cleaners, Motor Garages & Service Stations 1930-1991 Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories and Sands & McDougall's Directories, from years 1991, 1973, 1965, 1955, 1950, 1940 & 1930, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer					

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Aerial Imagery 2021

55 Arumpo Street, Renmark West, SA 5341



Aerial Imagery 2015

55 Arumpo Street, Renmark West, SA 5341



Aerial Imagery 2011

55 Arumpo Street, Renmark West, SA 5341



Aerial Imagery 2005

55 Arumpo Street, Renmark West, SA 5341



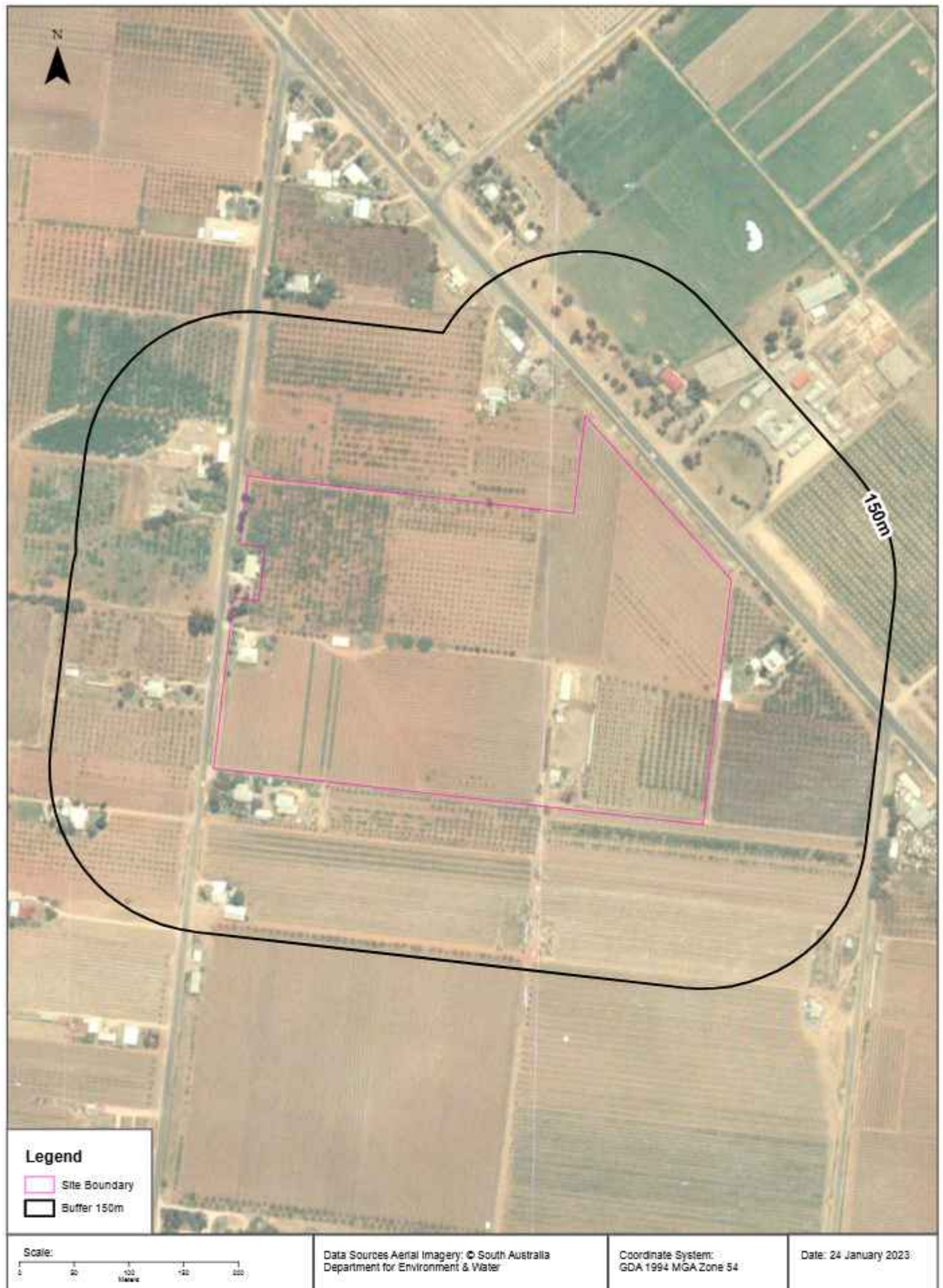
Aerial Imagery 1999

55 Arumpo Street, Renmark West, SA 5341



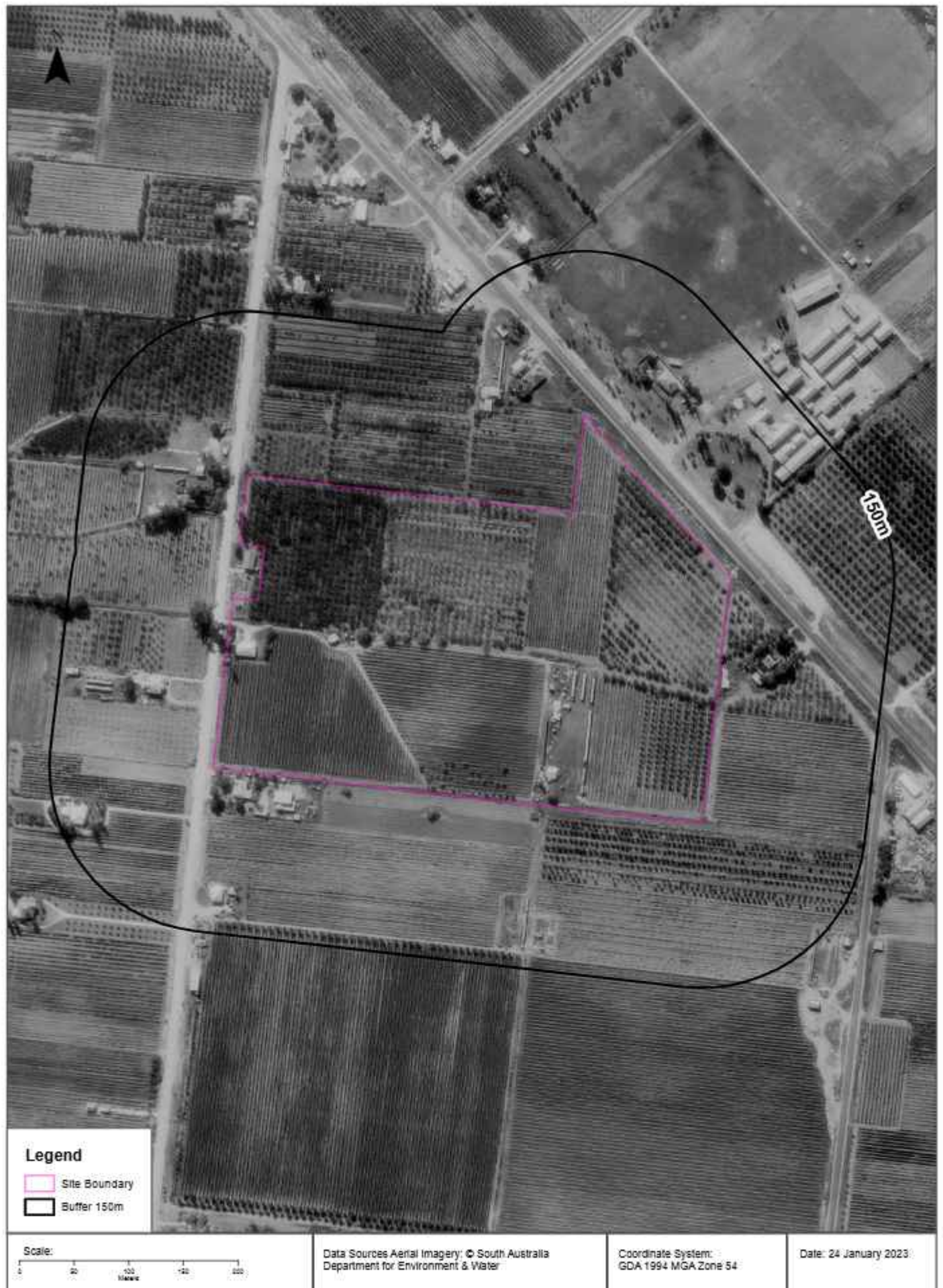
Aerial Imagery 1989

55 Arumpo Street, Renmark West, SA 5341



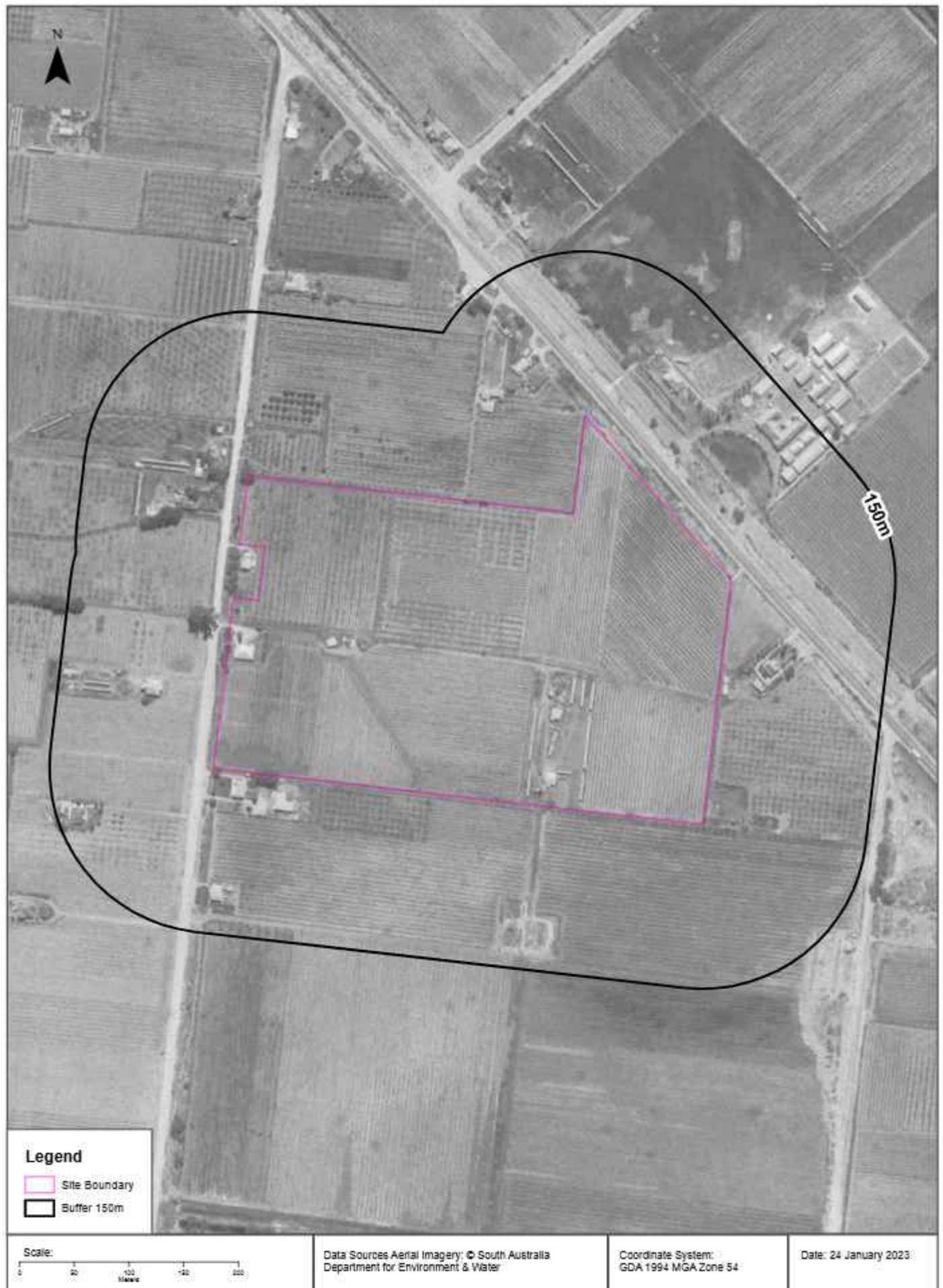
Aerial Imagery 1979

55 Arumpo Street, Renmark West, SA 5341



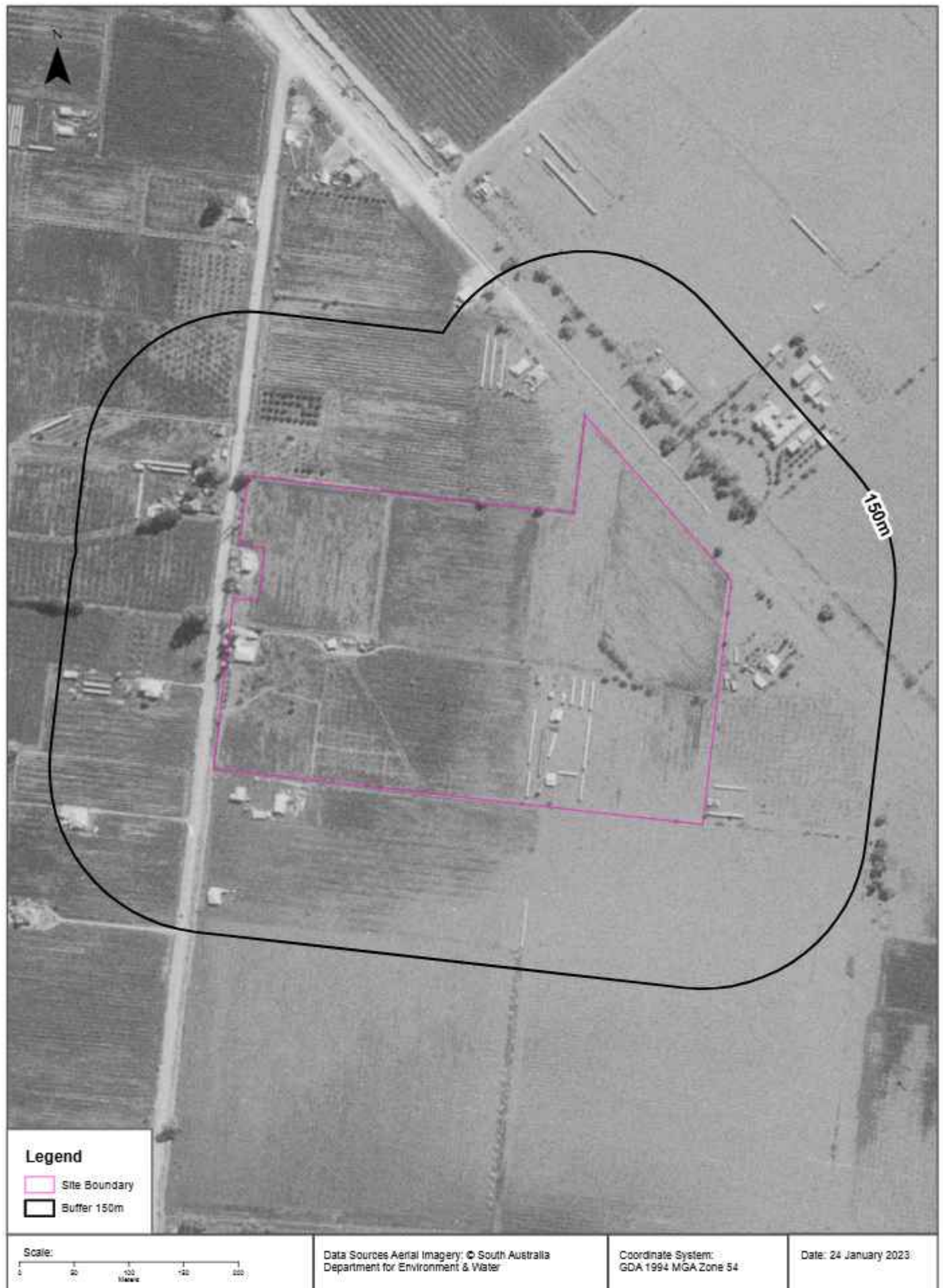
Aerial Imagery 1967

55 Arumpo Street, Renmark West, SA 5341



Aerial Imagery 1956

55 Arumpo Street, Renmark West, SA 5341



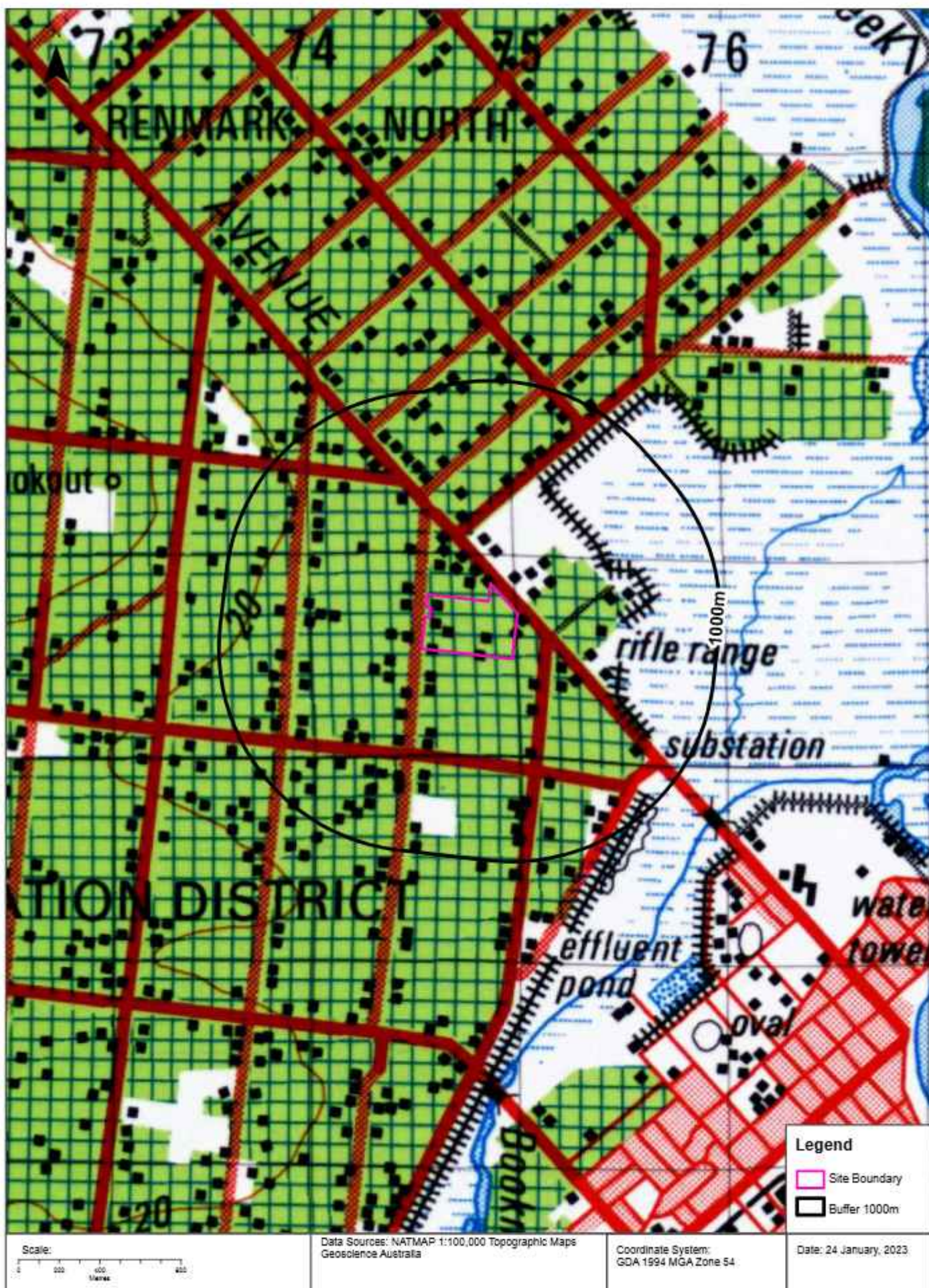
Aerial Imagery 1945

55 Arumpo Street, Renmark West, SA 5341



Historical Map 1990

55 Arumpo Street, Renmark West, SA 5341



Mining

55 Arumpo Street, Renmark West, SA 5341

Mines and Mineral Deposits

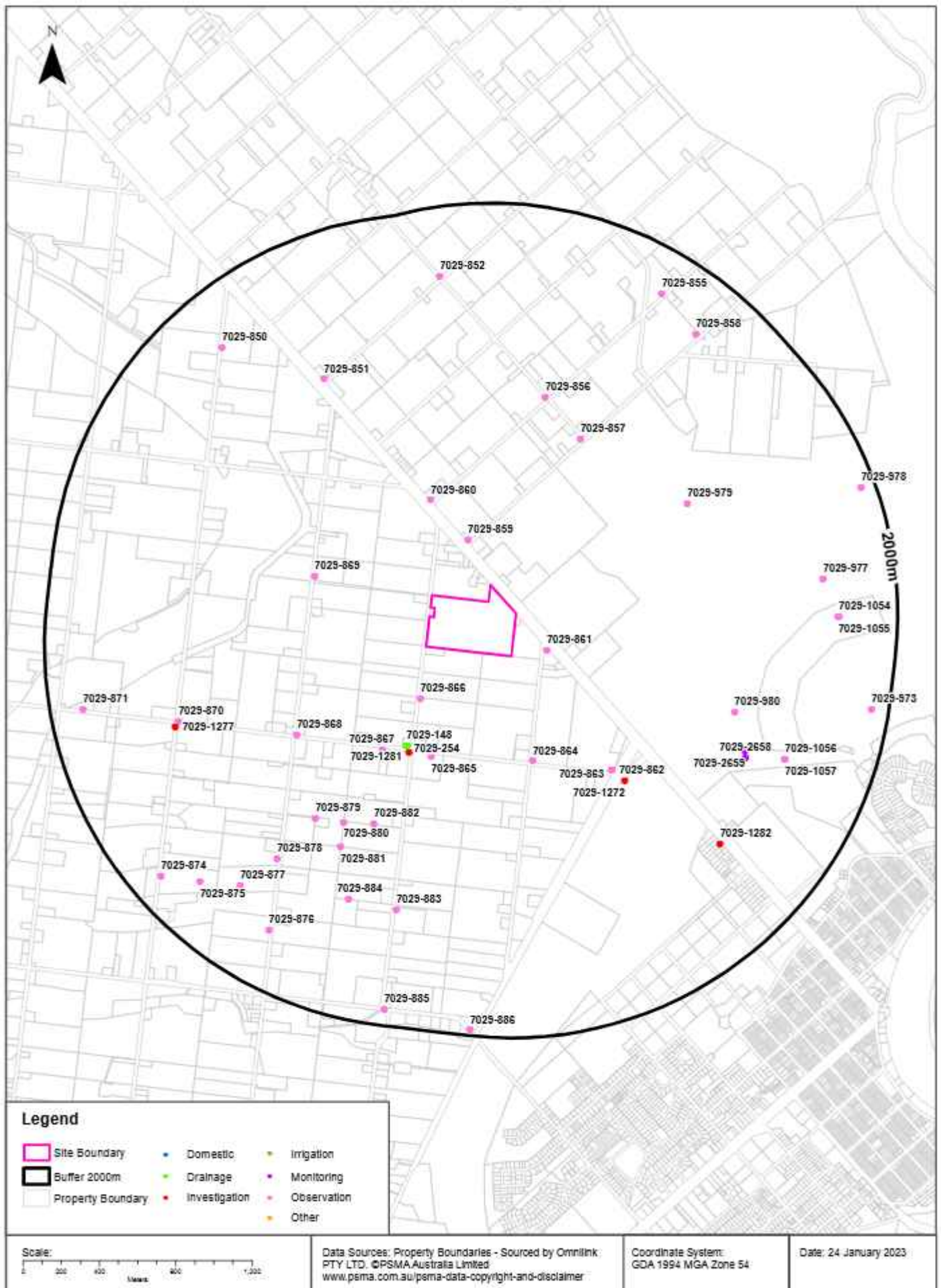
Mines and mineral deposits within the dataset buffer:

Deposit No.	Name	Class	Status	Commodity	Year	Description	Dist	Dir
N/A	No records in buffer							

All Mines and Mineral Deposits Data Source: Dept. of State Development, Resources and Energy - South Australia
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Drillholes

55 Arumpo Street, Renmark West, SA 5341



Groundwater and Drillholes

55 Arumpo Street, Renmark West, SA 5341

Groundwater Aquifers

Groundwater aquifers within the dataset buffer:

Aquifer Code	Description	Distance	Direction
20	Sedimentary Rocks - basins include limestone, often cavernous, sandstone, sand shale and clay	0m	On-site

Groundwater Aquifers Data Source: Dept. of Environment, Water and Natural Resources - South Australia
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Drillholes

Drillholes within the dataset buffer:

Unit No	Drillhole No	Name	Status	Purpose	Drill Date	Max Depth	Ref Elev	Ground Elev	PH	TDS	EC	Yield	DTW	SWL	RSWL	Dist	Dir
7029-881	127678	H 61	Abandoned	Observation	1952-01-01			19.99					2.78	2.78	17.23	184m	East
7029-859	127678	H 59	Abandoned	Observation	1952-01-01			19.99					2.32	2.32	17.67	264m	North
7029-886	127683	H 66	Abandoned	Observation	1952-01-01			19.63					1.53	1.53	18.10	272m	South West
7029-880	127677	H 60	Abandoned	Observation	1952-01-01		21.02						2.90	2.90	18.12	498m	North
7029-148	126985		Backfilled	Drainage	1948-12-17	24.89		19.01		3568.4	5405.2					527m	South West
7029-254	127071	RENMARK IRRIGATION TRUST	Backfilled	Drainage	1948-11-16	71.63		19.01		3869.9	5847.7	15.15				527m	South West
7029-884	127681	H 64	Abandoned	Observation	1953-01-01			18.99					1.64	1.64	17.35	562m	South East
7029-1281	170148	RKMB 18	Damaged	Investigation	1998-08-24	8.00	19.93	20.05		1101.5	1870.0		3.10	3.22	16.83	563m	South West
7029-885	127682	H 65	Abandoned	Observation	1952-01-01			18.73					3.45	3.45	15.28	568m	South
7029-887	127684	H 67	Abandoned	Observation	1952-01-01			18.94					1.45	1.45	17.49	588m	South West
7029-889	127686	H 69	Abandoned	Observation	1952-01-01			23.52					2.73	2.73	20.79	623m	West
7029-882	127679	H 62	Abandoned	Observation	1952-01-01			18.25					2.42	2.42	15.83	795m	South East
7029-883	127680	H 63	Abandoned	Observation	1953-01-01			18.24					1.58	1.58	16.66	795m	South East
7029-888	127685	H 68	Abandoned	Observation	1952-01-01			19.07					1.74	1.74	17.33	818m	South West
7029-1272	170139	RKMB 28	Dry	Investigation	1998-05-26	19.00	19.02	18.53		9661	1652.0		3.17	2.69	15.85	884m	South East
7029-857	127674	H 57	Abandoned	Observation	1952-01-01		19.33						2.46	2.46	16.87	896m	North East
7029-882	127699	H 82	Abandoned	Observation	1952-01-01			18.50					1.78	1.78	16.72	970m	South West
7029-880	127697	H 80		Observation	1952-01-01			18.79					1.72	1.72	17.07	1015m	South West
7029-856	127673	H 56	Abandoned	Observation			19.89						2.30	2.30	17.59	1024m	North

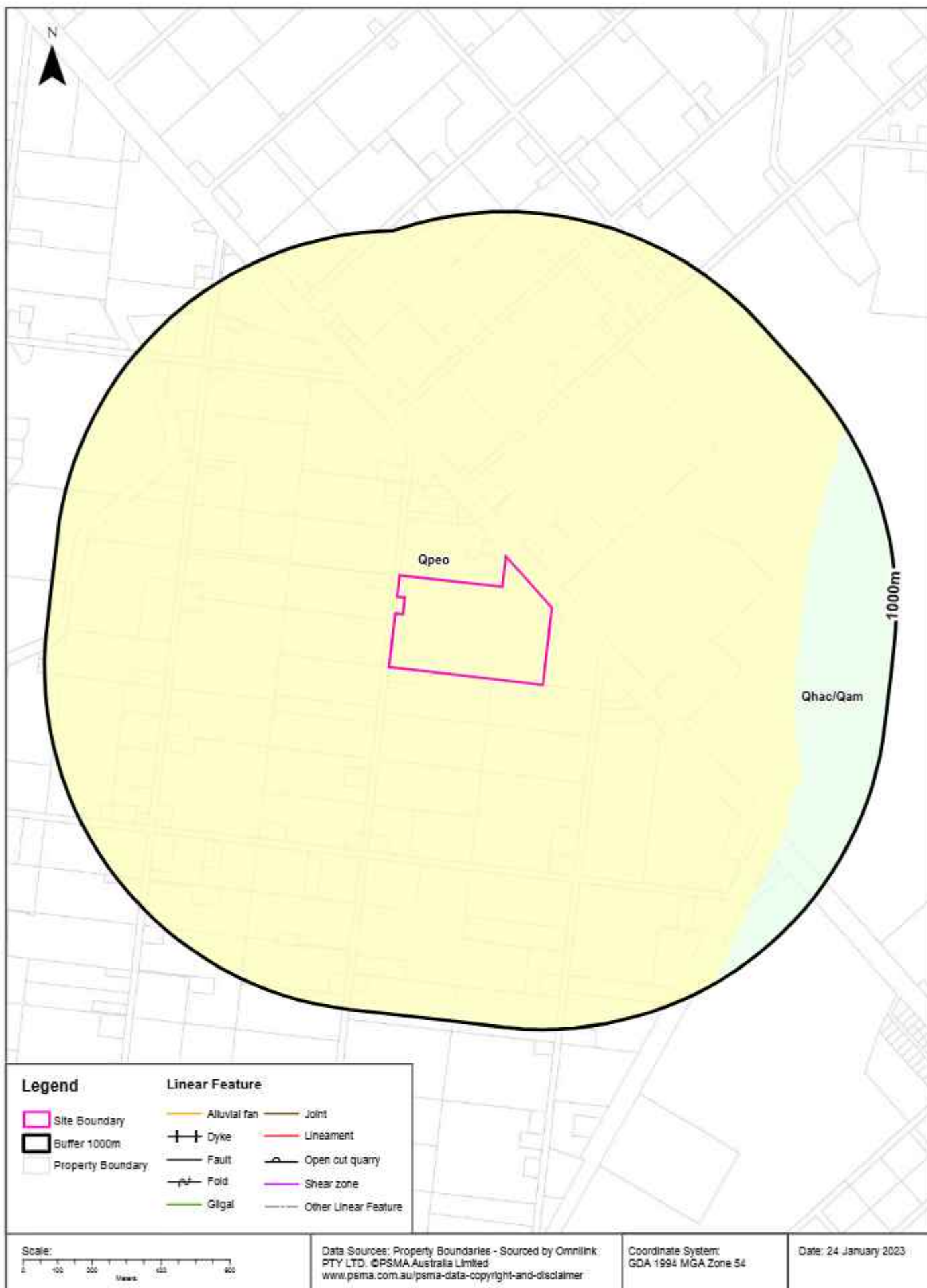
Unit No	Drillhole No	Name	Status	Purpose	Drill Date	Max Depth	Ref Elev	Ground Elev	PH	TDS	EC	Yield	DTW	SWL	RSWL	Dist	Dir
7029-979	127796	M 12		Observation		2.42	18.19	17.59					1.48	0.88	16.71	1067 m	North East
7029-879	127696	H 79	Abandoned	Observation	1952-01-01			19.19					1.72	1.72	17.47	1069 m	South West
7029-881	127698	H 81	Abandoned	Observation	1952-01-01			18.78								1140 m	South West
7029-980	127797	M 13		Observation		4.53	15.78	16.46					0.56	1.24	15.22	1208 m	East
7029-851	127668	H 51	Abandoned	Observation	1952-01-01		19.82						1.53	1.53	18.29	1265 m	North West
7029-2659	269156	BC 2		Monitoring		8.00	17.35			64880	81100		1.94	1.94	15.41	1322 m	South East
7029-2658	269155	BC 1		Monitoring		8.00	17.28			53060	75800		1.81	1.81	15.47	1338 m	South East
7029-870	127687	H 70	Abandoned	Observation	1952-01-01			20.60					2.09	2.09	18.51	1354 m	West
7029-878	127695	H 78	Abandoned	Observation	1952-01-01			19.06					2.79	2.79	16.27	1359 m	South West
7029-1277	170144	RKMB 27	Not Located	Investigation	1998-06-26	19.00	20.34	20.43		7020	12228		0.00	0.09	20.34	1379 m	West
7029-884	127701	H 84	Abandoned	Observation	1952-01-01			18.65					3.64	3.64	15.01	1385 m	South West
7029-883	127700	H 83	Abandoned	Observation	1952-01-01			19.09					2.84	2.84	16.25	1389 m	South
7029-1282	170149	RKMB 19	Not Located	Investigation	1998-06-24	7.00	18.24	18.32		44520	63600		2.60	2.68	15.64	1471 m	South East
7029-1056	127873	JE 6	Uncontrolled Flowing	Observation	1988-05-04	7.00	18.61	16.58		42604	60863		1.07	1.04	15.54	1533 m	South East
7029-1057	127874	JE 6A	Uncontrolled Flowing	Observation	1988-05-04	8.75	18.16	18.24					0.93	1.01	17.23	1533 m	South East
7029-877	127694	H 77	Abandoned	Observation	1952-01-01			19.96					2.52	2.52	17.44	1589 m	South West
7029-977	127784	M 10		Observation		3.47	17.90	17.36					1.92	1.38	15.98	1620 m	East
7029-852	127689	H 52	Abandoned	Observation	1952-01-01		19.65						1.20	1.20	18.45	1640 m	North
7029-1055	127872	JE 5A	Uncontrolled Flowing	Observation	1988-05-04	3.00	17.44	17.07		42000	60000		0.00	-0.37	17.44	1689 m	East
7029-1054	127871	JE 5		Observation	1988-05-04	9.00	17.09	17.08		42604	60863		1.36	1.35	15.73	1691 m	East
7029-876	127693	H 76	Abandoned	Observation	1952-01-01			19.18					2.98	2.98	16.20	1697 m	South West
7029-858	127675	H 58	Abandoned	Observation	1952-01-01		18.86						1.30	1.30	17.56	1698 m	North East
7029-850	127687	H 50	Abandoned	Observation	1952-01-01		19.92						1.76	1.76	18.16	1701 m	North West
7029-875	127692	H 75	Abandoned	Observation	1952-01-01			20.48					1.99	1.99	18.49	1708 m	South West
7029-855	127672	H 55	Abandoned	Observation			20.13						2.21	2.21	17.92	1770 m	North East
7029-871	127688	H 71	Abandoned	Observation	1952-01-01			20.40					2.69	2.69	17.71	1826 m	West
7029-874	127691	H 74	Abandoned	Observation	1952-01-01			20.93					2.46	2.46	18.47	1840 m	South West
7029-973	127790	M 6		Observation		3.62	17.24	16.84					0.77	0.37	16.47	1908 m	East
7029-885	127702	H 85	Abandoned	Observation	1952-01-01			20.16					31.80	31.80	-11.65	1917 m	South
7029-978	127795	M 11		Observation		4.44	17.62	17.11					1.70	1.19	15.92	1923 m	East
7029-888	127703	H 86	Abandoned	Observation	1952-01-01			19.90					3.10	3.10	16.80	1973 m	South

Drillholes Data Source: Dept of Environment, Water and Natural Resources - South Australia

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Geology 1:100,000

55 Arumpo Street, Renmark West, SA 5341



Geology

55 Arumpo Street, Renmark West, SA 5341

Surface Geology 1:100,000

Surface Geology Units within the dataset buffer:

Map Unit Code	Name	Description	Parent Name	Province	Age	Min Age	Max Age	Dist	Dir
Qpeo	Woorinen Formation	Sand, pale reddish-brown silty and clayey quartz, pedogenic carbonate. Aeolian.	Unnamed GIS Unit - see description	MURRAY BASIN	PLEISTOCENE	Holocene	Pleistocene	0m	On-site
Qhao/Qam	Coonambidgal Formation	Coarse-grained, fluvial and finer grained flood plain deposits. Age 6020150, 4080100 BP on C14 at Chowilla.	Unnamed GIS Unit - see description	MURRAY BASIN	HOLOCENE	Holocene	Holocene	721m	East

Geology Data Source: Dept of Environment, Water and Natural Resources - South Australia

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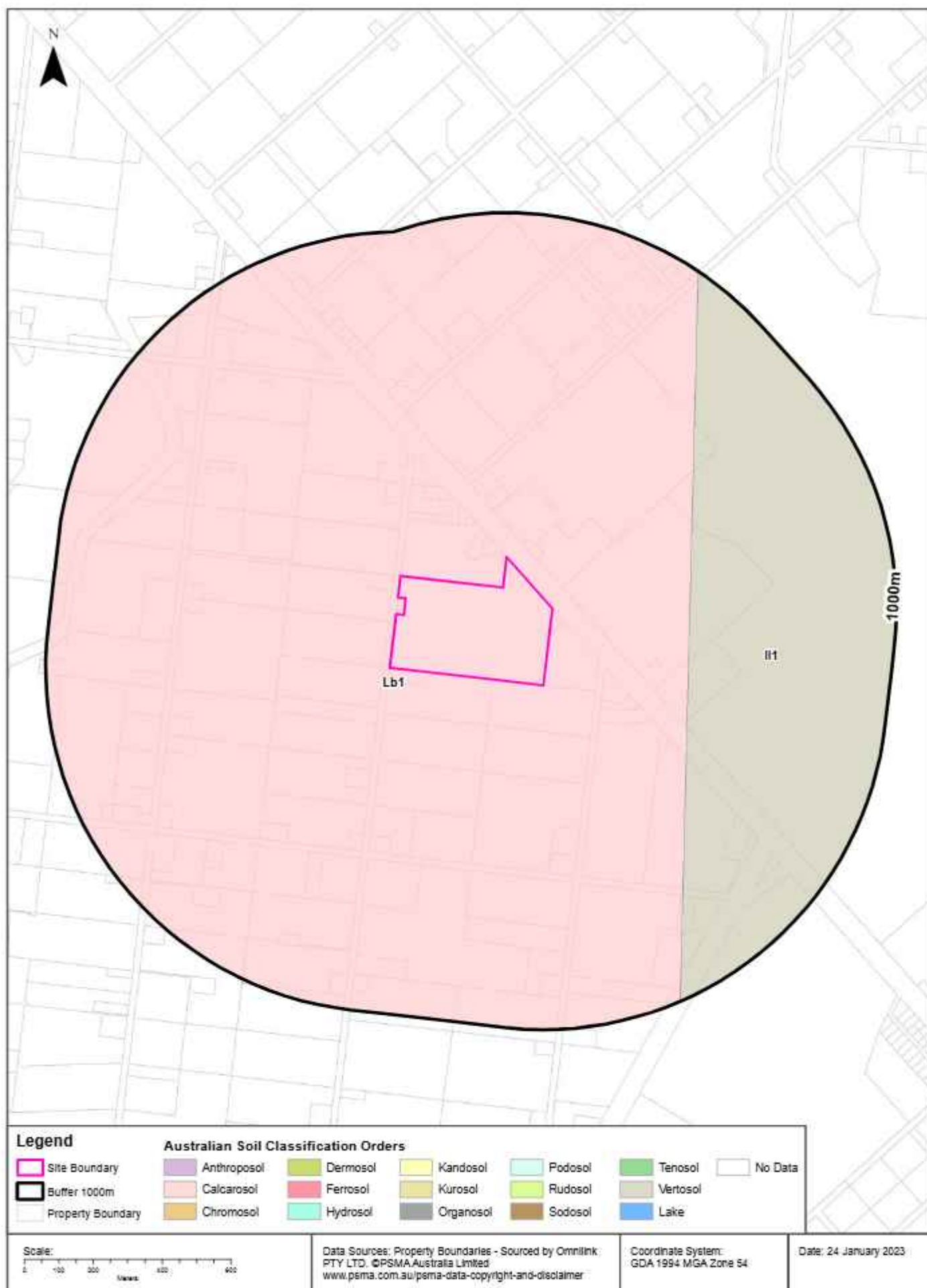
Linear Structures 1:100,000

Linear geological structures within the dataset buffer:

Map Code	Description	Distance	Direction
N/A	No records in buffer		

Geology Data Source: Dept of Environment, Water and Natural Resources - South Australia

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Soils

55 Arumpo Street, Renmark West, SA 5341

Atlas of Australian Soils

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

Map Unit Code	Soil Order	Map Unit Description	Distance	Direction
Lb1	Calcarosol	Plains: grey-brown highly calcareous loamy earths (Gc1.12) in association with crusty loamy soils (Drl.33 and Drl.43) or their eroded remnants.	0m	On-site
li1	Vertosol	Flood-plains, terraces, residual islands, lakes: flood-plains, lake bottoms, and some terraces of cracking yellow-grey clays (Ug5.28). Associated are undulating to hillocky areas along former, and present, drainage- ways of (Ug5.28) and various unclassified and mostly undescribed (Uf) and (Um) soils; "islands" of dunes and sand sheets of brown sands (Uc5.13); and residual islands of brown calcareous earths (Gc1) (e.g. of unit DD3) and/or crusty loamy soils (Dr1.33) (e.g. of unit Nb4). The above description is slightly expanded from that given in Sheet 1, but data remain limited.	399m	East

Atlas of Australian Soils Data Source: CSIRO

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Soil Types

55 Arumpo Street, Renmark West, SA 5341



Soils

55 Arumpo Street, Renmark West, SA 5341

Soil Types

Soil types within the dataset buffer:

Map category code	Soil type description	Distance	Direction
M2	Deep friable gradational clay loam	0m	On-site
H2	Siliceous sand	407m	North West
E3	Brown or grey cracking clay	425m	East

Soil Types Data Source: Dept of Environment, Water and Natural Resources - South Australia

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Acid Sulfate Soils

55 Arumpo Street, Renmark West, SA 5341

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

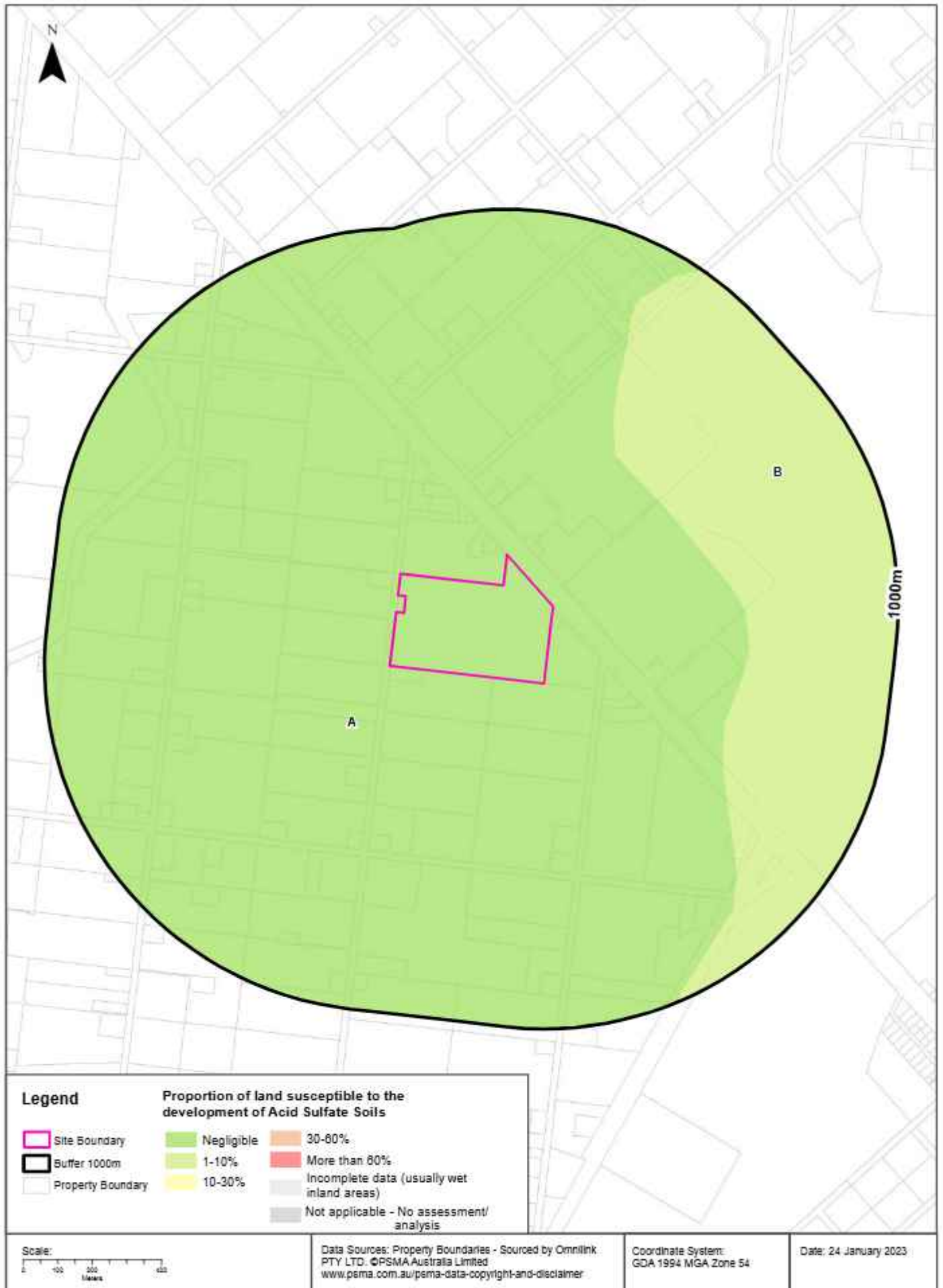
Class	Description	Distance	Direction
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m	On-site

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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Acid Sulfate Soils Potential

55 Arumpo Street, Renmark West, SA 5341



Acid Sulfate Soils

55 Arumpo Street, Renmark West, SA 5341

Acid Sulfate Soil Potential

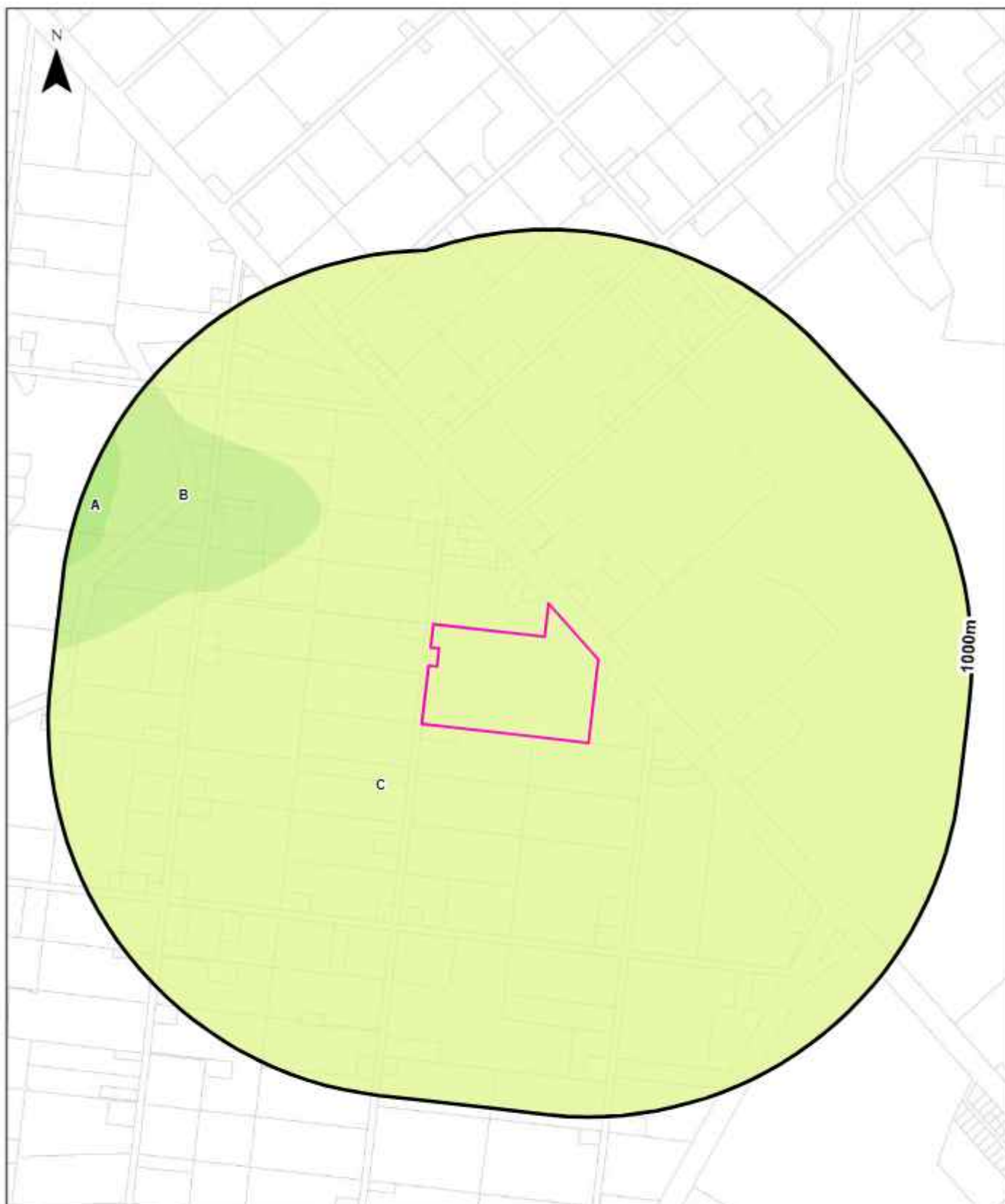
Acid sulfate soil potential within the dataset buffer:

Map category code	Proportion of land susceptible to the development of acid sulfate soils	Distance	Direction
A	Negligible	0m	On-site
B	1–10%	425m	East

Acid Sulfate Soils Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Soil Salinity - Watertable Induced

55 Arumpo Street, Renmark West, SA 5341



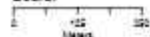
Legend

- Site Boundary
- Buffer 1000m
- Property Boundary

Severity of watertable induced soil salinity

- | | | |
|---|--|---|
| A. Negligible | D. Moderately high | G. Very high to extreme |
| B. Moderately low | E. Moderately high to high | X. Not applicable |
| C. Moderate | F. High | |

Scale:



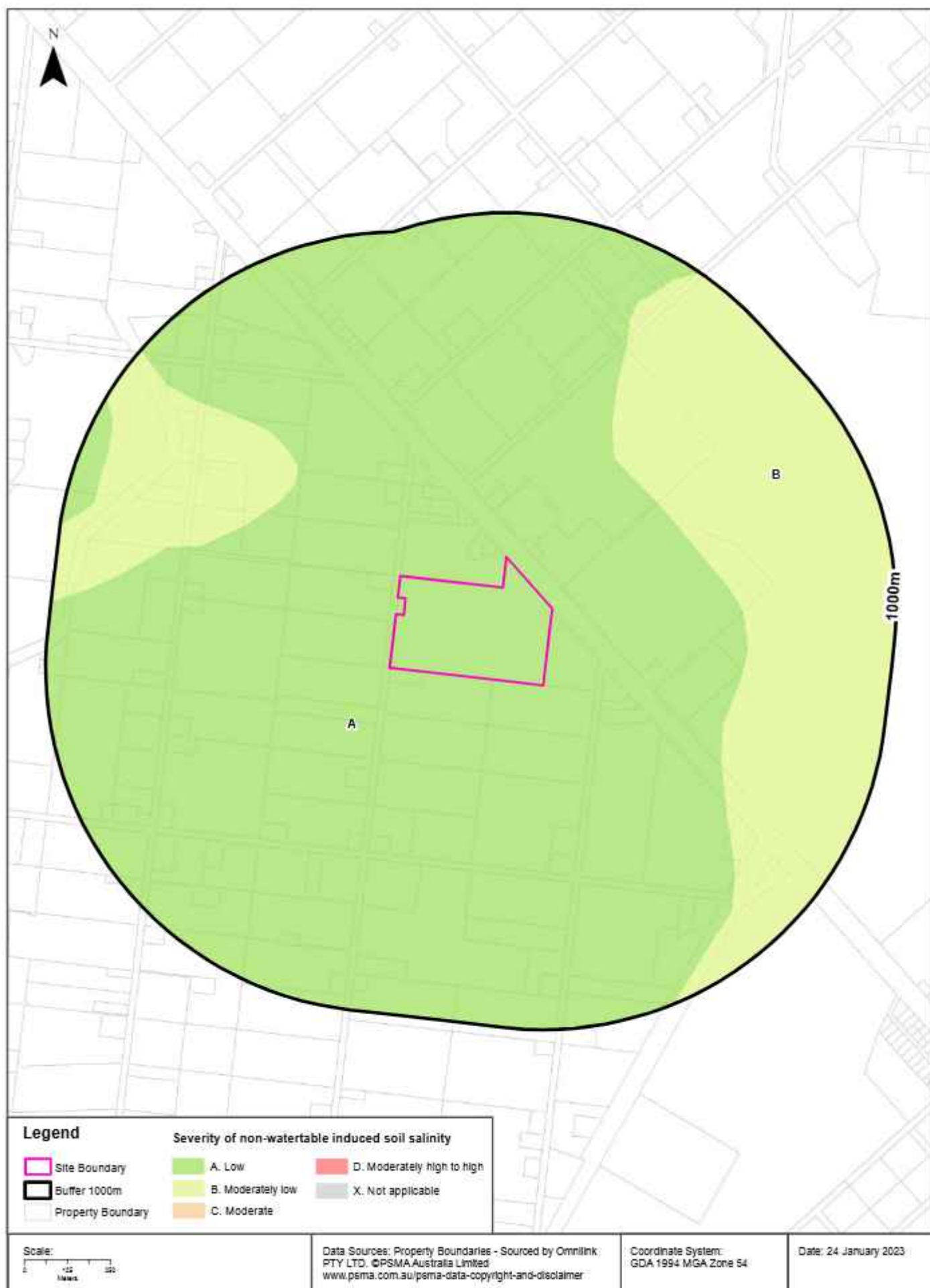
Data Sources: Property Boundaries - Sourced by Omnilink
PTY LTD. ©PSMA Australia Limited
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Coordinate System:
GDA 1994 MGA Zone 54

Date: 24 January 2023

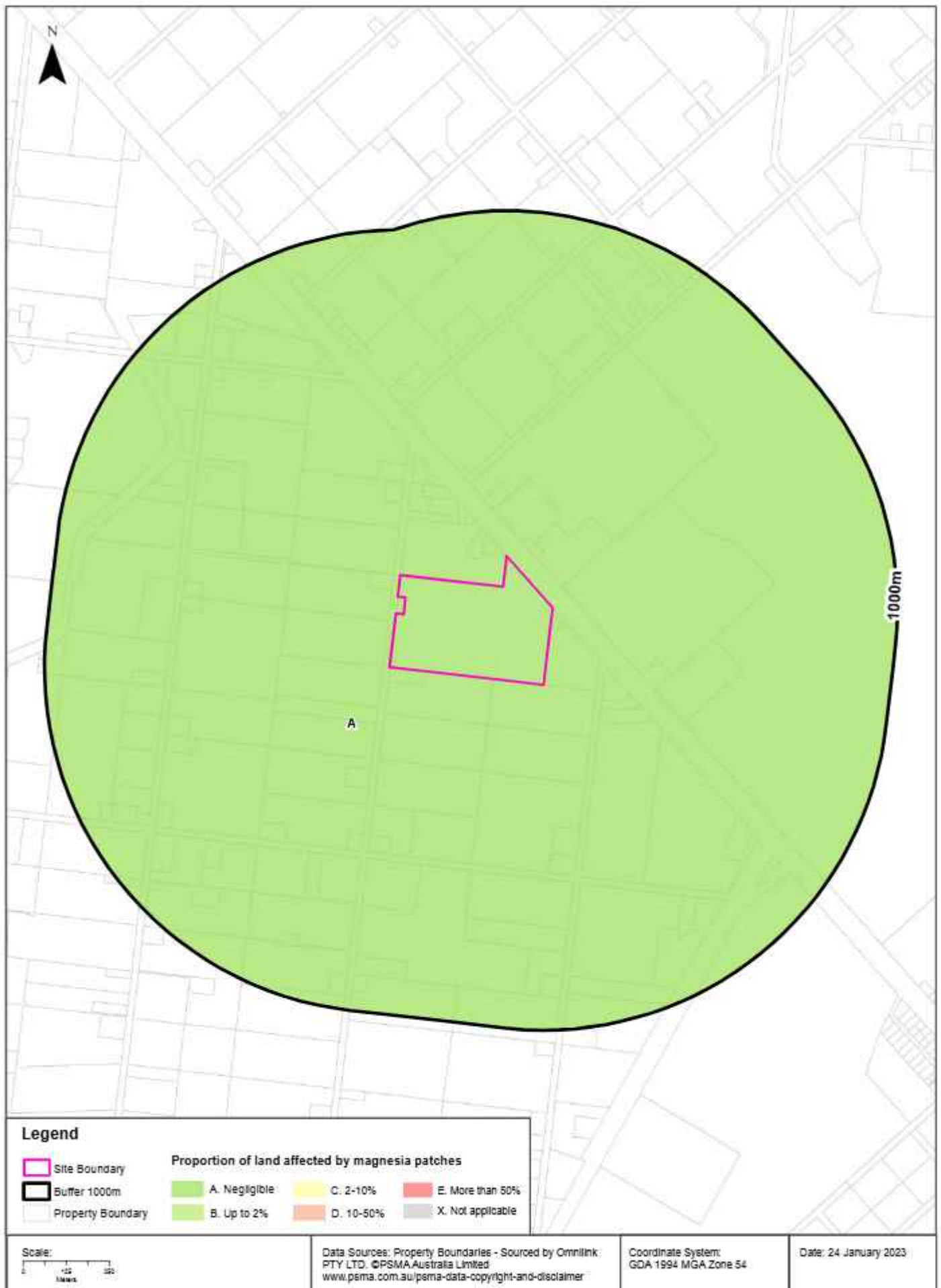
Soil Salinity - Non-watertable

55 Arumpo Street, Renmark West, SA 5341



Soil Salinity - Non-watertable (Magnesia Patches)

55 Arumpo Street, Renmark West, SA 5341



Soil Salinity

55 Arumpo Street, Renmark West, SA 5341

Soil Salinity - Watertable Induced

Watertable induced soil salinity within the dataset buffer:

Map category code	Severity description	Distance	Direction
C	Moderate salinity, or 2-10% of land affected by highly saline seepage	0m	On-site
B	Moderately low salinity, or less than 2% of land affected by highly saline seepage	407m	North West
A	Negligible	916m	North West

Salinity Watertable Induced Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Soil Salinity - Non-Watertable

Non-watertable soil salinity within the dataset buffer:

Map category code	Severity description	Surface ECe (dS/m)	Subsoil ECe (dS/m)	Distance	Direction
A	Low	<2	<4	0m	On-site
B	Moderately low	2-4	4-8	407m	North West

Salinity Non-Watertable Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Soil Salinity - Non-Watertable (Magnesia Patches)

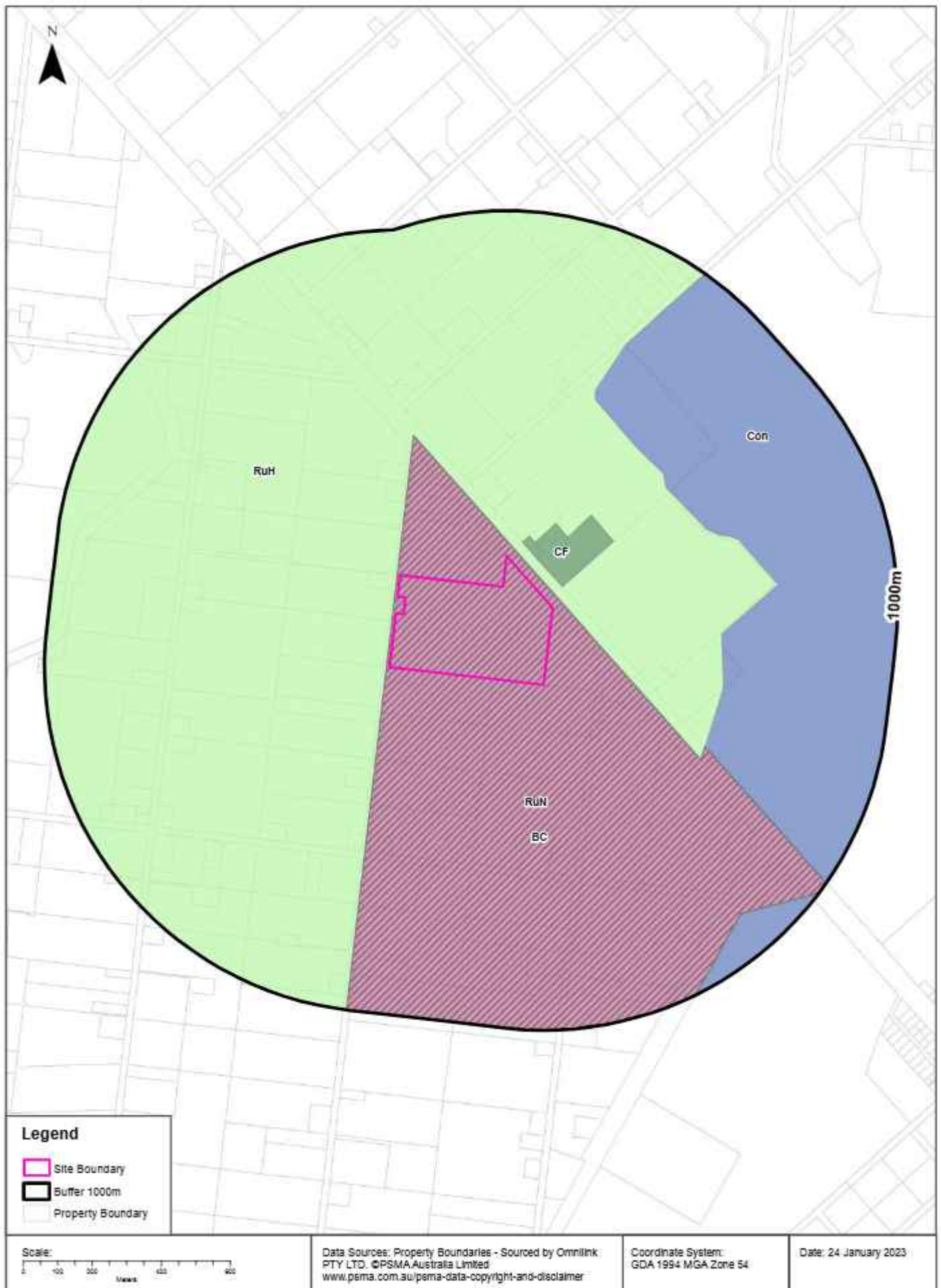
Magnesia patches within the dataset buffer:

Map category code	Proportion of land affected by magnesia patches	Distance	Direction
A	Negligible	0m	On-site

Salinity Non-Watertable (Magnesia Patches) Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Planning and Design Code Zones

55 Arumpo Street, Renmark West, SA 5341



Planning

55 Arumpo Street, Renmark West, SA 5341

Planning and Design Code - Zones

Planning and Design Code zones within the dataset buffer:

Map Id	Zone Code	Zone Name	Legal Start Date	Status	Distance	Direction
RuN	Z5408	Rural Neighbourhood	19/03/2021	0	0m	On-site
RuH	Z5412	Rural Horticulture	19/03/2021	0	10m	North West
CF	Z0903	Community Facilities	19/03/2021	0	62m	North East
Con	Z0904	Conservation	19/03/2021	0	477m	East

Planning and Design Code Zones Data Source: Attorney-General's Department - South Australia

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Planning and Design Code - Subzones

Planning and Design Code subzones within the dataset buffer:

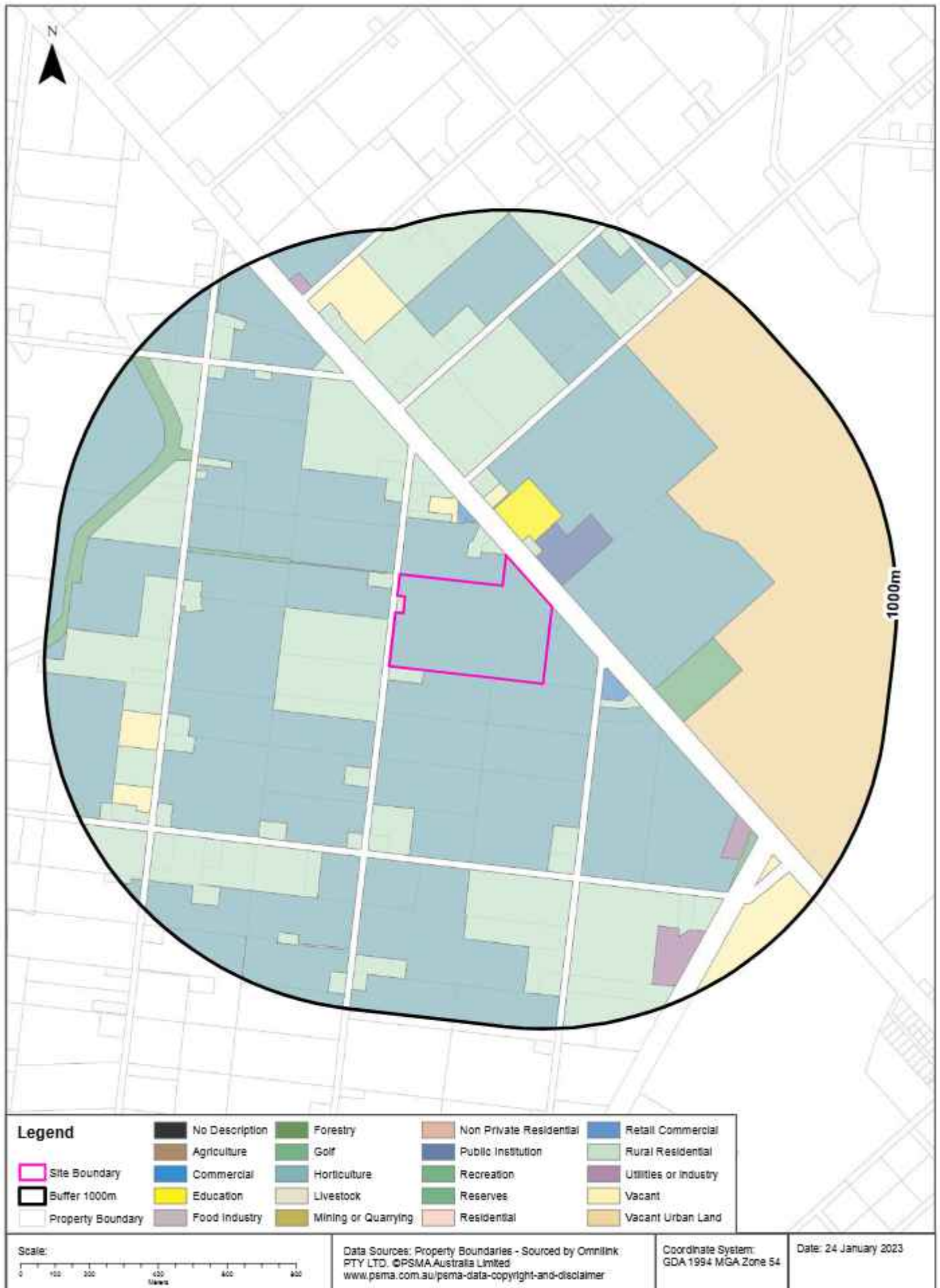
Map Id	Subzone Code	Subzone Name	Legal Start Date	Status	Distance	Direction
BC	S0802	Bookmark Creek	19/03/2021	0	0m	On-site

Planning and Design Code Subzones Data Source: Attorney-General's Department - South Australia

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Land Use Generalised

55 Arumpo Street, Renmark West, SA 5341



Planning

55 Arumpo Street, Renmark West, SA 5341

Land Use Generalised

Land use classes within the dataset buffer:

Description	Distance	Direction
Horticulture	0m	On-site
Rural Residential	0m	South West
Reserves	37m	West
Education	60m	North East
Public Institution	60m	North East
Retail Commercial	129m	North
Vacant	141m	North
Recreation	322m	East
Vacant Urban Land	422m	East
Utilities or Industry	677m	South East

Land Use Generalised Data Source: Dept of Planning, Transport and Infrastructure - South Australia
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Heritage

55 Arumpo Street, Renmark West, SA 5341

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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National Heritage List

What are the National Heritage List Items located within the dataset buffer?

Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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State Heritage Areas

State Heritage Areas within the dataset buffer:

Heritage Id	Name	Distance	Direction
N/A	No records in buffer		

Heritage Areas Data Source: Dept of Environment, Water and Natural Resources - South Australia
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SA Heritage Places

SA Heritage Places within the dataset buffer:

Heritage No	Location	Heritage Class	Australian Class	Details	Auth Date	Distance	Direction
N/A	No records in buffer						

Heritage Places Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Aboriginal Land

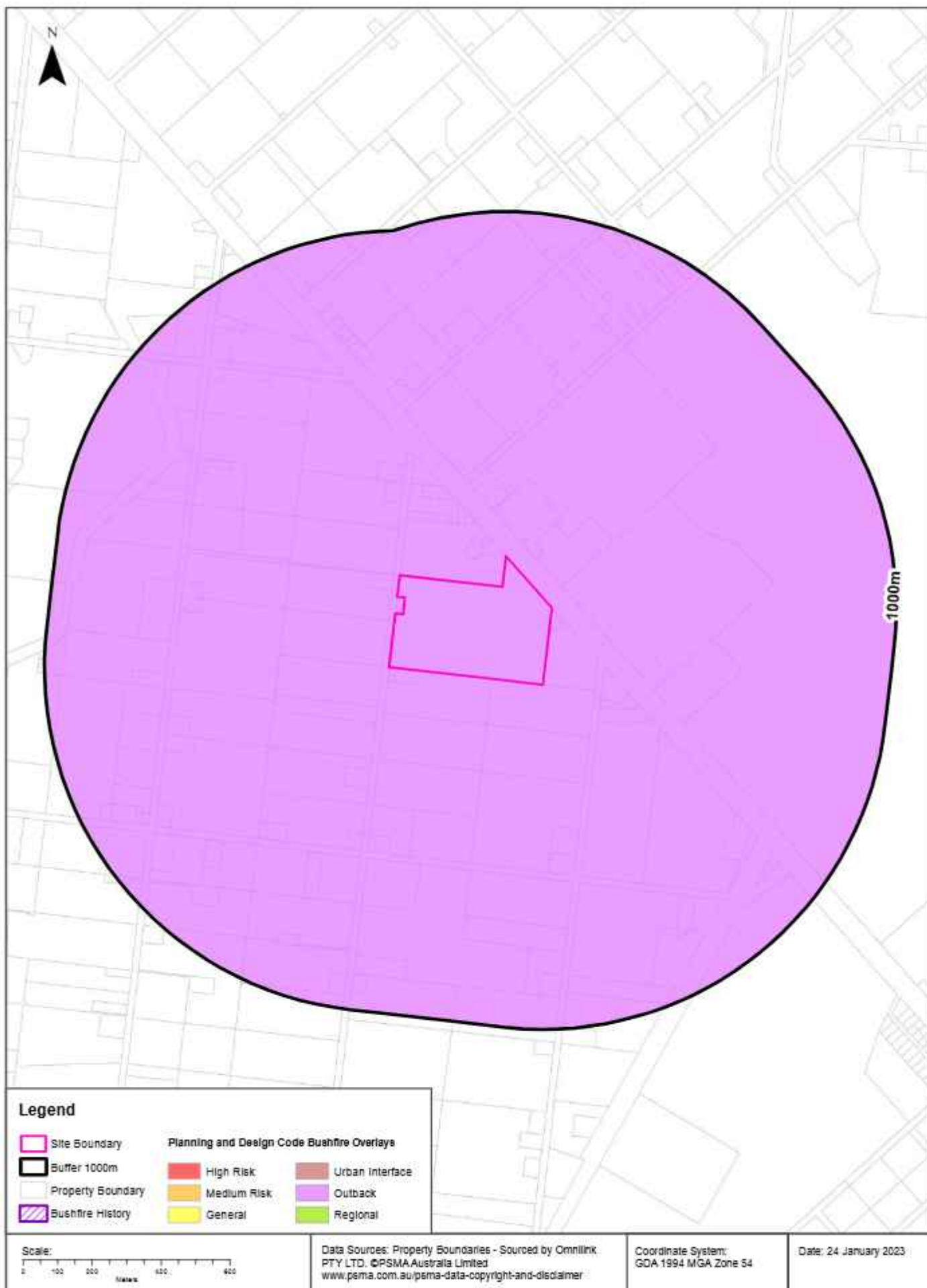
Aboriginal Land within the dataset buffer:

Map Id	Grant Date	Address	Locality	Description	Title	Distance	Direction
N/A	No records in buffer						

Aboriginal Land Data Source: Department of State Development, Resources and Energy - South Australia

Natural Hazards - Bushfire

55 Arumpo Street, Renmark West, SA 5341



Natural Hazards

55 Arumpo Street, Renmark West, SA 5341

Bushfire Overlays

Bushfire Overlays from the Planning and Design Code within the dataset buffer:

Overlay Id	Name	Description	Legal Start Date	Legal End Date	Distance	Direction
O2408	Hazards (Bushfire - Outback)	The Hazards (Bushfire - Outback) Overlay seeks to ensure development is located to minimise the threat and impact of bushfires on life and property and facilitate access for emergency service vehicles in outback areas.	19/03/2021		0m	On-site

Bushfire Overlays Data Source: Attorney-General's Department - South Australia

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Bushfires and Prescribed Burns History

Bushfires and prescribed burns within the dataset buffer:

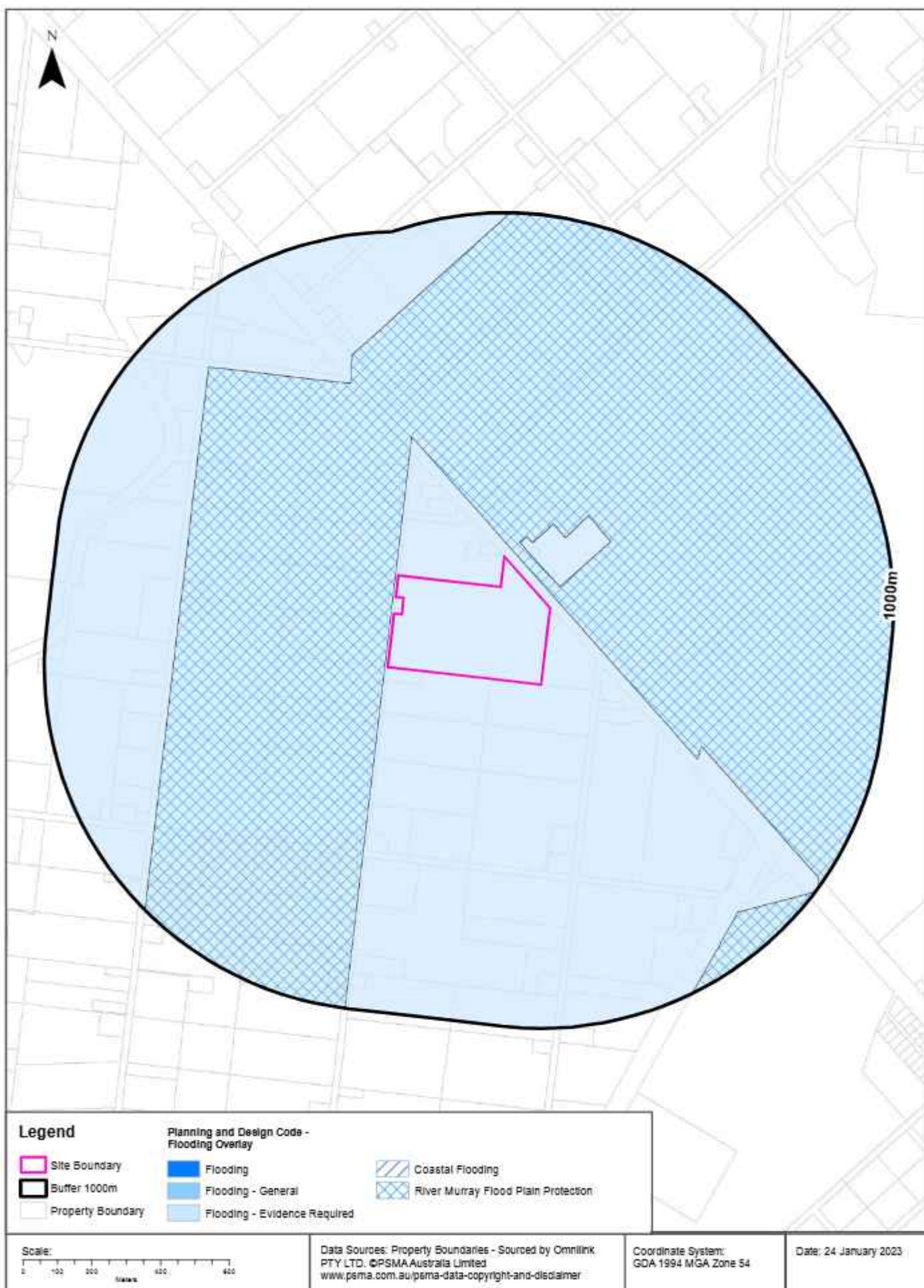
Map Id	Incident No.	Incident Name	Incident Type	Date of Fire	Area of Fire (ha)	Distance	Direction
N/A	No records in buffer						

Bushfires and Prescribed Burns History Data Source: Dept of Environment, Water and Natural Resources - South Australia

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Natural Hazards - Flood

55 Arumpo Street, Renmark West, SA 5341



Natural Hazards

55 Arumpo Street, Renmark West, SA 5341

Flooding Overlays

Flooding Overlays from the Planning and Design Code within the dataset buffer:

Overlay Id	Name	Description	Legal Start	Legal End	Distance	Direction
O2416	Hazards (Flooding - Evidence Required)	The Hazards (Flooding - Evidence Required) Overlay adopts a precautionary approach to mitigate potential impacts of potential flood risk through appropriate siting and design of development.	10/11/2022		0m	On-site
O5402	River Murray Flood Plain Protection Area	The River Murray Flood Plain Protection Area Overlay seeks to conserve and enhance the riverine environment, provide for environmental water flows, protect life and property against flood risk and recognise the riverine environment as an important tourism	19/03/2021		10m	North East

Flooding Overlays Data Source: Attorney-General's Department - South Australia

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Ecological Constraints

55 Arumpo Street, Renmark West, SA 5341

Groundwater Dependent Ecosystems Atlas

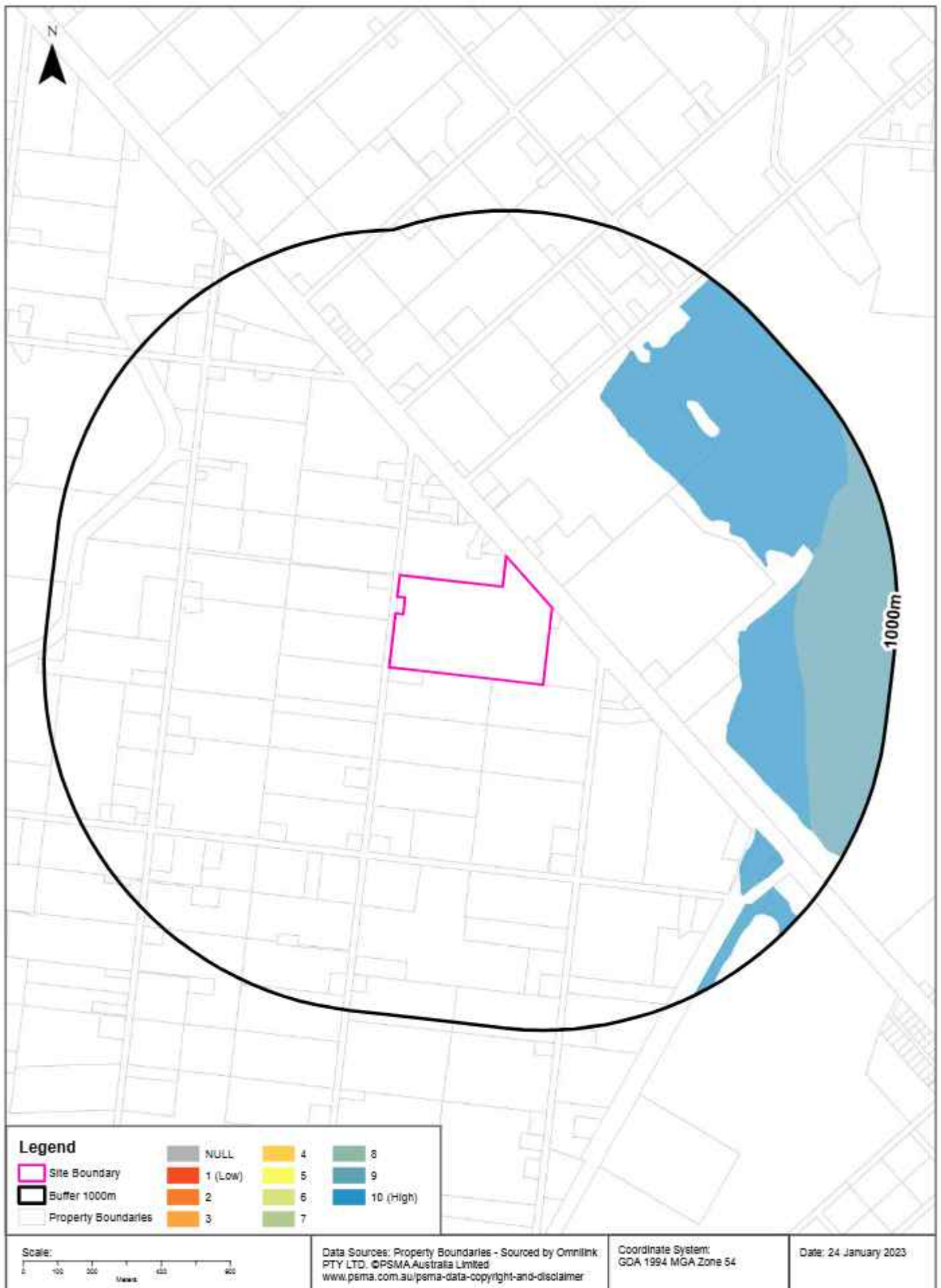
Type	Name	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial		High potential GDE - from national assessment	Floodplain and lunette lakes.	Vegetation		497m	North East

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology

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Ecological Constraints - Inflow Dependent Ecosystems Likelihood

55 Arumpo Street, Renmark West, SA 5341



Ecological Constraints

55 Arumpo Street, Renmark West, SA 5341

Inflow Dependent Ecosystems Likelihood

Type	Name	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial		10	Floodplain and lunette lakes.	Vegetation		497m	North East
Terrestrial		9	Floodplain and lunette lakes.	Vegetation		701m	East

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

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Ecological Constraints

55 Arumpo Street, Renmark West, SA 5341

Ramsar Wetlands

What Ramsar wetland areas exist within the dataset buffer?

Wetland	Distance	Direction
No records in buffer		

Ramsar Wetlands Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading "LC" or "LocConf". These codes lookup to the following location confidences:

LC Code	Location Confidence
Premise Match	Georeferenced to the site location / premise or part of site
Area Match	Georeferenced to an approximate or general area
Road Match	Georeferenced to a road or rail corridor
Road Intersection	Georeferenced to a road intersection
Buffered Point	A point feature buffered to x metres
Adjacent Match	Land adjacent to a georeferenced feature
Network of Features	Georeferenced to a network of features
Suburb Match	Georeferenced to a suburb boundary
As Supplied	Spatial data supplied by provider

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Telephone: (08) 8204 2026
Email: epassection7@sa.gov.au

Contact: Public Register
Telephone: (08) 8204 9128
Email: epa.publicregister@sa.gov.au

31 January, 2023

EPA STATEMENT TO FORM 1 - CONTRACTS FOR SALE OF LAND OR BUSINESS

The EPA provides this statement to assist the vendor meet its obligations under section 7(1)(b) of the *Land and Business (Sale and Conveyancing) Act 1994*. A response to the questions prescribed in Schedule 1-Contracts for sale of land or business-forms (Divisions 1 and 2) of the *Land and Business (Sale and Conveyancing) Act 1994* is provided in relation to the land.

I refer to your enquiry concerning the parcel of land comprised in

Title Reference CT Volume 6160 Folio 537
Address 55 Arumpo Street, RENMARK WEST SA 5341

Schedule – Division 1 – *Land and Business (Sale and Conveyancing) Regulations 2010*

PARTICULARS OF MORTGAGES, CHARGES AND PRESCRIBED ENCUMBRANCES AFFECTING THE LAND

8. *Environment Protection Act 1993*

Does the EPA hold any of the following details relating to the *Environment Protection Act 1993*:

8.1	Section 59 - Environment performance agreement that is registered in relation to the land.	NO
8.2	Section 93 - Environment protection order that is registered in relation to the land.	NO
8.3	Section 93A - Environment protection order relating to cessation of activity that is registered in relation to the land.	NO
8.4	Section 99 - Clean-up order that is registered in relation to the land.	NO
8.5	Section 100 - Clean-up authorisation that is registered in relation to the land.	NO
8.6	Section 103H - Site contamination assessment order that is registered in relation to the land.	NO
8.7	Section 103J - Site remediation order that is registered in relation to the land.	NO

8.8	Section 103N - Notice of declaration of special management area in relation to the land (due to possible existence of site contamination).	NO
8.9	Section 103P - Notation of site contamination audit report in relation to the land.	NO
8.10	Section 103S - Notice of prohibition or restriction on taking water affected by site contamination in relation to the land.	NO

Schedule – Division 2 – *Land and Business (Sale and Conveyancing) Regulations 2010*

PARTICULARS RELATING TO ENVIRONMENT PROTECTION

3-Licences and exemptions recorded by EPA in public register

Does the EPA hold any of the following details in the public register:

a)	details of a current licence issued under Part 6 of the <i>Environment Protection Act 1993</i> to conduct any prescribed activity of environmental significance under Schedule 1 of that Act at the land?	NO
b)	details of a licence no longer in force issued under Part 6 of the <i>Environment Protection Act 1993</i> to conduct any prescribed activity of environmental significance under Schedule 1 of that Act at the land?	NO
c)	details of a current exemption issued under Part 6 of the <i>Environment Protection Act 1993</i> from the application of a specified provision of that Act in relation to an activity carried on at the land?	NO
d)	details of an exemption no longer in force issued under Part 6 of the <i>Environment Protection Act 1993</i> from the application of a specified provision of that Act in relation to an activity carried on at the land?	NO
e)	details of a licence issued under the repealed <i>South Australian Waste Management Commission Act 1979</i> to operate a waste depot at the land?	NO
f)	details of a licence issued under the repealed <i>Waste Management Act 1987</i> to operate a waste depot at the land?	NO
g)	details of a licence issued under the repealed <i>South Australian Waste Management Commission Act 1979</i> to produce waste of a prescribed kind (within the meaning of that Act) at the land?	NO
h)	details of a licence issued under the repealed <i>Waste Management Act 1987</i> to produce prescribed waste (within the meaning of that Act) at the land?	NO

4-Pollution and site contamination on the land - details recorded by the EPA in public register

Does the EPA hold any of the following details in the public register in relation to the land or part of the land:

a)	details of serious or material environmental harm caused or threatened in the course of an activity (whether or not notified under section 83 of the <i>Environment Protection Act 1993</i>)?	NO
----	--	----

b)	details of site contamination notified to the EPA under section 83A of the <i>Environment Protection Act 1993</i> ?	NO
c)	a copy of a report of an environmental assessment (whether prepared by the EPA or some other person or body and whether or not required under legislation) that forms part of the information required to be recorded in the public register?	NO
d)	a copy of a site contamination audit report?	NO
e)	details of an agreement for the exclusion or limitation of liability for site contamination to which section 103E of the <i>Environment Protection Act 1993</i> applies?	NO
f)	details of an agreement entered into with the EPA relating to an approved voluntary site contamination assessment proposal under section 103I of the <i>Environment Protection Act 1993</i> ?	NO
g)	details of an agreement entered into with the EPA relating to an approved voluntary site remediation proposal under section 103K of the <i>Environment Protection Act 1993</i> ?	NO
h)	details of a notification under section 103Z(1) of the <i>Environment Protection Act 1993</i> relating to the commencement of a site contamination audit?	NO
i)	details of a notification under section 103Z(2) of the <i>Environment Protection Act 1993</i> relating to the termination before completion of a site contamination audit?	NO
j)	details of records, held by the former <i>South Australian Waste Management Commission</i> under the repealed <i>Waste Management Act 1987</i> , of waste (within the meaning of that Act) having been deposited on the land between 1 January 1983 and 30 April 1995?	NO

5-Pollution and site contamination on the land - other details held by EPA

Does the EPA hold any of the following details in relation to the land or part of the land:

a)	a copy of a report known as a "Health Commission Report" prepared by or on behalf of the <i>South Australian Health Commission</i> (under the repealed <i>South Australian Health Commission Act 1976</i>)?	NO
b)	details (which may include a report of an environmental assessment) relevant to an agreement entered into with the EPA relating to an approved voluntary site contamination assessment proposal under section 103I of the <i>Environment Protection Act 1993</i> ?	NO
c)	details (which may include a report of an environmental assessment) relevant to an agreement entered into with the EPA relating to an approved voluntary site remediation proposal under section 103K of the <i>Environment Protection Act 1993</i> ?	NO
d)	a copy of a pre-1 July 2009 site audit report?	NO
e)	details relating to the termination before completion of a pre-1 July 2009 site audit?	NO

All care and diligence has been taken to access the above information from available records. Historical records provided to the EPA concerning matters arising prior to 1 May 1995 are limited and may not be accurate or complete.



Appendix C – Certificates Of Title

Certificate of Title

Title Reference: CT 6160/537
Status: CURRENT
Parent Title(s): CT 6138/649, CT 6138/650
Dealing(s) Creating Title: T:N 12349782
Title Issued: 03/08/2015
Edition: 1

Dealings

No lodged Dealings found.



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6160 Folio 537

Parent Title(s) CT 6138/649, CT 6138/650
Creating Dealing(s) T:N 12349782
Title Issued 03/08/2015 Edition 1 Edition Issued 03/08/2015

Estate Type

FEE SIMPLE

Registered Proprietor

PETER SPANOS
BASILIKE ISMENE SPANOS
OF ARUMPO STREET RENMARK SA 5341
AS JOINT TENANTS

Description of Land

ALLOTMENT 39 DEPOSITED PLAN 93426
IN THE AREA NAMED RENMARK WEST
RENMARK IRRIGATION DISTRICT

Conditions

SUBJECT TO THE RESERVATIONS PROVISIONS AND CONDITIONS STILL SUBSISTING AND CAPABLE OF TAKING EFFECT CONTAINED IN LAND GRANT VOL.537 FOLIO 187 OVER THE LAND MARKED X ON D93426
SUBJECT TO THE RESERVATIONS PROVISIONS AND CONDITIONS STILL SUBSISTING AND CAPABLE OF TAKING EFFECT CONTAINED IN LAND GRANT VOL.563 FOLIO 90 OVER THE LAND MARKED Y ON D93426

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED A ON D93426 TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (TG 7368756)

Schedule of Dealings

NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

Certificate of Title - Volume 6160 Folio 537

Parent Title(s) CT 6138/649, CT 6138/650
Creating Dealing(s) T:N 12349782
Title Issued 03/08/2015 **Edition** 1 **Edition Issued** 03/08/2015

Estate Type

FEE SIMPLE

Registered Proprietor

PETER SPANOS
BASILIKE ISMENE SPANOS
OF ARUMPO STREET RENMARK SA 5341
AS JOINT TENANTS

Description of Land

ALLOTMENT 39 DEPOSITED PLAN 93426
IN THE AREA NAMED RENMARK WEST
RENMARK IRRIGATION DISTRICT

Conditions

SUBJECT TO THE RESERVATIONS PROVISIONS AND CONDITIONS STILL SUBSISTING AND CAPABLE OF TAKING EFFECT CONTAINED IN LAND GRANT VOL.537 FOLIO 187 OVER THE LAND MARKED X ON D93426
SUBJECT TO THE RESERVATIONS PROVISIONS AND CONDITIONS STILL SUBSISTING AND CAPABLE OF TAKING EFFECT CONTAINED IN LAND GRANT VOL.563 FOLIO 90 OVER THE LAND MARKED Y ON D93426

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED A ON D93426 TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (TG 7368756)

Schedule of Dealings

NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

Certificate of Title

Title Reference: CT 6160/537
Status: CURRENT
Parent Title(s): CT 6138/649, CT 6138/650
Dealing(s) Creating Title: T:N 12349782
Title Issued: 03/08/2015
Edition: 1

Dealings

No lodged Dealings found.

ORIGINAL
CERTIFICATE OF TITLE

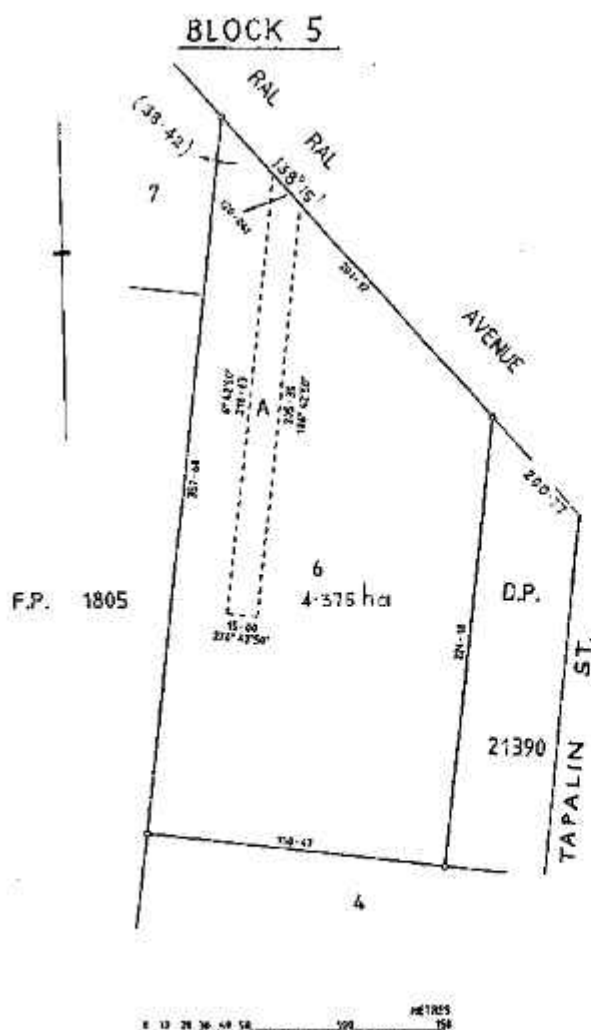
South Australia

Register Book,
Volume 4399 Folio 34



New Certificate for the balance of the Land in Vol.3283 Folio 178

JOHN SPANOS and KATINA SPANOS both of Renmark 5341 are the proprietors of an estate in fee simple AS TENANTS IN COMMON subject nevertheless to such encumbrances liens and interests as are notified by memorial underwritten or endorsed hereon in ALLOTMENT 6 of Block 5 of Block C RENMARK IRRIGATION DISTRICT in the area named RENMARK (L.T.R.O. DEPOSITED PLAN No.1497) and delineated on the diagram hereon
SUBJECT to such of the reservations provisions and conditions contained in Land Grant Vol.563 Folio 90 as are still subsisting and capable of taking effect
SUBJECT to the easement over the land marked A to The Electricity Trust of South Australia (TG 7368756)



Registrar-General

Dated 6 January 1993



MORTGAGE 4585960 to WESTPAC BANKING CORPORATION Produced 17.7.1980 at 10.45 a.m.



CANCELLED
CONVERTED TO A COMPUTERISED TITLE





South Australia

Register Book,
Volume 4095 Folio 460



New Certificate for the whole of the Land in Vol.2432 Folio 68 and
the balance of the Land in Vol.1742 Folio 113

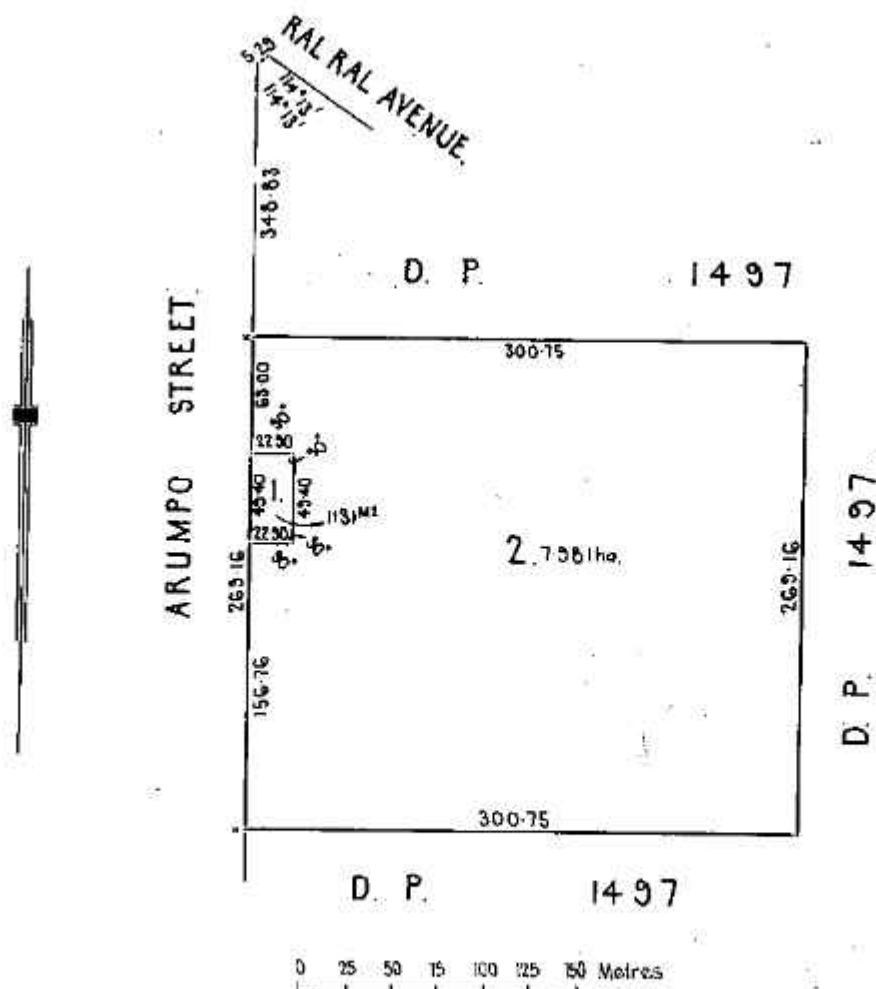
JOHN SPANOS of Renmark 5341 and TACKIE SPANOS of Berri 5343 both Fruitgrowers are the proprietors of an estate in fee simple AS TENANTS IN COMMON subject nevertheless to such encumbrances liens and interests as are notified by memorial underwritten or endorsed hereon in ALLOTMENT 2 of portion of Allotment 5 of Block C RENMARK (L.T.R.O. FILED PLAN No.1805) and delineated on the plan hereon SUBJECT to such of the reservations provisions and conditions contained in Land Grant Volume 537 Folio 187 as are still subsisting and capable of taking effect In witness whereof I have signed my name and affixed my seal this 13th day of July 1977 Signed the 13th day of July

1977, in the presence of

W. Falks }

B. Nelson Hayter

Deputy Registrar-General



O V E R

MORTGAGE 2576640 to BANK OF NEW SOUTH WALES
Produced 4.11.1964 at 11.10 a.m. (Including
other land)



MORTGAGE 2576641 to RENMARK FRUIT GROWERS
CO-OPERATED LIMITED Produced 4.11.1964 at
11.10 a.m. (Including other land)



M462608

MORTGAGE 4162608 to THE MINISTER OF AGRICULTURE
Produced 28.2.1978 at 11.5 a.m. (Including other
land)



~~M4585956 - M4585957 - M4585958 - M4585959~~
~~M4585961~~

The within land is discharged from Mortgage
2576640 vide 4585956 Produced 17.7.1980 at
10.45 a.m.



DISCHARGE of Mortgage 2576641 vide 4585957
Produced 17.7.1980 at 10.45 a.m.



DISCHARGE of Mortgage 4162608 vide 4585958
Produced 17.7.1980 at 10.45 a.m.



TRANSFER 4585959 from Tackie Spanos to KATINA
SPANOS of Renmark 5341 Married Woman of ONE
UNDIVIDED MOIETY in the within land Produced
17.7.1980 at 10.45 a.m.



MORTGAGE 4585960 to BANK OF NEW SOUTH WALES
Produced 17.7.1980 at 10.45 a.m.
(Including Other Land)



MORTGAGE 4585961 to RIVERGROWERS CO-OPERATIVE
LIMITED Produced 17.7.1980 at 10.45 a.m.
(Including Other Land)



~~M4585956~~

MORTGAGE 4954596 to THE MINISTER OF AGRICULTURE
Produced 14.10.1982 at 11.15 a.m. (Including
other land)



~~M46390036 - M46397261~~

DISCHARGE of Mortgage 4954596 vide 6390036
Produced 31.7.1987 at 10:40
(Dup C.T. Not Prod)



DISCHARGE of Mortgage 4585961 vide 6397261
Produced 14.8.1987 at 13:55 (Dup CT not prod)



CHANGE of Name 7368755 The name of the within
Company is changed from Bank of New South
Wales to WESTPAC BANKING CORPORATION
Produced 15.9.1992 at 11:25



CANCELLED
CONVERTED TO A COMPUTERISED TITLE





Appendix C Photograph Log



PHOTOGRAPHIC LOG

Client Name: Neilly Group		Site Location: Arumpo Street	Project No. PTY.06696
Photo No.	1.	 SS06 near residence Arumpo Street PSI 25 Aug 2025, 2:12:36 PM	
Direction Photo Taken: North West			
Description: Eastern side of Residence			
Photo No.	2.	 SS01 near water tank Arumpo Street PSI 25 Aug 2025, 1:32:54 PM	
Direction Photo Taken: North			
Description: Water tank near Residence			



Photo No.	3.	
Direction Photo Taken:	North West	
Description:	Old water tank remnants on western side of Residence	
Photo No.	4.	
Direction Photo Taken:	North East	
Description:	Shed 2	



Photo No.	5.	
Direction Photo Taken: North West		
Description: Light staining in Shed 2 with sodium hypochlorite and fertilizer stored		
Photo No.	6.	
Direction Photo Taken: North West		
Description: Area adjacent to Shed 2		



Photo No.	7.	
Direction Photo Taken: South East		
Description: Disturbed soil and waste near shed		
Photo No.	8.	
Direction Photo Taken: North West		
Description: UST Timber storage area		



Photo No.	9.	
Direction Photo Taken: North West		
Description: Hydrocarbon staining near tree in Shed 2 area		
Photo No.	10.	
Direction Photo Taken: South West		
Description: Hydrocarbon stain in road		



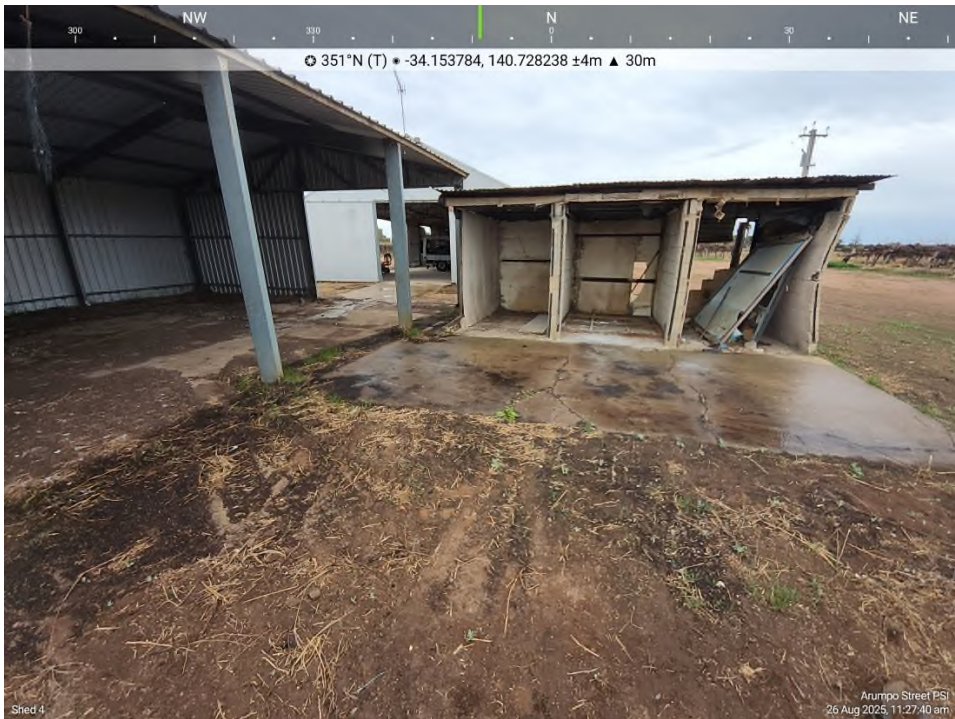
Photo No.	11.	
Direction Photo Taken: West		
Description: Shed 3 area (dark soil in foreground show where soil has been scraped to inspect for ACM)		
Photo No.	12.	
Direction Photo Taken: East		
Description: Shed 4 area		



Photo No.	13.	
Direction Photo Taken:	East	
Description:	Disturbed soil and ACM on western end of Shed 4	
Photo No.	14.	
Direction Photo Taken:	West	
Description:	Waste and ACM present at southern edge of Shed 4	



Photo No.	15.	
Direction Photo Taken: North		
Description: Looking North towards Shed 3&4. Picker's Quarters to the left of image		
Photo No.	16.	
Direction Photo Taken: South		
Description: Rubble and waste east of Picker's Quarters		



Photo No.	17.	S180210SW240W270 ☉ 212°S (T) • -34.154183, 140.728011 ±3m ▲ 24m  QuartersArumpo28 Aug 2025, 11:53:36 AM
Direction Photo Taken: North		
Description: Building waste at boundary of Quarters		
Photo No.	18.	W240W270NW300330 ☉ 284°W (T) • -34.153945, 140.728176 ±6m ▲ 28m  SS25Arumpo Street PSI26 Aug 2025, 10:07:59 AM
Direction Photo Taken: West		
Description: Sample from burn pile in between Shed 4 and Picker's Quarters		



Photo No.	19.	SE150S180SW210240 181°S (T) • -34.154202, 140.728093 ±3m ▲ 28m  Waste near QuartersArumpo Street PSI 26 Aug 2025, 11:13:31 am
Direction Photo Taken: North		
Description: Building waste at boundary of Quarters		
Photo No.	20.	NE3060E90120 66°NE (T) • -34.154466, 140.728133 ±2m ▲ 25m  Waste strewn near Quarters (SS28)Arumpo Street PSI 26 Aug 2025, 10:38:52 AM
Direction Photo Taken: North East		
Description: Waste east of Picker's Quarters		



Photo No.	21.	
Direction Photo Taken: South West		
Description: Ground stained with ash looking towards Quarters		
Photo No.	22.	
Direction Photo Taken: South East		
Description: Waste and ash south east of Pickers Quarters		



Appendix D HAZMAT Report

11th September 2025

Attention: **Julian Howard**

Principal Environmental Scientist | South Australian Manager

EHS Support

Level 7, 115 King William Street

Adelaide, 5000

E: Julian.howard@ehs-support.com

Dear Julian,

RE: Hazardous Material Survey and Report 55 Arumpo Street, Renmark West SA

Please find attached Hazardous Material Survey and Report.

If you require any further information, please do not hesitate to contact me on **0476 943 768**.

Regards



Andrew Butler
Principal Consultant | Director
Assessor Licence number 555676



Anthony Amorosi
Senior Asbestos Consultant
Assessor Licence number 619427

Encl. - Asbestos Register Report

HAZARDOUS MATERIAL SURVEY AND REPORT

55 Arumpo Street, Renmark West SA



11TH SEPTEMBER 2025

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- A - Certificates of Analysis
- B – Plans | Site Drawings
- C - General limitations of an inspection and/or report
- D - Health risks of asbestos and general information
- E – Glossary of Terms
- F – Register and Activity Log

1. Introduction and Scope

The hazardous materials scope included a detailed inspection for:

- Asbestos containing products.

The objective of the inspection was to identify, within the practical constraints of access, the presence, location, and condition of asbestos containing materials within the inspection area, and record, collate and report on the findings in accordance with the methodology and limitations of this survey. Samples were collected (where necessary) to qualify suspect asbestos containing material and analysed in the laboratory.

Other cursory observations and general recommendations were also made in regard to other hazardous materials including:

- Synthetic Mineral Fibre (SMF).
- Lead in Paints.
- Lead in building materials,
- Polychlorinated Biphenyls (PCBs) in fluorescent lights,
- Mercury containing lamps / lights,
- Ozone depleting substances in air conditioners, and
- Radioactive Isotopes in Smoke Detectors.
- Stored paint, solvents, and chemicals.
- Stored energy (solar panels)

The “Summary of Work and Findings” section of this report provides an overview of the asbestos containing materials, while gauging an understanding of the other hazardous materials on site (listed above).

Item by item information on suspect asbestos containing material is elaborated on, under the report heading “Specific Findings - Asbestos”. This includes representative photographs and laboratory assessment (where applicable)

No one section or part of a section should be taken as giving an overall idea of this report. This report must be read in its entirety, including its appendices and attachments.

The assessment herein is for guidance for demolition or building contractors. Any work relating to building or demolition requires specific risk assessment and appropriate safe work method development.

2. General Inspection Notes

Hazmat Australia | Asbestos SA was requested by Julian of EHS Support to undertake a Hazardous Materials Survey and Report of 55 Arumpo Street, Renmark West SA.

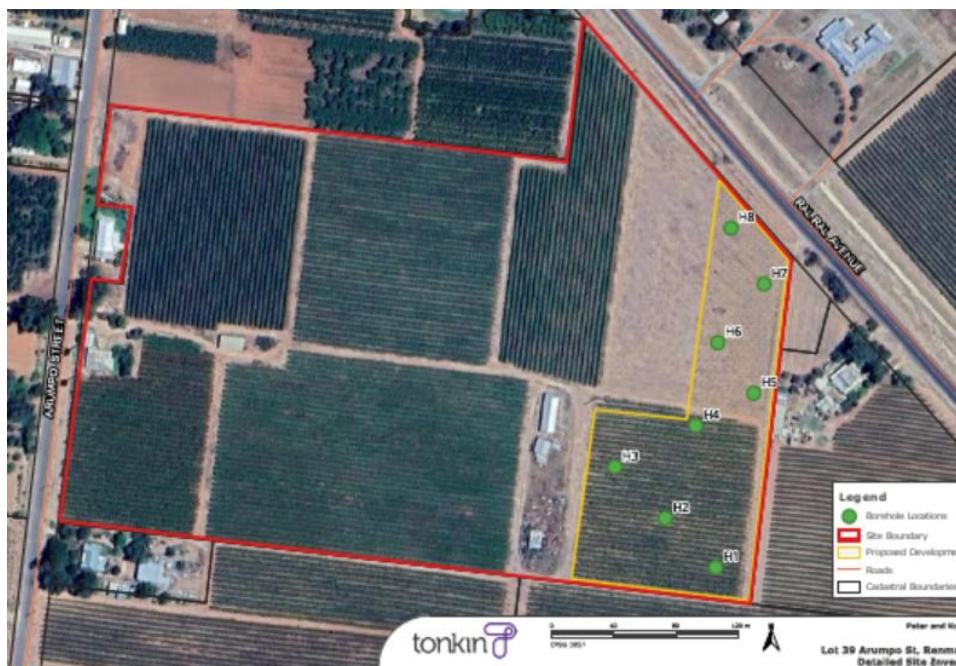
The hazardous material inspection was carried out by Mr Anthony Amorosi on the 25th, 26th, and 28th of August 2025.

Buildings on Site

The following provides general detail of the structures inspected:

The following provides general detail of the structures inspected:

- **Residence** was a timber fibrous cement clad structure with a timber framed metal roof and a combination of timber and concrete floors. The walls were a combination of masonry and fibrous cement at the wet area extension, with metal clad roof all on a concrete slab floor. The western Outhouse is a "Bessa" block structure with a metal roof and concrete floor slab.
- **Shed 1** directly north adjacent the Residence was metal clad and framed structure with a soil floor.
- **Shed 2** directly east of the Residence, was metal clad, timber and metal framed structure with a soil floor and concrete floor slab to the western section.
- **Shed 3** east south east of the Residence, was metal clad, timber and metal framed structure with a soil floor and partial concrete floor slab.
- **Shed 4** directly south of Shed 3, was metal framed and clad, with a concrete floor slab.
- **Old Chicken Coup**, was timber framed, cement block and fibrous cement sheet clad walls, with a metal roof and concrete floor slab
- **Old Pickers' Quarters** was a solid masonry construction with a timber framed metal roof and a combination of timber and concrete floors.



Aerial Image – area of inspection outlined in red.



Aerial Image – Residence and shed 1; Shed 2 to east



Aerial Image – Shed 3; Shed 4 and Chicken Coup outlined Old Picker's Quarters

3. Limitations

- No other structures or areas were inspected other than listed above.
- Soil inspection was limited to the surface and conditions at that time around Shed 3, 4, and the Old Pickers' Quarters.
- This report deals specifically with identified hazardous materials listed. This report is not a building or environmental assessment of any kind. Any inference or reference to other building or structural matters, soil or building products in general (or otherwise) are to be regarded as cursory information only.
- Plant and general equipment were not included
- A non-intrusive inspection was carried out.
- All suspect asbestos containing materials discovered during demolition must be presumed to contain asbestos with appropriate controls in place to minimise significantly the risk of exposure, unless proven otherwise by sample analysis.
- Refer to General limitations of an inspection and/or report (attached).

4. Action ratings for asbestos

A simple traffic light rating system is provided for hazard management purposes to help prioritise each asbestos containing item (if applicable). Action 1 (red) represents a higher priority, over Action 2 (amber) and finally Action 3 (green).

The action rating is based upon visual inspection and consideration of the condition, stability, site activity and accessibility of the asbestos containing material at that time - as well as the experience of the assessor. An assessment of risk is incorporated into this rating system of high, medium, or low.

Rating	Interpretation
 A1	This rating indicates some immediate control is required. Options are typically to restrict access, isolate and remove as soon as practicable. <i>This asbestos containing item would be considered to have a high level of risk.</i>
 A2	This rating represents a requirement for an immediate to short term action. Often this includes a measure of isolation to limit access, making safe an item and/or implementation of an immediate hazard management plan which may identify the part or whole remediation depending on various factors. Weathered, worn, unsealed or partially disturbed asbestos containing materials would also take precedence for planned removal over A3 items. <i>This asbestos containing item would be considered to have a medium level of risk.</i>
 A3	This rating represents items in good condition that may be left in place for the medium to longer term with the ultimate goal for planned removal. <i>This asbestos containing item would be considered to have a low level of risk.</i>

Items in the register requiring more specific recommendations or comments are detailed on the line item in the register table (under the *Findings - Asbestos* heading) based on the above rating standard.

Recommendations are no substitute for the Person Conducting a Business or Undertaking to implement and review hazard management strategies to ensure compliance.

As a general recommendation, disturbance through physical or mechanical means should be avoided to prevent release of airborne fibre unless to remove or remediate the offending material in accordance with appropriate hazard management controls and legislation. Asbestos containing materials should also be identified by warning signs.

5. Methodology

Each hazard group was assessed based on the following:

Asbestos

Assessment included visual inspection of accessible areas from the experience of the assessor and their familiarity with these materials. A sample program was also undertaken to help assess suspect asbestos containing products. Samples collected were analysed using Polarised Light Microscopy (PLM) with Dispersion Staining Techniques and X-ray Diffraction using a NATA accredited laboratory.

Synthetic Mineral Fibres (SMFs)

Cursory observations were made only. Recommendations of a general nature are included considering requirements prior to demolition. Assessment focused on insulation type products only and excluded, for example but not limited to, synthetic materials such as (but not limited to) curtains, carpets, and underlays.

Lead in Paint

Cursory observations were made only. Recommendations of a general nature are included considering requirements prior to demolition.

Lead Building Products

Cursory observations were made only. Recommendations of a general nature are included considering requirements prior to demolition.

Polychlorinated Biphenyls (PCBs) in fluorescent lights

Individual PCB investigation including dismantling light fittings was not undertaken. Cursory observations and general recommendations are below.

Mercury containing lamps / lights

Only cursory observations of light fittings were undertaken. Recommendations of a general nature are included considering requirements prior to demolition.

Ozone Depleting Substances (CFCs, HCFCs and Halons) from typical air conditioning

Only cursory observations of air conditioners were undertaken. Recommendations of a general nature are included considering requirements prior to demolition.

Halons in fire suppression systems or extinguishers were not included in the survey. General notes are provided.

Radioactive Isotopes in Smoke Detectors

No specific inspection was carried out. Cursory notes and recommendations are below.

Stored paint, solvents, and chemicals

Only cursory observations of light fittings were undertaken. Recommendations of a general nature are included considering requirements prior to demolition.

Stored energy (solar panels)

Only cursory observations of solar installations were made. Recommendations of a general nature are included considering requirements prior to demolition.

6. Summary of Work and Findings

Asbestos

Suspect building materials were sampled on site (11 in total) and tested in the laboratory. 4 samples were confirmed as containing asbestos.

Asbestos containing materials were identified, in general, as installed products or recently damaged products.

Residence

Asbestos containing material of the following type was identified:

- * fibrous cement sheeting, wall cladding and lining plus ceiling lining.
- * fibre impregnated resin board “Zelemite” electrical board.

Shed 1

No asbestos containing material identified.

Shed 2

No asbestos containing material identified.

Shed 3

Asbestos containing material was identified in the electrical mounting board as fibre impregnated resin board “Zelemite”.

Shed 4

No asbestos containing material identified.

Old Chook Coup

No asbestos containing material identified.

Old Pickers’ Quarters

Asbestos containing material of the following type was identified:

- * fibrous cement sheeting as ceiling linings.
- * fibre cement as stored debris.

A detailed schedule of items is recorded in section 7, labelled “Specific Findings – Asbestos” with individual assessments, recommendations, and photographs.

Other suspect material that maybe discovered during demolition and earthworks should be treated as asbestos containing, unless confirmed otherwise by specific sample analysis.

General Information

A visual inspection carries limitations, particularly (but not limited to) accessibility. If any suspect material is uncovered, discovered, or revealed during demolition, building or excavation work, this material should be treated as asbestos containing or confirmed otherwise by specific sample analysis.

All work relating to the asbestos removal (where applicable) shall be carried out by a Safework SA approved "A Class" (full license) or "B Class" (non-friable) asbestos licensed contractor where appropriate. Clearance inspections and air monitoring are to be carried out by a Licensed Asbestos Assessor.

All asbestos removal work is to be carried out in accordance with the following South Australian approved Codes of Practice:

- How to Safely Remove Asbestos, February 2024.
- How to Safely Manage and Control Asbestos in the Workplace, February 2024.

Synthetic Mineral Fibre (SMF) – insulation products

The following SMF products and their locations are listed below.

Residence

Throughout the main roof space, SMF as insulation loose on ceilings.

Possible insulation withing hot water service.



Example: Ceiling insulation over ceilings to main roof of Residence



Example: Hot water unit in Laundry of Residence

General notes and information

All reasonable steps should be made to minimise airborne dust/fibre concentration to reduce inhalable risk from installation, removal, or related handling. “PPE should be provided to workers and worn when insulation is being removed during the demolition process and dust should be suppressed by damping down” (ref: Demolition Work Code of Practice, June 2020).

Waste shall be placed in plastic bags or other containers which prevent fibre and/or dust emission and disposed of in accordance with the requirements of the local waste disposal authority.

Lead in Paint

Lead in Paint Inspection

The age of the property and subsequent maintenance activity is consistent with lead in paint use. This includes coating used on (but is not limited to) fascia's, barge boards, gutters, posts, windows/door frames and doors. Internally where surfaces were more vulnerable to impact, wear, or UV light, lead based paint were typically used on skirtings, architraves, door and window frames or trims, and on doors themselves.

Below illustrates example applications on site where lead in paint coatings is more likely given the age of the structures on the property. Lead in paint, including primers, can often be disguised, and painted over by more modern paints.

In some locations , for example the internal of the Old Pickers' Quarters, had paint in very poor condition.



Example: External paint to Residence



Example: Internal paint to Residence



Example: External/Internal paint to Residence Outhouse



Example: Internal paint to Old Picker's Quarters – flaked



Example: Internal paint to Old Picker's Quarters



Example: Internal paint to structural steel frame of Shed 3

General

Lead was used in paint to improve its durability, moisture resistance and generally dried quicker upon application. On steel applications it improved corrosion protection.

These characteristics generally meant this type of tough durable coating was used on exterior steel and timber work in enamel paints, and on internal surfaces that needed a more hard-wearing surface protection.

Primers and undercoats (especially pink primers) are also known to contain lead.

Adding certain lead compounds to paint also helped create a specific colour. For example, adding Lead (II) carbonate or white lead acted as a pigment and turned the paint to a white or cream colour. Generally speaking, white paint was a base colour for tinting.

Lead (II) chromate is a yellow pigment while addition of lead tetroxide compounds turned the paint into a red colour. Other colours can be produced from mixing pigments, for example Lead (II) Chromate mixed with iron blue to create green.

It may be possible that lead was used in acrylic paints, but more likely as a pigment to tint yellow, red or oranges shades (and not a drier or for corrosion protection). Generally older enamel or oil-based paints are more likely to have a lead base than not.

Background

In December 2017, a new Australian Standard (AS/NZS 4361.2:2017) was published for management of lead paint in residential and commercial buildings which saw a major change in the safe concentration standard, which was reduced from 1.0% lead down to 0.1% in paint.

This Australian Standard now reflects the paint manufacturing definition of lead-free paint (the Australian Uniform Paint Standard) which has been 0.1% concentration since 1997.

The Uniform Paint Standard formed the main reference in Australia historically. Before 1969, the recommended amount of lead in paint was 50 percent in Australia. From 1969 onwards, the acceptable level was lessened to 1 percent in the. In 1992, the level was reduced to 0.25 percent, and from 1997 until now, the maximum allowable level of lead in paint is 0.1 percent (as aforementioned).

To confuse this once more, "...although all paints manufactured for Australian dwellings from the 1970s onwards will have contained less than 1% lead, it is possible that industrial paints, having higher concentrations of lead, may have been applied to housing and commercial buildings." (Ref: AS 4361.2).

Amendments to SA's WHS Regulation in mid-2021 placed more importance lowering lead in blood criteria with relevance to the Workplace Exposure Standard.

The newer and lower lead in blood criteria placed more emphasis on safe work protocols to minimise health concern for remediation, upgrade, and disturbance activity and ultimately to help mitigate ingestion, absorption, and inhalation for workers.

While the WHS Regulation recently introduced a lower acceptable threshold for lead in blood, the definition of a lead process (e.g. sanding lead painted surfaces) did not change. Lead processes with material with lead greater than 1% dry weight provides some contradiction to what is required for producing modern paints (below 0.1% of lead in residential and commercial paints), and, either way, is also impossible to quantify on what might or might not end up in a worker's blood for a particular process.

To qualify, the primary focus should be to mitigate exposures irrespective of the percentage content of lead in the material or coating, especially when analysis of paint samples can have some variability when comparing the small physical sample amounts and the larger painted surfaces on site.

Undisturbed paint in good condition is typically low risk, however, if there is paint in poor quality, or if there are refurbishment or demolition works planned that may disturb it.

Testing maybe carried out to determine the concentration of lead (i.e. to assess percentage content). However, the age of the structure may simply dictate the prevalence of lead in paint, common in older buildings as discussed above. Hence, lead in paint is often readily assumed, and all precautions should be adopted so that management or remediation can be undertaken.

Lead in industrial paint is also more prevalent in those settings (irrespective of date) and in higher concentrations, despite the discussion above for commercial/domestic paints.

Current requirements for lead based paints

Inhalation of lead dust and paint chips from blasting, burning, dry scraping, dry sanding and using power tools (for example, but not limited to) creates a risk of inhalational exposure to the lead in the paint dust. Furthermore, ingestion of paint dust due to poor hygiene practices may also be a risk.

As aforementioned, the mention of 1% dry weight of lead in paint in WHS Regulation can be confusing and should be ignored, with preference to assessing lead in paint using the standard (AS/NZS-4361.2:2017) and lower threshold of 0.1%. This also factors in limitations of sampling and inconsistencies in paint product/application where there is likely variation in concentration, particularly at the lower end of the scale.

This lower threshold assessment also reflects current knowledge, for example from the World Health Organisation, where they state there is no known safe level of lead exposure and no known safe blood lead concentration. Obviously, as lead exposure increases, the range and severity of symptoms and effects also increase.

Instead, emphasis is on stringent regulation requirements to minimise the likelihood of lead in blood, as there can be poor health outcomes if no controls are in place, for example, when working with products over time, with relatively low concentrations or concentrations not detected from limited sampling.

The point being that any activities with either lead or lead in paint or suspected lead in paint should be controlled to ensure that risk is minimised significantly.

General remediation strategies

In regard to refurbishment or upgrade of areas, where activities such as sanding and using other power tools maybe used even on lower concentrated paint, for example, dust suppression and clean up using HEPA vacuum equipment is recommended. Other remediation options are listed below.

Safe hygiene principles should be adopted when handling suspect lead paint including appropriate gloves, P2/P3 respiratory protection, gloves, and personal washing/decontamination prior to smoking, eating, or drinking as a minimum precaution. Fit for purpose testing is a requirement for respiratory use and protection under regulation 44 of the SA WHS Regulation.

During greater building demolition it is recommended that manual handling activities are avoided where possible, with preference to remote handling. For example, using excavators with an operator in a sealed cabin. Any spotters or workers in the vicinity of demolition should wear P2 respiratory protection as a minimum with appropriate fit testing irrespective of percentage content of lead in paint.

During demolition, the use of hydraulic shears as opposed to cutting lead primed metal (for example) with an oxy-cutting torch significantly reduces lead exposure to workers.

Lead paint remediations options include:

- **Encapsulation**

Covering the lead-containing paint with fresh layers of paint to ensure that the lead is less likely to be disturbed. This enables a water tight bond securing the hazardous elements within.

Advantages: cheapest, least complicated.

Disadvantages: May not work well in high traffic or be a long-lasting solution as the encapsulating layers might wear off over a period. Problem remains below.

- **Enclosure**

Cover up with other building materials. For example, installing a new wall lining over the top to create a barrier.

Advantages: not as cheap.

Disadvantages: Not a permanent fix (as for encapsulation).

- **Replacement** – this involves physical removal of the item painted altogether. For example, replacement of an old window frame or door.

Advantages: Removes problem. Can update the building especially tired building elements.

Disadvantages: Expensive.

- **Removal**

Wet sanding/scraping, dry sanding with HEPA vacuum attachments, or chemical stripping are accepted methods. Requiring training, specific PPE and safe disposal.

In the context of demolition, physically removing the entire building element with lead paint on it, is an established practice.

Advantages: Removes problem. Cheapest solution when removing the whole item during demolition.

Disadvantages: Labour intensive for wet sanding and chemical stripping for removal/maintenance. More costly in this instance.

▪ **Processes to avoid**

- × Do not dry sand or dry scrape by hand tool or by power tool (without HEPA filter vacuum attachment).
- × Do not sandblast or high-pressure water wash/blast.
- × Do not use *heat guns or open flame burners to remove old paint.
- × Do not eat, drink or smoke in the work area containing lead waste.
- × Do not eat drink or smoke without proper personal decontamination.

*Low heat lead in paint removal is acceptable when the heat gun can be limited below 200°C to mitigate fumes, with controls, including PPE, in place.

(ref: <https://www.worksafe.qld.gov.au/safety-and-prevention/hazards/hazardous-exposures/lead/working-with-lead-based-paint>)

Defined Lead Processes and Lead Risk Work under Regulation 392/393 of the SA WHS Regulation requires compliance with Regulations 392 – 418.

Lead in Building Products

Lead building products were observed on the property.
Lead products were visible at the following structures:

Residence – External, Rooftop chimney possible flashing, Gutters have soldered joints, and there are leadlight windows to the northern elevation (will possibly be removed for salvage by the owner).

Any “soft” metal flashings should be treated as lead containing if discovered.



Example: Residence, External – flashing to chimney



Example: Residence, External – Leadlight windows



Example: Old Pickers' Quarters, External – solder to gutters/downpipes

General notes and recommendations

Lead may be found in, but is not limited to:

- electronic devices (lead in solder)
- plumbing fittings (in the pipes themselves or in the solder)
- lead acid batteries to emergency lighting
- lead sheathed cables (generally higher voltage or larger diameter cables)
- lead in galvanised steel products.
- lead batteries for vehicles

Activities that may generate lead dust from lead in building product, for example (but not limited to) grinding or abrading, should be avoided.

Safe hygiene principles should be adopted when handling suspect lead products including appropriate gloves, P2 respiratory protection, and personal washing / decontamination prior to smoking, eating, or drinking as a minimum precaution. Fit for purpose testing is a requirement for respiratory use and protection under regulation 44 of the SA WHS Regulation.

Lead products (e.g. roof flashing, lead lighting/glazing, batteries) should be separated and recycled via a metal merchant to avoid prescribed waste costs.

Defined Lead Processes and Lead Risk Work under Regulation 392/393 of the SA WHS Regulation requires compliance with Regulations 392 – 418.

Polychlorinated Biphenyls (PCBs) in Fluorescent Lights

There were single light fixtures of an age where PCBs were used, that were identified in following locations:

Residence – Internal, Kitchen and Bathroom.

Shed 3 – Internal, hanging from trusses.

It was likely PCBs were used in this context based on the ban on PCBs in 1975 in Australia and these are older fixtures.



Example: Fluorescent light fixture in the Residence, Kitchen



Example: Fluorescent light fixtures in the Residence, Bathroom



Example: Fluorescent light fixtures in Shed 3

General notes and recommendations

The below is provided as cursory information.

The ban on importation of PCB's in Australia was in 1975 (reference National Pollutant Inventory, Australian Government – Department of Environment). This does not exclude the likelihood of PCB thereafter but provided a reference point where PCB's would be less common and/or gradually phased out by trades and suppliers.

If older fluorescent lights or suspect PCB's are uncovered or identified during demolition, then a hierarchy of control should be employed to isolate the hazard from demolition workers as follows:

- All older fluorescent light fittings, particularly with metal capacitors, should be removed in full using safe access platforms and then set aside at ground level.
- There should be no access to internal components of the fluorescent light fittings when removing lights from their installed ceiling position. Neoprene or butyl rubber gloves should be worn, as a minimum, in the event capacitors or ballast may contain leaking PCB oil from historic degradation or through accidental disturbance during the manual handling process. Hence, skin contact with PCB's within capacitors in fluorescent lighting can be avoided.
- In addition, removal, handling, transport, and appropriate disposal can be catered for in a demolition contract with specific reference to PCB's. A company, for example, like Toxfree can take the fluorescent fitting in full from the demolition operator, recycle the glass globes, separate, and recycle the steel housings/fittings and remove the ballast and/or capacitor for bulk disposal. The PCB capacitors themselves would then be transported in bulk safely to Brisbane to a plasma-arc unit for full disposal. Using this compliant process will also enable the fluorescent tubes (with mercury) to be handled and disposed of appropriately.
- "Safeguard" information from Safework SA is also available for additional detail for PPE requirements, hygiene practices and disposal requirements.

Reference <https://www.safework.sa.gov.au/workplaces/chemicals-substances-and-explosives/polychlorinated-biphenyls>

Mercury containing lamps / lights

Fluorescent light tubes were identified in following locations:

Residence – Internal, Kitchen and Bathroom.

Shed 3 – Internal, hanging from trusses.



Example: Fluorescent light x 1 in the Residence, Kitchen



Example: Fluorescent lights x 2 in the Residence, Bathroom



Example: Fluorescent lights x 5 in Shed 3

General notes and recommendations

The below is provided as cursory information. Fluorescent light fittings (where identified) should be treated as follows.

Mercury in general exists in compact fluorescents, fluorescent tubes, bug zappers, car headlights and mercury vapour lights used for larger industrial, street or sports lighting. Some versions of neon lights (i.e. only red neon lights use neon gas) also contain mercury.

Fluorescent lights, in particular, contain a small amount of mercury sealed within the glass tube/vessel. The quantity is comparable to 1 percent of an old mercury household thermometer.

Regardless of the amount of mercury, all mercury-containing lamps, should be handled as a hazardous waste and stored carefully to avoid breakage. A broken lamp clean-up procedure is available from Department of Health WA.

Refer: https://www.healthywa.wa.gov.au/Articles/J_M/Mercury-and-compact-fluorescent-lamps.

Vacuuming, for example should be avoided to minimise causing airborne vapour.

Household quantities can be recycled for free through selected vendors in SA. Refer to <https://recyclingnearyou.com.au/light-globes/AdelaideSA> for more detail of vendors and locations.

According to the Australian Government Department of Environment and Energy:

“The short-term nature of the potential exposure to mercury from a broken CFL or fluorescent tube – particularly after effective clean-up of lamp material – does not constitute a significant health risk to exposed adults, pregnant women or children.”

The notable emphasis in this statement is on effective clean up and the quantity involved. Commercial quantities and repeated breaking of tubes, for example through demolition, may increase risk and exposure to workers. Illegal dumping of larger quantities of mercury can also find its way into the air, water, and soil and consequently bio-accumulate in plants, and animals. This includes, for example, affecting fish and humans both directly and by consumption of other bio-accumulators.

In South Australia, there is a state-wide environmental ban on disposal to landfill of fluorescent lights and any other lighting containing mercury.

It is therefore recommended that compact fluorescents, fluorescent tubes, and other mercury containing lights are handled and managed by a recycling vendor like CMA Ecocycle or Tox free. These recycling vendors generally can take the whole light fitting and dismantle the units for recycling including the metal and glass, and handling and correct disposal of PCB's as well (if applicable).

Ozone Depleting Substances (CFCs, HCFCs and Halons) & Greenhouse Gases from typical air conditioning

A box air conditioning unit was located above the northern entry doorway to the Residence.



Example: Residence, installed air conditioning unit

General notes and recommendations

The below information is provided for correct removal and disposal of refrigerant gases.

All refrigerant gases irrespective of type (including non-ozone depleting replacements) should be collected from their plant prior to demolition/removal to prevent ozone depletion, greenhouse emissions, refrigerant burns, and/or accidental fire or explosion.

This work is to be carried out by personnel who have a current Refrigeration Handling License. Compliance is required with licensing conditions including, but not limited to, minimising the environmental impacts of ozone depleting substances.

Furthermore, if a fluorocarbon refrigerant is acquired, stored, or disposed of the business or individual is required to have a Refrigerant Trading Authorisation (reference - Australian Government – Department of Environment, plus the Ozone Protection and Synthetic Greenhouse Gas Management legislation).

Refer: <https://www.safework.sa.gov.au/workplaces/chemicals-substances-and-explosives/refrigerants>

Notes on old fire extinguishers

No obvious old halon fire extinguishers were visible as part of cursory inspection. However, if discovered during demolition or clean out, they must be removed from site by a fire protection technician who holds an Extinguishing Agent License. Halons were often coded yellow and common types found are:

- Halon 1211 (BCF) usually found in hand-held old fire extinguishers; and
- Halon 1301 (BCM) used mainly in flooding systems, for example in computer rooms, and machinery rooms.

It has been illegal to own or use halon-based fire protection systems in Australia since 1995. It has also been illegal for fire protection technicians to service halon systems since that date. There are some exemptions to this usually only in the aviation industry or for military systems.

Radioactive Isotopes in Smoke Detectors (Ionisation Detectors)

One fire detector was noted located at the Residence, internal, central Livingroom, southwestern doorway during this survey.



Example: Residence, internal, central Livingroom, southwestern doorway



Smoke detector identifies radioactive isotope

The below is provided for general information, and in the event older Ionisation detectors are found.

The two main styles of detectors on the market are:

1. Photoelectric Detectors, and
2. Ionisation detectors.

The latter containing a very low level of radioactive isotope, Americium, and usually encased in metal when the detector's plastic cover is removed. Refer example picture and typical labelling.



Generic photo (from alternate site) :Smoke detector with radiation symbol within unit (i.e. what to look out for)

In relation to health:

"The dose rate from a domestic smoke alarm at a distance of one metre is less than one thousandth of that from background radiation, which in Australia is on average 1.5 millisievert per year. At greater distances, the dose rate is much lower. The dose rate to the hands when holding a smoke alarm is higher but is still less than one tenth that from background radiation. As the hands are very much less sensitive to radiation than internal organs and the time of exposure is likely to be only a few minutes per year, no significant radiation exposure would occur."

Reference:

<https://www.arpsa.gov.au/understanding-radiation/radiation-sources/more-radiation-sources/smoke-detectors>

Despite this smoke detectors must be removed in full prior to demolition and disposed of as below in SA:

"In accordance with international best practice, disposal of small quantities of smoke alarms that contain radioactive material in domestic waste in South Australia was made legal in early 2009 under provisions of the Radiation Protection and Control Act 1982, administered by the Radiation Protection Branch.

An exemption under the Act permits up to 2 smoke alarms to be disposed into domestic waste during any period of 7 days.... Smoke alarms used in commercial or industrial applications contain a different type or greater amount of radioactive material than domestic smoke alarms. Commercial or industrial smoke alarms may not be suitable for disposal in domestic waste.

Advice on the disposal of commercial or industrial smoke alarms should be sought from the Radiation Protection Branch (of the EPA SA)."

Reference: https://www.epa.sa.gov.au/environmental_info/waste_recycling/disposing-waste

Stored paint, solvents, and chemicals

Stored farm dry chemicals were located in Shed 2.

A 45kg propane gas bottle was noted at the southern side of the Residence



Example: Residence, installed air conditioning unit



Example: Residence, 45kg gas bottle

General notes and recommendations

All household paints, thinners, cleaning products, pesticides, oil, fuel, and solvents must be separated, sealed for transport, and sent to a waste handling centre, similar to Adelaide Waste and Recycling (AWR) at 181 Morphett Road, North Plympton SA, for disposal/recycling.

Other hazardous material drop-off locations are available via the Green Industries SA website.

Reference: <https://www.greenindustries.sa.gov.au/hazwaste>

ChemClear provides agricultural and veterinary chemical users with collection and disposal for their unwanted chemicals. For more information, [visit the ChemClear website](#).

Gas from household butane and LPG bottles should be returned to the supplier, community recycling centres run by councils, or similar private transfer/recycling stations. They cannot be disposed of in household recycling bins or waste bins for collection as this presents a significant risk if accidentally crushed in the compactor of the waste collecting truck.

The disposal of CCA treated timber requires management that reduces the potential of various disposal pathways to impact upon the environment, particularly due to the arsenic and chromium content of the material. In the absence of available recycling technologies in South Australia landfill disposal of CCA treated timber is currently the only option.

Gloves should be worn when handling treated timber, and post handling wash your hands and face thoroughly with soap and water before and after eating, drinking, smoking or using the toilet.

Stored energy (solar systems)

No stored solar energy was located during this survey.

General notes and recommendations

Solar panels continue to produce electricity when the mains power is disconnected. Batteries also associated with solar systems, may contain stored energy. Hence, it can be misleading to think that if a solar system is not connected to the grid that it won't cause electrocution as it still remains "live".

Solar panels, invertors, electrical equipment and batteries must be isolated and disconnected by a licensed electrician and disposed of correctly.

A company like CMA Ecocycle can recycle solar panels and products. Lithium-ion and Nickel Metal Hydride batteries can also be recycled there. Glass, aluminium, copper, plastic and silicon are typical recyclables within photo voltaic (PV) panels also.

Note that some batteries may contain toxic chemicals, heavy metals and other environmental pollutants that can contaminate water supplies and ecosystems when they are incorrectly disposed of. Damaged batteries can also flare up or combust if heated.

Never touch a swollen or ruptured device or battery with bare hands as the heat and/or chemicals can cause severe burns.

Always use gloves/hand protection and safety glasses before touching or moving leaking batteries or dismantled batteries.

The electrolytic fluid can cause injury through the skin, eye contact, ingestion or inhalation.

7. Specific Findings - Asbestos

Residence - External:

1. Original build, perimeter walls, cladding

Material:	Fibrous cement sheeting and corner capping
Size (approx.):	120m ²
Sample:	A1025
Result:	Chrysotile asbestos detected
Findings:	Medium condition, damage visible. Non-friable. Painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



2. Original build, Northern entry porch, east wall mounted upper electrical mounting board

Material:	Fibre impregnated backing board "Zelemite"
Size (approx.):	0.2m ²
Sample:	Visual assessment
Result:	Presumed asbestos content
Findings:	Good condition. Non-friable. Painted. Limited access. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



3. Original build, wood framed windows, glassing sealant

Material:	Putty
Size (approx.):	30 lineal metres
Sample:	A0593
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



4. West extension, west wall north end, cladding

Material:	Fibrous cement sheeting
Size (approx.):	4m ²
Sample:	A1026
Result:	Chrysotile asbestos detected
Findings:	Poor condition, damage visible. Non-friable. Not painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	

A1



5. West extension, southern gable, infill

Material:	Fibrous cement sheeting
Size (approx.):	1m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Painted. Limited access. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A3x



6. West extension, northern entry surround, cladding/infill

Material:	Fibrous cement sheeting
Size (approx.):	2m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Medium condition. Non-friable. Painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A2x



Residence - Internal:

7. Laundry, original east wall, lining

Material:	Fibrous cement sheeting and corners
Size (approx.):	8m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Medium condition. Non-friable. Partially painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



8. Laundry, ceiling, lining

Material:	Fibrous cement sheeting
Size (approx.):	10m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Painted. Limited access. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



9. Bathroom, original east wall, lining

Material:	Fibrous cement sheeting
Size (approx.):	7m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A3x



10. Bathroom, ceiling, lining

Material:	Fibrous cement sheeting
Size (approx.):	6m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Medium condition, exposed holes. Non-friable. Painted. Limited access The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A2x



11. Kitchen, Range and associated cupboards, linings

Material:	Fibrous cement sheeting
Size (approx.):	9m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Not painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A3x



12. Central Living room, combustion heater, door seal

Material:	Rope
Size (approx.):	2m ²
Sample:	A1027
Result:	Chrysotile asbestos detected
Findings:	Poor condition. Friable. Not painted. Accessible. Note: Other internal components may contain asbestos. Recommend remove.
Action Rating:	A1x



13. Central Living room, combustion heater, base infill

Material:	Fibrous cement sheeting
Size (approx.):	0.1m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Not painted. Accessible. Recommend remove.
Action Rating:	A2x



Shed 2 - External:

14. West on ground, debris

Material:	Fibrous cement sheeting
Size (approx.):	1m ² affected area
Sample:	A1029
Result:	No asbestos detected
Findings:	Debris removed as sample during survey
Action Rating:	Not applicable



Before – minor fragment removed as sample



After - Subsequently the area was raked and checked for other possible fragments – no asbestos was visible

Shed 3 - Internal:

15.Southwestern wall mounted, electrical mounting panel

Material:	Fibre impregnated backing board "Zelemite"
Size (approx.):	0.3m ²
Sample:	Visual assessment
Result:	Presumed asbestos content
Findings:	Good condition. Non-friable. Painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



Shed 4 - Internal:

16.Northeast floor, covering

Material:	Vinyl sheeting
Size (approx.):	3m ²
Sample:	A1079
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



Overview



Close-up

Old Chicken Coup - Internal:

17.Ceilings, lining

Material: Fibrous cement sheeting

Size (approx.): 18m²

Sample: A1080

Result: No asbestos detected

Findings: Not applicable

Action Rating: Not applicable



Over view



Close-up

18. North and west walls, lining and debris

Material:	Fibrous cement sheeting
Size (approx.):	18m ²
Sample:	A1081
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



Old Picker’s Quarters - External:

19.Wood framed windows, remnant glazing sealant

Material:	Putty
Size (approx.):	10 windows
Sample:	A1082
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



Old Picker's Quarters - Internal:

20. Main structure ceilings, Linings and debris on ground

Material:	Fibrous cement sheeting
Size (approx.):	40m ²
Sample:	A1083
Result:	Chrysotile asbestos detected
Findings:	Poor condition. Non-friable. Not painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



21. Main structure floors, lino/vinyl coverings

Material:	Fibre impregnated tar sheeting
Size (approx.):	40m ²
Sample:	A1084
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



22.Southern Lean-to, stored debris on ground

Material:	Fibrous cement sheeting
Size (approx.):	100kg
Sample:	Similar to A1083
Result:	Chrysotile asbestos detected
Findings:	Poor condition. Non-friable. Not painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.



Action Rating:

A1x

Grounds:

23. Central sheds and Quarter's area, debris in soil

Material:	Fibrous cement sheeting fragments mixed in soil
Size (approx.):	4000m ² affected area
Sample:	Visual assessment
Result:	Presumed asbestos content

Findings: During this survey, an emu pick of the surface was conducted, collecting 11kg of fibrous cement fragments. Based on the site finds to date the remaining soil may be lightly contaminated or impacted with hidden fibrous cement debris but only at a shallow depth down to between 100mm to both the northern section outlined in blue, and approximately down to 50mm to 75mm deep to the southern section outlined in red.

Recommend a remediation action plan is developed for these two marked areas.

Action Rating:



24. Five acre division, south and east tracks, debris on surface

Material:	Fibrous cement fragments
Size (approx.):	215m tracks affected
Sample:	Visual assessment
Result:	Presumed asbestos content
Findings:	During this survey, an emu pick of the track's surface was conducted, collecting 0.5kg of fibrous cement fragments from the track /roadway outlined in red. Recommend a remediation action plan is developed for the marked area.
Action Rating:	A2



8. Sample Summary

Sample Ref	Location	Item use	Material type	Result or Presumption
A0593	Residence, External – Original build, wood framed windows	Glassing sealant	Putty	No Asbestos detected
A1025	Residence, External – Original build, perimeter walls	Cladding	Fibrous cement sheeting	Chrysotile Asbestos detected
A1026	Residence, External – West extension, west wall north end	Cladding	Fibrous cement sheeting	Chrysotile Asbestos detected
A1027	Residence, Internal – Central Living room, combustion heater	Door seal	Rope	Chrysotile Asbestos detected
A1029	Shed 2, External – West on ground	Debris	Fibrous cement sheeting	No Asbestos
A1079	Shed 4, Internal – Northeast floor	Covering	Vinyl sheeting	No Asbestos
A1080	Old Chicken Coup, Internal – Ceilings	Lining	Fibrous cement sheeting	No Asbestos
A1081	Old Chicken Coup, Internal – North and west walls	Lining	Fibrous cement sheeting	No Asbestos
A1082	Old Pickers' Quarters, External – Wood framed windows	Remnant glassing sealant	Putty	No Asbestos
A1083	Old Pickers' Quarters, Internal – Main structure ceilings	Lining	Fibrous cement sheeting	Chrysotile Asbestos detected
A1084	Old Pickers' Quarters, Internal – Main structure floors	Covering	Fibre impregnated tar sheeting	No Asbestos

9. General Recommendations

Notwithstanding the above specific recommendations:

All remediation activities in relation to asbestos containing products must be carried out by a licensed asbestos removalist in accordance with relevant Work Health Safety and Environmental Protection regulation including (but not limited to) applicable Codes of Practice.

All asbestos containing products items should be maintained/sealed to prevent on-going deterioration.

Safe work methods should be implemented for any disturbance activity, and not limited to Personal Protective Equipment (PPE).

10. Inspection protocols

All asbestos containing materials should be inspected or monitored on a regular basis to make on-going assessments of the condition, stability, durability, and product suitability. This provides consistent up to date risk assessment considering possible changes in site use, environment, human interaction, or condition.

Asbestos containing material can be affected by (but not limited to): weather, site traffic, changes in building structure, plant or process, vandalism, disturbance, redundancy, upgrade, excavation, or demolition.

11. Asbestos Management and Planning

Consideration should be given to the removal of asbestos containing material prior to renovation, refurbishment, demolition and/or maintenance which is generally more practical at that time. This is in preference to other control measures such as enclosure, encapsulation or sealing where the asbestos containing material remains as a legacy item to the property.

Planning should consider the requirements of the property and owners, in terms of investment and intentions for upgrade or downgrade in the future, but principally it should provide guidance on how to deal with asbestos. Ultimately, the risk an item may pose may determine what needs addressing first.

The plan is to set out how asbestos will be managed to prevent or minimise significantly the likelihood of exposure through controls and removal strategies.

An Asbestos Management Plan can be developed upon request.

12. Unexpected Finds

Where previously unknown or suspect asbestos containing material is identified through the course of works (i.e. an unexpected find) the Asbestos Supervisor should be contacted immediately. Work should be suspended in the related area until the situation is qualified. Sample analysis is an effective way to verify material content and must be performed by competent personnel.

If the suspected Asbestos Containing Material(s) has been worked upon, accidentally disturbed or suspect asbestos containing dust or debris is present then:

1. **Protect Yourself** – avoid inhaling dust or fibres by moving to a safe location;
2. **Isolate** – area of the disturbed asbestos from other personnel;
3. **Report** – the incident to the Asbestos Supervisor.
4. **Standby** – strictly follow instructions provided by the Asbestos Supervisor and requirements under the Emergency Plan

13. Emergency Protocol

Unplanned accidental or inadvertent asbestos disturbance or fibre release maybe caused by (but not limited to):

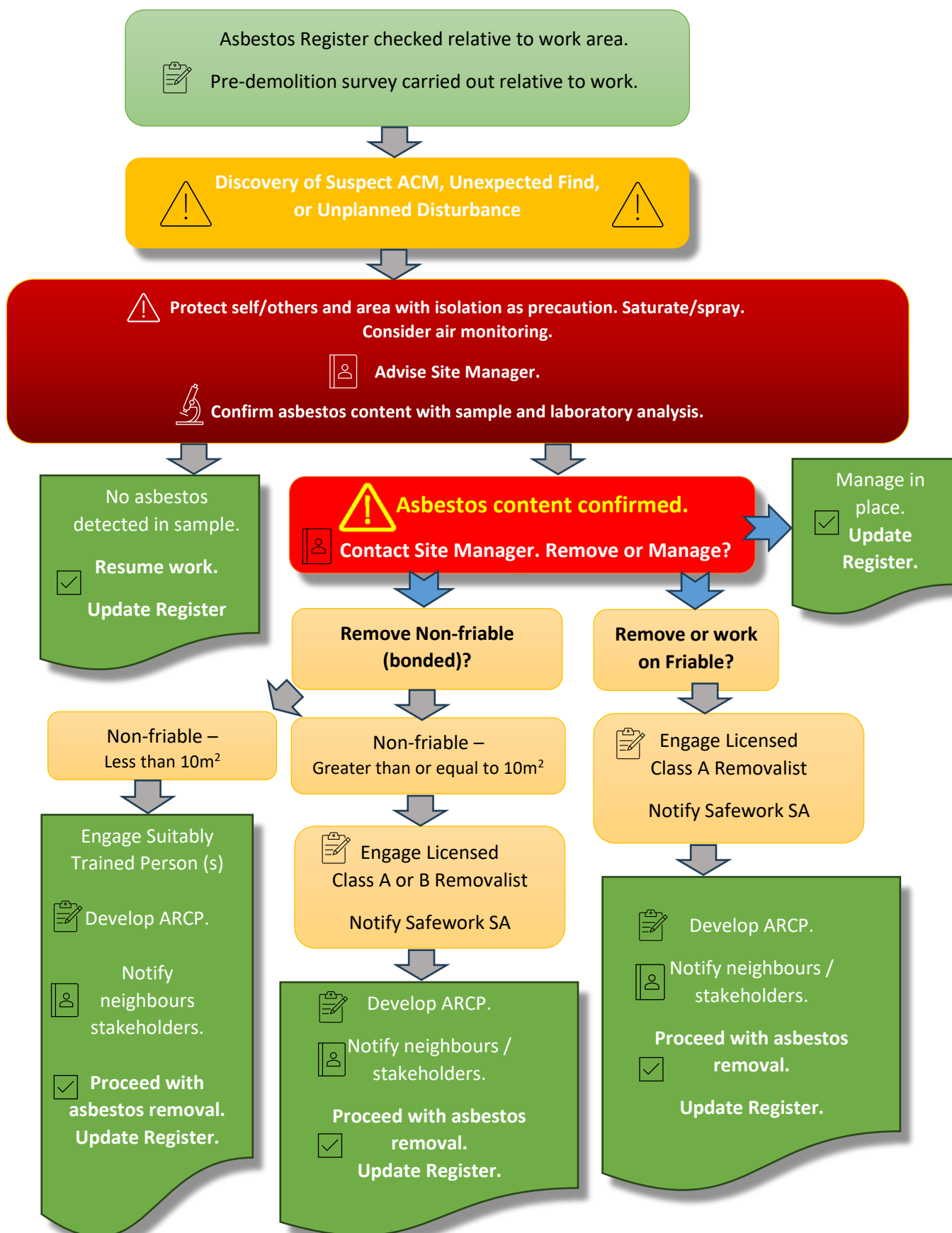
- A general discovery or unexpected find.
- Maintenance, upgrade or demolition.
- Vehicle or mobile plant accident / impacts.
- Acts of vandalism.
- Fire event.
- Severe weather e.g. Storm damage, wind.
- Excavation and discovery of buried waste or old infrastructure.
- Illegal dumping.

In all cases, personnel should advise the Asbestos Supervisor immediately who then must undertake the following actions:

1. **Isolate the area** – close doors, barricade/bunt off the area with appropriate signage, and isolate airflow. Remove all personnel from the area.
2. **Consult the Asbestos Register** – if the material is not identified in the Asbestos Register, then assume asbestos is present until proven otherwise. Sample analysis is an effective way to verify material content (refer section 9) and must be performed by a competent person.
3. **Seek advice** - from an Asbestos Consultant, Licensed Asbestos Assessor, or suitably qualified Hygienist immediately - determine remedial action.
4. **Instigate remedial action** - with appropriately trained and licensed personnel.
5. **Obtain clearance** - ensure Clearance Inspection Certificates are provided and fibre monitoring results allow re-occupancy of the area; and

Document the incident - record remedial actions and revise the Asbestos Register and Asbestos Management Plan.

Diagram 1 - General Process for Unexpected Find | Emergency



14. Register Log

Prior to building works, remediation, or removals on a property, all, person involved should be familiar with the asbestos register content. A Register Log (Appendix F: Forms) is attached. The purpose of the log is to record all persons who have viewed this register and to prompt the reader to address any concerns prior to commencing work.

15. Activity Log

The purpose of the Activity Log (Appendix F: Forms) is to record all maintenance, remediation or removal activity relating to asbestos upon completion and to include statutory information.

16. References

The following documents were used as references in the investigative process and compilation of this Hazardous Materials Register.

- National Occupational Health and Safety Commission (NOHSC) Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(1999). Australian Government Publishing Service. Canberra.
- Work Health and Safety Act (2012), South Australia
- Work Health and Safety Regulations (2012), South Australia
- Code of Practice on How to Safely Remove Asbestos, February 2024 (SA)
- Code of Practice on How to Safely Manage and Control Asbestos, February 2024 (SA)
- Australian and New Zealand Environment and Conservation Council (ANZECC) Identification of PCB-Containing Capacitors (1997).
- AS/NZS 4361.2:2017 Guide to hazardous paint management Lead paint in residential, public, and commercial buildings
- Safework SA – Polychlorinated Biphenyls, Safety Alert, 6 October 2017
<https://www.safework.sa.gov.au/news/polychlorinated-biphenyls>
- EPA SA - Disposal of domestic smoke alarms that contain radioactive material
https://www.epa.sa.gov.au/environmental_info/waste_recycling/disposing-waste
- Australian Radiation Protection and Nuclear Safety Agency –
<https://www.arpsa.gov.au/understanding-radiation/radiation-sources/more-radiation-sources/smoke-detectors>
- Smoke Alarm Association of Australia - Fact Sheet Smoke Detectors and Health, March 2015.
<https://www.saaaaustralia.org.au/wp-content/uploads/Smoke-Detectors-and-Health.pdf>
- EPA SA – Ban of fluorescent lighting disposal to landfill.
http://www.epa.sa.gov.au/data_and_publications/standards_and_laws/waste_to_resources_policy/landfill_bans
- Dept of Health WA – Cleaning up a broken CFL or fluorescent globe.
https://www.healthywa.wa.gov.au/Articles/J_M/Mercury-and-compact-fluorescent-lamps

Appendix A

Certificates of Analysis

(Laboratory analysis of sampled material)



Accredited for compliance with ISO/IEC 17025-Testing.
Accreditation No. 20148, Site No. 24777 Melbourne Laboratory, 24016 Darwin Laboratory &
25528 Adelaide Laboratory.
The results relate only to the samples tested and are for the sole use by the client.
This document shall not be reproduced, except in full.



ASBESTOS IDENTIFICATION BY PLM AND SERPENTINE BY XRD RESULTS

Date: 4 September 2025 **Agon Job No:** JH25.0033 – 111
Client: Asbestos SA **Attention:** Andrew Butler
Client Contact No: 0476 943 768 **Received Date:** 2 September 2025
Site Job Ref: 55 Arumpo Street, Renmark West SA **Identification Date:** 4 September 2025
Sampled By: As received **Agon Lab Site:** Adelaide
Test Method: Qualitative Identification of asbestos samples under polarising light microscopy including dispersion staining and trace analysis with a calculated practical detection limit of 0.01% using methodology as per Australian Standard AS4964 (2004) and inhouse Laboratory Procedure LP-004 Asbestos Identification Manual and/or LP-005 Serpentine Detection by X-ray diffraction.

Lab ID	Location Of Item	Item Use	Material Type	Wt. (g)	Asbestos detected	Analysis Result
A0593	Residence, External – Original build, wood framed windows	Glassing sealant	Putty	2	No	No asbestos detected
A1025	Residence, External – Original build, perimeter walls	Cladding	Fibrous cement sheeting	3	Yes	Chrysotile asbestos detected Organic fibre detected
A1026	Residence, External – West extension, west wall north end	Cladding	Fibrous cement sheeting	3.5	Yes	Chrysotile asbestos detected
A1027	Residence, Internal – Central Living room, combustion heater	Door seal	Rope	0.1	Yes	Chrysotile asbestos detected
A1029	Shed 2, External – West on ground	Debris	Fibrous cement sheeting	2	No	No asbestos detected Organic fibre detected
A1079	Shed 4, Internal – Northeast floor	Covering	Vinyl sheeting	2	No	No asbestos detected ^(*) No asbestos detected by XRD ^(*)
A1080	Old Chicken Coup, Internal – Ceilings	Lining	Fibrous cement sheeting	15	No	No asbestos detected Organic fibre detected
A1081	Old Chicken Coup, Internal – North and west walls	Lining	Fibrous cement sheeting	2	No	No asbestos detected Organic fibre detected
A1082	Old Picker's Quarters, External – Wood framed windows	Remnant glassing sealant	Putty	0.1	No	No asbestos detected
A1083	Old Picker's Quarters, Internal – Main structure ceilings	Lining	Fibrous cement sheeting	1	Yes	Chrysotile asbestos detected

Melbourne Laboratory - H76, 63-85 Turner Street, Port Melbourne, 3207 | Darwin Laboratory - 1/41 Jessop Crescent, Berrimah, NT 0828 |
Adelaide Laboratory - 3/224 Glen Osmond Road, Fullarton, SA 5063
Agon Environmental Pty Ltd A.B.N. 29 167 746 063
admin@agonenviro.com.au (08) 8338 1000
www.agonenviro.com.au

JH25.0033-111 55 Arumpo Street, Renmark West SA

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agon

ENVIRONMENTAL

Accredited for compliance with ISO/IEC 17025-Testing.
Accreditation No. 20148, Site No. 24777 Melbourne Laboratory, 2401G Darwin Laboratory &
25528 Adelaide Laboratory.
The results relate only to the samples tested and are for the sole use by the client.
This document shall not be reproduced, except in full.



Lab ID	Location Of Item	Item Use	Material Type	Wt. (g)	Asbestos detected	Analysis Result
A1084	Old Picker's Quarters, Internal – Main structure floors	Covering	Fibre impregnated tar sheeting	2	No	No asbestos detected Organic fibre detected

* As noted in AS 4964, asbestos may be difficult to detect in materials of this type and therefore confirmation by another analytical technique is recommended.

^ Asbestos detection by XRD is not covered by our NATA accreditation

Naciye Haliloff

Approved Identifier (PLM) and XRD Analyst and Signatory (PLM/XRD)

Any and all services carried out by Agon for the Client are subject to the Terms and Conditions provided in Agon form QFB-008 and are governed by our Statement of Limitations provided in Agon form QFB-024 (both documents accessible at <https://agonenviro.com.au/documents/>).

Melbourne Laboratory - H76, 63-85 Turner Street, Port Melbourne, 3207 | Darwin Laboratory - 1/41 Jessop Crescent, Berrimah, NT 0828 |

Adelaide Laboratory - 3/224 Glen Osmond Road, Fullarton, SA 5063

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Appendix B

Plans | Site Drawings



Aerial Image – Five acre division outlined in red; Residence and Shed 1 outlined in green; Shed 2 outlined in pale blue; Shed 3, Shed 4, Old Chook Coup and Old Picker's Quarters outlined in purple



Aerial Image – Residence and shed 1; Shed 2 to east



Aerial Image – Shed 3; Shed 4 and Chicken Coup outlined Old Picker's Quarters

Appendix C

General limitations of an inspection and/or report

(Including explanations to help understand this report)

General limitations of an inspection and/or report

Scope of services

This inspection and/or report ("the report") has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and HAZMAT Australia | Asbestos SA ("scope of services"). In some circumstances the scope of services may have been limited by a range of factors such as type of inspection, time, budget, access and/or site disturbance constraints.

Reliance on data

In preparing the report, HAZMAT Australia | Asbestos SA has relied upon data, surveys, analyses, designs, plans, and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise stated in the report, HAZMAT Australia | Asbestos SA has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. HAZMAT Australia | Asbestos SA will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented, or otherwise not fully disclosed to HAZMAT Australia | Asbestos SA.

No inspection can be guaranteed to locate all asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria)

In practice it is generally impossible to locate all asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) in the course of an inspection.

This is because of factors such as:

- Restrictions on access to building, property, plant, and equipment including (but not limited to) lifts, lift shafts and rooms, air conditioning duct work and airways, hot water services and internal construction components.
- There is a need to avoid damage to the Client's property (e.g. through sample taking or gaining access), as well as minimising disruption (e.g. dismantling equipment) and inconvenience.
- There is no destruction, dismantling or demolition of finishes, structures, fixtures, plant, or other equipment) during inspection unless otherwise stated nor is there provision to make good areas if access or sampling is nominated at a particular location or locations.
- Obstructions or impediments such as (but not limited to) furniture, equipment, stored items, and chattels occupying areas of the property may impede inspection.
- The availability of building/plant construction plans.
- A report may be conditional on the following information provided by a client, person, employees, or agents of the person on site or acting for the client which may conceal possible defects, asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) and any other factor limiting the preparation of the report.
- Environmental, para-occupational, and occupational influences.
- Workplace or occupant activity.

Limitations on scope of services

- No specific inspection will be conducted in under-floor spaces or under existing floor coverings (unless detailed in certain locations) and is limited to those ceilings spaces that are (in HAZMAT Australia | Asbestos SA's opinion) reasonably accessible.
- Assessment of the presence of asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) in soil is expressly excluded from any assessment unless stated otherwise.
- Integral parts of plant/equipment will not be inspected unless stated otherwise and are specifically de-energised, isolated, deactivated or rendered safe prior to any inspection. Where no inspection of items of plant and equipment is carried out, a presumption of the presence of asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) may still be documented.
- Asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) may be located or identified in inaccessible areas such as (but not limited to) wall cavities, lift shafts, under floor slabs, along pipework and within shrouds, within boilers, heater banks, ductwork, live electrical installations, within pipe chases, soil, foundations, and the like.
- Results of laboratory analysis of any asbestos or ACM may be affected or compromised in instances where: the material has been heat-affected, as heat may alter the morphology of the fibrous material; or simply because asbestos (or lack of) in the sample may be inconsistent in the originating product.
- Results of laboratory analysis on any hazard material or substance may vary and are subject to laboratory and testing limitations.
- Any measurements or quantities stated or referred to in any report should not be relied upon for estimation of asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) for remediation costs or as a basis for contracts for such remediation.
- The inspection was limited to readily accessible areas of the building and site. The Client shall arrange right of entry, facilitate physical entry, and supply necessary information to enable the inspector to undertake the inspection and prepare a report. The Inspector is not responsible for arranging entry to property or parts of the property, where access is not available at the time of inspection or entry is denied - those areas are excluded from and do not form part of the inspection report.
- **Reliance on an inspection**
The client must not rely upon an inspection or report as indicating that a site or building is "asbestos free" (or that such asbestos as was reported to have been found is the only asbestos at the site or building). This is the same for any other hazardous materials or substances (including but not limited to mould/bacteria). All that the report can be relied upon to show is that no asbestos or no hazardous materials or substances (including but not limited to mould/bacteria) was found or was not identified at the location where it was reported to have been found previously, in the course of the inspection. The findings of the report must be considered together with the specific scope and limitations of the type of inspection undertaken.

Report for benefit of client

The report has been prepared for the benefit of the Client and no other party. HAZMAT Australia | Asbestos SA assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of HAZMAT Australia | Asbestos SA or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

For the purposes of this limitations statement, “conclusions” include statements, opinions, facts, information, summary, comments conclusions and/or recommendations in this report.

Other limitations

HAZMAT Australia | Asbestos SA will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report. No one section, or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in its entirety, including its appendices/attachments.

*Reports and services relating specifically to asbestos:***▪ There is no instrument which can detect asbestos**

The presence of asbestos must be determined visually, as there is no reliable instrument currently available for the purpose. An inspector relies on experience and may take samples of suspect materials and have them analysed in a laboratory. Thus, any restrictions on the amount of sampling may reduce confidence in the asbestos inspection findings. The consequence of this is that asbestos which cannot be seen will not be found.

▪ Asbestos is commonplace

From the early 1900s until the early 1980s, asbestos was widely used in industry. The use of asbestos-cement sheets in roof pipes and wall cladding was particularly widespread, as was the use of “limpet” asbestos fibre insulation in steel framed high-rise buildings. Asbestos was also used for applications such as insulation of pipes and high temperature electricity cables, in plastics, in vinyl floor tiles, for reinforcement in cements, putties and mastic and in gaskets and friction materials.

Whilst major uses of asbestos were sometimes recorded on engineering drawings, there are few records of the ad hoc use of asbestos containing products and materials. To give examples from the building industry, plumbers frequently used asbestos fibre in caulking compounds and builders often used asbestos cement sheeting as packing under floorboards.

In short, asbestos could be almost anywhere in a building or plant constructed before the 1990s with imported and stored asbestos containing material introduced thereafter.

Appendix D

Health risks of asbestos and general information

Health risks of asbestos and general information

Health aspects of exposure to airborne asbestos fibres

Asbestos is a known carcinogen. The inhalation of asbestos fibres is known to cause asbestosis, mesothelioma, and lung cancer.

Malignant mesothelioma is a cancer of the outer covering of the lung (the pleura) or the abdominal cavity (the peritoneum). It is usually fatal.

Mesothelioma is caused by the inhalation of microscopic fibres deep into the lungs where they can damage mesothelial cells, potentially resulting in cancer.

The latency period varies and may be between 10 and 40 years, and the disease is very difficult to detect prior to the onset of illness.

Mesothelioma was once rare, but its incidence is increased throughout the industrial world as a result of past exposures to asbestos. Australia has the highest incidence rate in the world.

Lung cancer symptoms are rarely felt until the disease has developed to an advanced stage can be related to exposure to asbestos fibres. Lung cancer is a general cancer of the lung and can be difficult to differentiate from other causes (e.g. smoking – the likelihood of development of lung cancer from exposure to asbestos by a smoker is multiplicatively greater). The average latency period of the disease, from the first exposure to asbestos, ranges from 20 to 30 years.

Asbestosis is a form of lung disease (pneumoconiosis) directly caused by inhaling asbestos fibres, causing scarring (fibrous) of the lung tissue, which decreases the ability of the lungs to transfer oxygen to the blood. The latency period of asbestosis is generally between 15 and 25 years.

Asbestos poses a risk to health by inhalation whenever asbestos fibres become airborne and people are exposed to these fibres.

Asbestos containing materials (ACMs) can release asbestos fibres into the air whenever they are in poor condition, disturbed and especially during the following activities:

- any direct action on ACM, such as drilling, boring, cutting, filing, brushing, grinding, sanding, breaking, smashing, or blowing with compressed air
- the inspection or removal of ACM from workplaces (including vehicles, plant, and equipment)
- the maintenance or servicing of materials from vehicles, plant, equipment, or workplaces
- the renovation or demolition of buildings containing ACM

Non friable ACM that has been subject to extensive weathering or deterioration also has a higher potential to release asbestos fibres into the air.

The exact process and links from exposure to asbestos fibres to the development of asbestos related illnesses are not fully understood and is dependent upon a combination of factors, but it is generally accepted that cumulative high exposure over a long time increases the likely of contraction.

Research into the health effects is currently ongoing with other asbestos related disease noted such as:

Pleural plaques are small areas of thickening or scarring of the lining of the lung, which in itself may not necessarily be fatal, but it usually seen as an indicator of exposure to asbestos and can also be a precursor of other asbestos related diseases.

Exposure

The risk of exposure to airborne asbestos fibres is not confined to those personnel who work or have worked directly with asbestos related products. Exposure may also be significant to personnel in the vicinity of asbestos containing materials (particularly in poor condition), maintenance personnel, and the like, whose tasks may involve accessing these areas containing ACMs or accidentally disturbing them when safe work practices are not enforced.

Various factors determine how exposure to asbestos affects an individual including:

- propensity to disease (genetic make-up),
- exposure concentration, duration, frequency, and
- size, shape, and chemical makeup of asbestos fibres.

Asbestos in materials

Asbestos is the general name given to certain mineral silicates which are found occurring as natural mineral deposits within the ground. The natural occurring minerals have been subsequently mined in various countries including Australia and are categorised into two groups:

Serpentine group:	CHRYSTILE	(commonly known as white asbestos)
Amphibole group:	CROCIDOLITE	(commonly known as blue asbestos)
	AMOSITE	(commonly known as brown asbestos)
	ANTHOPHYLLITE	
	ACTINOLITE	
	TREMOLITE	

Asbestos fibre has been historically cheap to mine with minimum process to incorporate into products. It has been exploited commercially due to its useful properties of:

- flexibility
- high tensile strength
- incombustibility
- resistance to chemical attack
- water resistance

Chrysotile, Crocidolite, and Amosite are common types of occurring asbestos, with the other amphiboles occurring rarely or as contaminants within other asbestos or mineral deposits.

The physical and chemical properties of asbestos have determined its uses and commercial value.

The fine fibres of chrysotile and crocidolite are ideal for textile products.

The thermal stability of asbestos minerals made them particularly suitable for friction products.

The low thermal conductivity of asbestos has led to the materials being extensively used as an insulation material.

Asbestos cements consisting mainly of chrysotile and cement binders are high quality products because of the chemical bonding of the lime with the surface of the asbestos fibres.

Appendix E

Glossary of Terms

Glossary of terms

The following describes the terms used in this report.

Person Undertaking a Business or Undertaking (PCBU)	A PCBU includes an employer, corporation, association, partnership, sole trader, and certain volunteer organisations. For example, a volunteer organisation that employs a person to carry out work is a PCBU. However, a volunteer organisation that operates with volunteers and does not employ anyone is not a PCBU. A PCBU has the primary duty of care for workplace health and safety.
---	---

Accessibility:

Accessible	In a physical location where building occupants or users might readily access material without use of assistance, e.g. asbestos based material used as wall cladding or on outside of equipment in a laboratory etc.
Limited Access	Requiring some assistance or equipment to allow access, e.g. requiring a ladder or lifting of ceiling tiles or keys to normally locked cupboard, room, etc.
Generally Inaccessible	Requiring dismantling, demolition or similar to allow access, e.g. material inside cavity walling, under floorboards, inside air conditioning ducting or plant, etc.

Material friability:

Friable	Non-bonded asbestos fabric or material, is in a powder form or can be crumbled, pulverised, or reduced to powder by hand pressure when dry
Non-Friable (bonded)	Material where the asbestos fibres are bonded by cement, vinyl, resin, or another similar binder.
Semi-bonded Material	Which is generally bonded but exhibits some signs of deterioration or weathering, generally on the outer surface.

Material condition:

Good Condition	Showing no, or very minor, signs of damage and/or deterioration of material.
Medium Condition	Showing small amounts of damage and/or deterioration of material.
Poor Condition	Showing a large amount of damage or deterioration or that material is unserviceable for its intended use.

Risk rating:

Low level of risk	Left undisturbed, under normal occupational circumstances, it is unlikely to generate airborne asbestos fibres.
Medium level of risk	Left undisturbed, under normal occupational circumstances, it may generate airborne asbestos fibres.
High level of risk	Left undisturbed, under normal occupational circumstances, it is likely to generate airborne asbestos fibres.

Appendix F

Forms:

- **Register Log**

The purpose of the log is to record all persons who have viewed this register and to prompt the reader to address any concerns prior to commencing work.

- **Activity Log**

The purpose of the Activity Log F) is to record all maintenance, remediation or removal activity relating to asbestos upon completion and to include statutory information.

Unless otherwise detailed, this register was produced without an intrusive survey or destructive testing, and limitations apply. Demolition or building work may reveal previously unknown asbestos material. Treat unknown or hidden building material as asbestos containing or, preferably, ensure an intrusive survey is performed prior to commencing work to help identify hidden hazards or potential risk.

[illegible]

HAZMAT Australia & Asbestos SA | PO Box 159 Walkerville SA 5081 | ✉ andrew@asbestosSA.com.au
☎ 0476 943 768 | AP Butler Pty Ltd ATF AP Butler Family Trust ABN 96 545 998 533

Activity Log

The purpose of the Activity Log is to record all maintenance, remediation or removal activity relating to asbestos upon completion and to include statutory information. Additional documentation should be maintained with the asbestos register, including (but not limited to) Clearances Certificates and Air Monitoring results.

Date(s) of Work	
Company	
Supervisor	
Safework Authority / Notification no.	
Register item no. and description of remediation/removal	
Qty removed/remediated	
Licensed Assessor/Hygienist	
Clearance provided	Yes / No / Not applicable. Detail:
Notes	

Date(s) of Work	
Company	
Supervisor	
Safework Authority / Notification no.	
Register item no. and description of remediation/removal	
Qty removed/remediated	
Licensed Assessor/Hygienist	
Clearance provided	Yes / No / Not applicable. Detail:
Notes	



Appendix E Laboratory Certificates



CERTIFICATE OF ANALYSIS

Work Order	: EM2516023	Page	: 1 of 2
Client	: EHS SUPPORT PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: JULIAN HOWARD	Contact	: Peter Ravlic
Address	: 5000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +6138549 9645
Project	: PTY.06996	Date Samples Received	: 03-Sep-2025 16:20
Order number	: Arumpo	Date Analysis Commenced	: 04-Sep-2025
C-O-C number	: ----	Issue Date	: 05-Sep-2025 15:43
Sampler	: NATALIE NEWMAN		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 ^ = This result is computed from individual analyte detections at or above the level of reporting
 ø = ALS is not NATA accredited for these tests.
 ~ = Indicates an estimated value.

Analytical Results

Sub-Matrix: **SOIL**
 (Matrix: **SOIL**)

Sample ID

				QC02.B	----	----	----	----
Sampling date / time				25-Aug-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2516023-001	-----	-----	-----	-----
Result					----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	8.0	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	18	----	----	----	----
Copper	7440-50-8	5	mg/kg	46	----	----	----	----
Lead	7439-92-1	5	mg/kg	12	----	----	----	----
Nickel	7440-02-0	2	mg/kg	11	----	----	----	----
Zinc	7440-66-6	5	mg/kg	340	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EM2516023	Page	: 1 of 4
Client	: EHS SUPPORT PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: JULIAN HOWARD	Telephone	: +6138549 9645
Project	: PTY.06996	Date Samples Received	: 03-Sep-2025
Site	: ----	Issue Date	: 05-Sep-2025
Sampler	: NATALIE NEWMAN	No. of samples received	: 1
Order number	: Arumpo	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, where applicable to the methodology, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results. This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein. Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters. Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) QC02.B	25-Aug-2025	----	----	----	04-Sep-2025	08-Sep-2025	✔
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC02.B	25-Aug-2025	04-Sep-2025	21-Feb-2026	✔	04-Sep-2025	21-Feb-2026	✔
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QC02.B	25-Aug-2025	04-Sep-2025	22-Sep-2025	✔	05-Sep-2025	22-Sep-2025	✔



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).



CHAIN OF CUSTODY FORM - Client

[Copyright and Confidential]

Company:	EHS Support	Client Project Name/Number/Site etc (ie report title):	PTY.06996
Contact Person:	Julian Howard	PO No. (if applicable):	Arumpo
Project Mgr:	Julian Howard	Envirolab Quote No.:	
Sampler:	Natalie Newman	Date results required:	☒ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day
Address:	Level 7, 115 King William Street, 5000	Or choose:	
Phone:		Mob:	0403 272 519
Email Results to:	joel.kirk@ehs-support.com ESdat_AU+ehssupport@ESdatLabSync.net	Additional report format:	☒ sdat ☐ Equis
Email Invoice to:		Lab Comments:	

ENVIROLAB GROUP

National phone number 1300 424 344

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 ☎ 02 9910 6200 | ✉ sydney@envirolab.com.au

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 16-18 Hayden Crt, Myaree, WA 6
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Brisbane Office - Envirolab Se
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 ☎ 07 3266 9532 | ✉ brisbane@

Darwin Office - Envirolab Ser
 Unit 20/119 Reichardt Road, W

Environmental Division
 Melbourne

Work Order Reference

EM2516023



Telephone : + 61-3-8549 9600

Sample information					Tests Required															Provide as much information about the sample as you can
Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	SA Waste Screen	Metals	PAHs	OCFs	TRH BTXN	Phenoxy herbicides	Asbestos									
15	SS13		25.08.2025	soil																
16	SS14_0.0		25.08.2025	soil		X	X		X											stained near AST area
17	SS14_0.3		25.08.2025	soil																
18	SS15_0.0		25.08.2025	soil																
19	SS15_0.1		25.08.2025	soil																
20	SS16_0.0-0.2		25.08.2025	soil																large stained area near tree
21	SS17_0.0-0.2		25.08.2025	soil		X	X		X											large stained area near tree
22	QC01.A		25.08.2025	soil quality																
23	QC01.B		25.08.2025	soil quality																
24	QC02.A		25.08.2025	soil quality		X														
①	QC02.B		25.08.2025	soil quality		X														please forward to ALS
25	SS18		26.08.2025	soil																
26	SS19		26.08.2025	soil	X		X			X										CCA area
27	SS20		26.08.2025	soil		X		X												waste next to shed 2

☒ Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis

Relinquished by	Client	Interstate Office	Laboratory	Lab Use Only	
Print Name:	Natalie Newman			Job number:	Office Cooling: Ice / Ice pack / None
Date & Time:	28.08.2025 5pm			Temp Office: Temp Lab:	Lab Cooling: Ice / Ice pack / None
Signature:	N. Newman			TAT: SAME day / 1 / 2 / 3 / 4 / STD	Security seal: Intact / Broken / None

Relinqu by SS d EW melb
 3/09/25

CHADWY ALS
 3/9/25 15:50

Certificate of Analysis MGI0052

Client Details

Client	EHS Support
Contact	Julian Howard
Address	PO Box 297, PORT MELBOURNE, VIC, 3207

Sample Details

Your Reference	PTY.07104
Number of Samples	44 Soil, 2 Water
Date Samples Received	29/08/2025
Date Instructions Received	03/09/2025

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 soils and on an as received basis for other matrices.

Report Details

Date Final Results Expected	10/09/2025
Date of Issue	10/09/2025

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

Authorisation Details

Results Approved By	Chaminda Gunasekara, Inorganics Supervisor Chris De Luca, Lab Manager Maggie Hu, Organics Supervisor Tara White, Metals Supervisor
Laboratory Manager	Chris De Luca

Certificate of Analysis MGI0052

Samples in this Report

Envirolab ID	Sample ID	Matrix	Date Sampled	Date Received
MGI0052-01	SS01	Soil	25/08/2025	03/09/2025
MGI0052-02	SS02	Soil	25/08/2025	03/09/2025
MGI0052-03	SS03	Soil	25/08/2025	03/09/2025
MGI0052-04	SS04	Soil	25/08/2025	03/09/2025
MGI0052-05	SS05	Soil	25/08/2025	03/09/2025
MGI0052-06	SS06	Soil	25/08/2025	03/09/2025
MGI0052-07	SS07	Soil	25/08/2025	03/09/2025
MGI0052-08	SS08	Soil	25/08/2025	03/09/2025
MGI0052-09	SS08_0.1	Soil	25/08/2025	03/09/2025
MGI0052-10	SS09	Soil	25/08/2025	03/09/2025
MGI0052-11	SS10_0.03	Soil	25/08/2025	03/09/2025
MGI0052-12	SS10_0.2	Soil	25/08/2025	03/09/2025
MGI0052-13	SS11	Soil	25/08/2025	03/09/2025
MGI0052-14	SS12	Soil	25/08/2025	03/09/2025
MGI0052-15	SS13	Soil	25/08/2025	03/09/2025
MGI0052-16	SS14_0.0	Soil	25/08/2025	03/09/2025
MGI0052-17	SS14_0.3	Soil	25/08/2025	03/09/2025
MGI0052-18	SS15_0.0	Soil	25/08/2025	03/09/2025
MGI0052-19	SS15_0.1	Soil	25/08/2025	03/09/2025
MGI0052-20	SS16_0.0-0.2	Soil	25/08/2025	03/09/2025
MGI0052-21	SS17_0.0-0.2	Soil	25/08/2025	03/09/2025
MGI0052-22	QC01.A	Soil	25/08/2025	03/09/2025
MGI0052-23	QC01.B	Soil	25/08/2025	03/09/2025
MGI0052-24	QC02.A	Soil	25/08/2025	03/09/2025
MGI0052-25	SS18	Soil	26/08/2025	03/09/2025
MGI0052-26	SS19	Soil	26/08/2025	03/09/2025
MGI0052-27	SS20	Soil	26/08/2025	03/09/2025
MGI0052-28	SS21	Soil	26/08/2025	03/09/2025
MGI0052-29	SS22	Soil	26/08/2025	03/09/2025
MGI0052-30	SS23	Soil	26/08/2025	03/09/2025
MGI0052-31	SS24	Soil	26/08/2025	03/09/2025
MGI0052-32	SS25	Soil	26/08/2025	03/09/2025
MGI0052-33	SS26	Soil	26/08/2025	03/09/2025
MGI0052-34	SS27	Soil	26/08/2025	03/09/2025
MGI0052-35	SS28	Soil	26/08/2025	03/09/2025

Certificate of Analysis MGI0052

Samples in this Report

Envirolab ID	Sample ID	Matrix	Date Sampled	Date Received
MGI0052-36	SS29	Soil	26/08/2025	03/09/2025
MGI0052-37	SS30	Soil	26/08/2025	03/09/2025
MGI0052-38	SS31	Soil	26/08/2025	03/09/2025
MGI0052-39	SS32	Soil	26/08/2025	03/09/2025
MGI0052-40	SS33	Soil	26/08/2025	03/09/2025
MGI0052-41	SS34	Soil	26/08/2025	03/09/2025
MGI0052-42	SS35	Soil	26/08/2025	03/09/2025
MGI0052-43	QC03.A	Soil	25/08/2025	03/09/2025
MGI0052-44	QC03.B	Soil	25/08/2025	03/09/2025
MGI0052-45	RB01	Water	25/08/2025	03/09/2025
MGI0052-46	TB01	Water	25/05/2025	03/09/2025

Certificate of Analysis MGI0052

Volatile Organic Compounds (Soil)

Envirolab ID	Units	PQL	MGI0052-26	MGI0052-35
Your Reference			SS19	SS28
Date Sampled			26/08/2025	26/08/2025
Tetrachloroethene	mg/kg	1.0	<1.0	<1.0

Certificate of Analysis MGI0052

Volatile Organic Compounds - Surrogates (Soil)

Envirolab ID	Units	PQL	MGI0052-26	MGI0052-35
Your Reference			SS19	SS28
Date Sampled			26/08/2025	26/08/2025
Surrogate Dibromofluoromethane	%		101	107
Surrogate aaa-Trifluorotoluene	%		96.4	81.6
Surrogate Toluene-D8	%		98.1	101
Surrogate 4-Bromofluorobenzene	%		110	97.6

Certificate of Analysis MGI0052

Volatile TRH and BTEX (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-12 SS10_0.2 25/08/2025	MGI0052-16 SS14_0.0 25/08/2025	MGI0052-21 SS17_0.0-0.2 25/08/2025	MGI0052-26 SS19 26/08/2025	MGI0052-30 SS23 26/08/2025
TRH C6-C9	mg/kg	25	<25	<25	83	<25	40
TRH C6-C10	mg/kg	25	28	<25	300	<25	140
TRH C6-C10 less BTEX (F1)	mg/kg	25	28	<25	280	<25	140
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	1.7	<1.0	<1.0
meta+para Xylene	mg/kg	2.0	<2.0	<2.0	8.1	<2.0	<2.0
ortho-Xylene	mg/kg	1.0	<1.0	<1.0	5.5	<1.0	1.3
Total +ve Xylenes	mg/kg	1.0	<1.0	<1.0	14	<1.0	1.3
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0	<7.0 [4]	<1.0	<2.0 [4]
Total +ve BTEX	mg/kg	0.20	<0.20	<0.20	15	<0.20	1.3
Surrogate aaa-Trifluorotoluene	%		95.2	93.8	100	96.4	99.6

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-35 SS28 26/08/2025
TRH C6-C9	mg/kg	25	<25
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50
Benzene	mg/kg	0.20	<0.20
Toluene	mg/kg	0.50	<0.50
Ethylbenzene	mg/kg	1.0	<1.0
meta+para Xylene	mg/kg	2.0	<2.0
ortho-Xylene	mg/kg	1.0	<1.0
Total +ve Xylenes	mg/kg	1.0	<1.0
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0
Total +ve BTEX	mg/kg	0.20	<0.20
Surrogate aaa-Trifluorotoluene	%		81.6

Certificate of Analysis MGI0052

Semi-volatile TRH (Soil)

Envirolab ID	Units	PQL	MGI0052-12	MGI0052-16	MGI0052-21	MGI0052-26	MGI0052-30
Your Reference			SS10_0.2	SS14_0.0	SS17_0.0-0.2	SS19	SS23
Date Sampled			25/08/2025	25/08/2025	25/08/2025	26/08/2025	26/08/2025
TRH C10-C14	mg/kg	50	240	86	7600	<50	2300
TRH C15-C28	mg/kg	100	1400	26000	21000	<100	7200
TRH C29-C36	mg/kg	100	580	30000	110	<100	<100
Total +ve TRH C10-C36	mg/kg	50	2200	56000	29000	<50	9500
TRH >C10-C16	mg/kg	50	460	220	13000	<50	4200
TRH >C10-C16 less Naphthalene F2	mg/kg	50	460	220	13000	<50	4200
TRH >C16-C34 (F3)	mg/kg	100	1500	54000	14000	<100	5000
TRH >C34-C40 (F4)	mg/kg	100	310	3600	<100	<100	<100
Total +ve TRH >C10-C40	mg/kg	50	2300	58000	27000	<50	9200
Surrogate o-Terphenyl	%		## [3]	## [3]	## [3]	80.5	## [3]

Envirolab ID	Units	PQL	MGI0052-35
Your Reference			SS28
Date Sampled			26/08/2025
TRH C10-C14	mg/kg	50	<50
TRH C15-C28	mg/kg	100	<100
TRH C29-C36	mg/kg	100	110
Total +ve TRH C10-C36	mg/kg	50	110
TRH >C10-C16	mg/kg	50	<50
TRH >C10-C16 less Naphthalene F2	mg/kg	50	<50
TRH >C16-C34 (F3)	mg/kg	100	110
TRH >C34-C40 (F4)	mg/kg	100	<100
Total +ve TRH >C10-C40	mg/kg	50	110
Surrogate o-Terphenyl	%		80.9

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Polycyclic Aromatic Hydrocarbons (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-05 SS05 25/08/2025	MGI0052-16 SS14_0.0 25/08/2025	MGI0052-21 SS17_0.0-0.2 25/08/2025	MGI0052-26 SS19 26/08/2025	MGI0052-33 SS26 26/08/2025
Naphthalene	mg/kg	0.10	<0.10	<1.0 [5]	<8.0 [4]	[NA]	<0.10
Naphthalene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Acenaphthylene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	<0.10
Acenaphthylene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Acenaphthene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	<0.10
Acenaphthene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Fluorene	mg/kg	0.10	<0.10	<1.0 [5]	<2.0 [4]	[NA]	<0.10
Fluorene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Phenanthrene	mg/kg	0.10	<0.10	<1.0 [5]	1.6	[NA]	<0.10
Phenanthrene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Anthracene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	<0.10
Anthracene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Fluoranthene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	0.16
Fluoranthene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Pyrene	mg/kg	0.10	<0.10	<1.0 [5]	1.7	[NA]	0.17
Pyrene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Benzo(a)anthracene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	<0.10
Benzo(a)anthracene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Chrysene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	<0.10
Chrysene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Benzo(b,j,k)fluoranthene	mg/kg	0.20	<0.20	<2.0 [5]	<2.0 [5]	[NA]	<0.20
Benzo(b,j,k)fluoranthene	mg/kg	0.20	[NA]	[NA]	[NA]	<0.20	[NA]
Benzo(a)pyrene	mg/kg	0.050	<0.050	<0.50 [5]	<0.50 [5]	[NA]	0.069
Benzo(a)pyrene	mg/kg	0.050	[NA]	[NA]	[NA]	0.055	[NA]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	<0.10
Indeno(1,2,3-c,d)pyrene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Dibenzo(a,h)anthracene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	<0.10
Dibenzo(a,h)anthracene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Benzo(g,h,i)perylene	mg/kg	0.10	<0.10	<1.0 [5]	<1.0 [5]	[NA]	<0.10
Benzo(g,h,i)perylene	mg/kg	0.10	[NA]	[NA]	[NA]	<0.10	[NA]
Total +ve PAH	mg/kg	0.050	<0.050	<0.50	3.3	[NA]	0.40
Total +ve PAH	mg/kg		[NA]	[NA]	[NA]	0.055	[NA]
Benzo(a)pyrene TEQ calc zero	mg/kg	0.50	<0.50	<0.50	<0.50	[NA]	<0.50
Benzo(a)pyrene TEQ calc (zero)	mg/kg		[NA]	[NA]	[NA]	<0.50	[NA]
Benzo(a)pyrene TEQ calc Half	mg/kg	0.50	<0.50	0.96	0.96	[NA]	<0.50
Benzo(a)pyrene TEQ calc (Half)	mg/kg		[NA]	[NA]	[NA]	<0.50	[NA]
Benzo(a)pyrene TEQ calc PQL	mg/kg	0.50	<0.50	1.9	1.9	[NA]	<0.50
Benzo(a)pyrene TEQ calc (PQL)	mg/kg		[NA]	[NA]	[NA]	<0.50	[NA]
Surrogate p-Terphenyl-D14	%		99.2	125	101	[NA]	110
Surrogate p-Terphenyl-D14	%		[NA]	[NA]	[NA]	109	[NA]
Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-35 SS28 26/08/2025				
Naphthalene	mg/kg	0.10	[NA]				
Naphthalene	mg/kg	0.10	<0.10				

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Polycyclic Aromatic Hydrocarbons (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-35 SS28 26/08/2025
Acenaphthylene	mg/kg	0.10	[NA]
Acenaphthylene	mg/kg	0.10	<0.10
Acenaphthene	mg/kg	0.10	[NA]
Acenaphthene	mg/kg	0.10	<0.10
Fluorene	mg/kg	0.10	[NA]
Fluorene	mg/kg	0.10	<0.10
Phenanthrene	mg/kg	0.10	[NA]
Phenanthrene	mg/kg	0.10	<0.10
Anthracene	mg/kg	0.10	[NA]
Anthracene	mg/kg	0.10	<0.10
Fluoranthene	mg/kg	0.10	[NA]
Fluoranthene	mg/kg	0.10	0.14
Pyrene	mg/kg	0.10	[NA]
Pyrene	mg/kg	0.10	0.15
Benzo(a)anthracene	mg/kg	0.10	[NA]
Benzo(a)anthracene	mg/kg	0.10	<0.10
Chrysene	mg/kg	0.10	[NA]
Chrysene	mg/kg	0.10	<0.10
Benzo(b,j,k)fluoranthene	mg/kg	0.20	[NA]
Benzo(b,j,k)fluoranthene	mg/kg	0.20	<0.20
Benzo(a)pyrene	mg/kg	0.050	[NA]
Benzo(a)pyrene	mg/kg	0.050	0.087
Indeno(1,2,3-c,d)pyrene	mg/kg	0.10	[NA]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.10	<0.10
Dibenzo(a,h)anthracene	mg/kg	0.10	[NA]
Dibenzo(a,h)anthracene	mg/kg	0.10	<0.10
Benzo(g,h,i)perylene	mg/kg	0.10	[NA]
Benzo(g,h,i)perylene	mg/kg	0.10	<0.10
Total +ve PAH	mg/kg		[NA]
Total +ve PAH	mg/kg	0.050	0.38
Benzo(a)pyrene TEQ calc zero	mg/kg		[NA]
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.50	<0.50
Benzo(a)pyrene TEQ calc Half	mg/kg		[NA]
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.50	<0.50
Benzo(a)pyrene TEQ calc PQL	mg/kg		[NA]
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	0.50	<0.50
Surrogate p-Terphenyl-D14	%		[NA]
Surrogate p-Terphenyl-D14	%		122

Certificate of Analysis MGI0052

Organochlorine Pesticides (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-05 SS05 25/08/2025	MGI0052-07 SS07 25/08/2025	MGI0052-26 SS19 26/08/2025	MGI0052-27 SS20 26/08/2025	MGI0052-35 SS28 26/08/2025
alpha-BHC	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
alpha-BHC	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Hexachlorobenzene	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
beta-BHC	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
beta-BHC	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
gamma-BHC	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
gamma-BHC	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
delta-BHC	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
delta-BHC	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Heptachlor	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Heptachlor	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Aldrin	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Aldrin	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Heptachlor epoxide	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
trans-Chlordane	mg/kg	0.10	<0.10	<0.10	[NA]	0.54	[NA]
trans-Chlordane	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
cis-Chlordane	mg/kg	0.10	<0.10	<0.10	[NA]	0.54	[NA]
cis-Chlordane	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Endosulfan I	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Endosulfan I	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
4,4'-DDE	mg/kg	0.10	0.35	0.25	[NA]	<0.10	[NA]
4,4'-DDE	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	0.90
Dieldrin	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Dieldrin	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Endrin	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Endrin	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
4,4'-DDD	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
4,4'-DDD	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Endosulfan II	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Endosulfan II	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Endrin aldehyde	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
4,4'-DDT	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
4,4'-DDT	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.20 [4]
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Endosulfan sulfate	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Endrin ketone	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Endrin ketone	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Methoxychlor	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Methoxychlor	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Mirex	mg/kg	0.10	<0.10	<0.10	[NA]	<0.10	[NA]
Mirex	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10
Total +ve DDT+DDD+DDE	mg/kg		0.35	0.25	[NA]	<0.10	[NA]
Total +ve Aldrin + Dieldrin	mg/kg		<0.10	<0.10	[NA]	<0.10	[NA]

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Organochlorine Pesticides (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-05 SS05 25/08/2025	MGI0052-07 SS07 25/08/2025	MGI0052-26 SS19 26/08/2025	MGI0052-27 SS20 26/08/2025	MGI0052-35 SS28 26/08/2025
Total +ve OCP	mg/kg		0.35	0.25	[NA]	1.1	[NA]
Surrogate 4-chloro-3-nitrobenzotrifluoride	%		85.4	87.5	[NA]	96.4	[NA]
Surrogate 4-chloro-3-nitrobenzotrifluoride	%		[NA]	[NA]	95.6	[NA]	118
Total +ve Aldrin + Dieldrin	mg/kg	0.10	[NA]	[NA]	<0.10	[NA]	<0.10

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-42 SS35 26/08/2025
alpha-BHC	mg/kg	0.10	<0.10
alpha-BHC	mg/kg	0.10	[NA]
Hexachlorobenzene	mg/kg	0.10	<0.10
Hexachlorobenzene	mg/kg	0.10	[NA]
beta-BHC	mg/kg	0.10	<0.10
beta-BHC	mg/kg	0.10	[NA]
gamma-BHC	mg/kg	0.10	<0.10
gamma-BHC	mg/kg	0.10	[NA]
delta-BHC	mg/kg	0.10	<0.10
delta-BHC	mg/kg	0.10	[NA]
Heptachlor	mg/kg	0.10	<0.10
Heptachlor	mg/kg	0.10	[NA]
Aldrin	mg/kg	0.10	<0.10
Aldrin	mg/kg	0.10	[NA]
Heptachlor epoxide	mg/kg	0.10	<0.10
Heptachlor epoxide	mg/kg	0.10	[NA]
trans-Chlordane	mg/kg	0.10	<0.10
trans-Chlordane	mg/kg	0.10	[NA]
cis-Chlordane	mg/kg	0.10	<0.10
cis-Chlordane	mg/kg	0.10	[NA]
Endosulfan I	mg/kg	0.10	<0.10
Endosulfan I	mg/kg	0.10	[NA]
4,4'-DDE	mg/kg	0.10	<0.10
4,4'-DDE	mg/kg	0.10	[NA]
Dieldrin	mg/kg	0.10	<0.10
Dieldrin	mg/kg	0.10	[NA]
Endrin	mg/kg	0.10	<0.10
Endrin	mg/kg	0.10	[NA]
4,4'-DDD	mg/kg	0.10	<0.10
4,4'-DDD	mg/kg	0.10	[NA]
Endosulfan II	mg/kg	0.10	<0.10
Endosulfan II	mg/kg	0.10	[NA]
Endrin aldehyde	mg/kg	0.10	<0.10
Endrin aldehyde	mg/kg	0.10	[NA]
4,4'-DDT	mg/kg	0.10	<0.10
4,4'-DDT	mg/kg	0.10	[NA]
Endosulfan sulfate	mg/kg	0.10	<0.10
Endosulfan sulfate	mg/kg	0.10	[NA]

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Organochlorine Pesticides (Soil)

Envirolab ID	Units	PQL	MGI0052-42
Your Reference			SS35
Date Sampled			26/08/2025
Endrin ketone	mg/kg	0.10	<0.10
Endrin ketone	mg/kg	0.10	[NA]
Methoxychlor	mg/kg	0.10	<0.10
Methoxychlor	mg/kg	0.10	[NA]
Mirex	mg/kg	0.10	<0.10
Mirex	mg/kg	0.10	[NA]
Total +ve DDT+DDD+DDE	mg/kg	0.10	<0.10
Total +ve Aldrin + Dieldrin	mg/kg	0.10	<0.10
Total +ve OCP	mg/kg	0.10	<0.10
Surrogate 4-chloro-3-nitrobenzotrifluoride	%		114
Surrogate 4-chloro-3-nitrobenzotrifluoride	%		[NA]
Total +ve Aldrin + Dieldrin	mg/kg		[NA]

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Polychlorinated Biphenyls (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-26 SS19 26/08/2025	MGI0052-35 SS28 26/08/2025
Aroclor 1016	mg/kg	0.10	<0.10	<0.10
Aroclor 1221	mg/kg	0.10	<0.10	<0.10
Aroclor 1232	mg/kg	0.10	<0.10	<0.10
Aroclor 1242	mg/kg	0.10	<0.10	<0.10
Aroclor 1248	mg/kg	0.10	<0.10	<0.10
Aroclor 1254	mg/kg	0.10	<0.10	<0.10
Aroclor 1260	mg/kg	0.10	<0.10	<0.10
Total +ve PCB (1016-1260)	mg/kg	0.10	<0.10	<0.10
Surrogate 2-Fluorobiphenyl	%		72.6	97.4

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Speciated Phenols (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-26 SS19 26/08/2025	MGI0052-35 SS28 26/08/2025
Phenol	mg/kg	0.20	<0.20	<0.20
2-Chlorophenol	mg/kg	0.20	<0.20	<0.20
2-Methylphenol	mg/kg	0.20	<0.20	<0.20
3/4-Methylphenol	mg/kg	0.40	<0.40	<0.40
2-Nitrophenol	mg/kg	0.20	<0.20	<0.20
2,4-Dimethylphenol	mg/kg	0.20	<0.20	<0.20
2,4-Dichlorophenol	mg/kg	0.20	<0.20	<0.20
2,6-Dichlorophenol	mg/kg	0.20	<0.20	<0.20
4-Chloro-3-methylphenol	mg/kg	1.0	<1.0	<1.0
2,4,6-Trichlorophenol	mg/kg	0.20	<0.20	<0.20
2,4,5-Trichlorophenol	mg/kg	0.20	<0.20	<0.20
2,4-Dinitrophenol	mg/kg	4.0	<4.0	<4.0
4-Nitrophenol	mg/kg	4.0	<4.0	<4.0
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.40	<0.40	<0.40
2,3,5,6-Tetrachlorophenol	mg/kg	0.20	<0.20	<0.20
4,6-Dinitro-2-methylphenol	mg/kg	10	<10	<10
Pentachlorophenol	mg/kg	2.0	<2.0	<2.0
Dinoseb	mg/kg	10	<10	<10
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	20	<20	<20
Total +ve Phenolic Compounds	mg/kg	0.20	<0.20	<0.20
Surrogate 2-Fluorophenol	%		89.3	78.9
Surrogate Phenol-D6	%		89.9	103

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Phenoxy Acid Herbicides (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-05 SS05 25/08/2025	MGI0052-13 SS11 25/08/2025	MGI0052-26 SS19 26/08/2025	MGI0052-35 SS28 26/08/2025	MGI0052-41 SS34 26/08/2025
Clopyralid	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
3,5-Dichlorobenzoic acid	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
2-Chlorophenoxy acetic acid	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
4-Chlorophenoxy acetic acid	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
Dicamba	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
Mecoprop	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
MCPA	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
2,6-D	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
Dichlorprop	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
2,4-D	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
Bromoxynil	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
Triclopyr	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
2,4,6-T	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
2,4,5-TP	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
2,4,5-T	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
MCPB	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
Dinoseb	mg/kg	1.0	<1.0	<10 [5]	<1.0	<1.0	<1.0
2,4-DB	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
Ioxynil	mg/kg	1.0	<1.0	<10 [5]	<1.0	<1.0	<1.0
Picloram	mg/kg	0.50	<0.50	<5.0 [5]	<0.50	<0.50	<0.50
Acifluorfen	mg/kg	2.0	<2.0	<20 [5]	<2.0	<2.0	<2.0
Fluroxypyr	mg/kg	1.0	<1.0	<10 [5]	<1.0	<1.0	<1.0
Chloramben	mg/kg	1.0	<1.0	<10 [5]	<1.0	<1.0	<1.0
Bentazon	mg/kg	1.0	<1.0	<10 [5]	<1.0	<1.0	<1.0
Surrogate 2,4-DCPA	%		109	109	109	109	111

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Acid Extractable Metals (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-01 SS01 25/08/2025	MGI0052-05 SS05 25/08/2025	MGI0052-07 SS07 25/08/2025	MGI0052-12 SS10_0.2 25/08/2025	MGI0052-13 SS11 25/08/2025
Silver	mg/kg	1.0	[NA]	[NA]	[NA]	[NA]	[NA]
Arsenic	mg/kg	4.0	12	<4.0	<4.0	<4.0	<4.0
Barium	mg/kg	1.0	[NA]	[NA]	[NA]	[NA]	[NA]
Beryllium	mg/kg	1.0	[NA]	[NA]	[NA]	[NA]	[NA]
Cadmium	mg/kg	0.40	<0.40	0.55	<0.40	0.44	<0.40
Cobalt	mg/kg	1.0	[NA]	[NA]	[NA]	[NA]	[NA]
Chromium	mg/kg	1.0	16	11	9.1	13	8.1
Copper	mg/kg	1.0	270	40	11	33	37
Iron	mg/kg	10	[NA]	[NA]	[NA]	[NA]	[NA]
Mercury	mg/kg	0.10	<0.10	0.11	<0.10	<0.10	<0.10
Manganese	mg/kg	1.0	[NA]	[NA]	[NA]	[NA]	[NA]
Nickel	mg/kg	1.0	12	6.7	5.7	9.0	7.3
Lead	mg/kg	1.0	69	39	15	34	7.9
Zinc	mg/kg	1.0	390	490	410	250	78

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-16 SS14_0.0 25/08/2025	MGI0052-21 SS17_0.0-0.2 25/08/2025	MGI0052-24 QC02.A 25/08/2025	MGI0052-26 SS19 26/08/2025	MGI0052-27 SS20 26/08/2025
Silver	mg/kg	1.0	[NA]	[NA]	[NA]	<1.0	[NA]
Arsenic	mg/kg	4.0	6.8	<4.0	5.0	5.3	<4.0
Barium	mg/kg	1.0	[NA]	[NA]	[NA]	56	[NA]
Beryllium	mg/kg	1.0	[NA]	[NA]	[NA]	<1.0	[NA]
Cadmium	mg/kg	0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Cobalt	mg/kg	1.0	[NA]	[NA]	[NA]	5.2	[NA]
Chromium	mg/kg	1.0	21	14	18	16	16
Copper	mg/kg	1.0	46	50	56	39	59
Iron	mg/kg	10	[NA]	[NA]	[NA]	8800	[NA]
Mercury	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Manganese	mg/kg	1.0	[NA]	[NA]	[NA]	330	[NA]
Nickel	mg/kg	1.0	8.5	9.6	10	8.8	12
Lead	mg/kg	1.0	15	18	17	18	19
Zinc	mg/kg	1.0	250	340	560	240	230

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0052-30 SS23 26/08/2025	MGI0052-33 SS26 26/08/2025	MGI0052-35 SS28 26/08/2025	MGI0052-37 SS30 26/08/2025	MGI0052-40 SS33 26/08/2025
Silver	mg/kg	1.0	[NA]	[NA]	<1.0	[NA]	[NA]
Arsenic	mg/kg	4.0	<4.0	4.8	<4.0	4.2	13
Barium	mg/kg	1.0	[NA]	[NA]	100	[NA]	[NA]
Beryllium	mg/kg	1.0	[NA]	[NA]	<1.0	[NA]	[NA]
Cadmium	mg/kg	0.40	<0.40	<0.40	0.47	<0.40	1.1
Cobalt	mg/kg	1.0	[NA]	[NA]	6.0	[NA]	[NA]
Chromium	mg/kg	1.0	8.7	18	19	11	13
Copper	mg/kg	1.0	18	18	48	45	53
Iron	mg/kg	10	[NA]	[NA]	13000	[NA]	[NA]
Mercury	mg/kg	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Manganese	mg/kg	1.0	[NA]	[NA]	390	[NA]	[NA]

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Acid Extractable Metals (Soil)

Envirolab ID	Units	PQL	MGI0052-30	MGI0052-33	MGI0052-35	MGI0052-37	MGI0052-40
Your Reference			SS23	SS26	SS28	SS30	SS33
Date Sampled			26/08/2025	26/08/2025	26/08/2025	26/08/2025	26/08/2025
Nickel	mg/kg	1.0	6.5	13	12	5.9	12
Lead	mg/kg	1.0	4.8	9.6	68	38	88
Zinc	mg/kg	1.0	41	53	440	390	920

Envirolab ID	Units	PQL	MGI0052-41	MGI0052-42
Your Reference			SS34	SS35
Date Sampled			26/08/2025	26/08/2025
Silver	mg/kg	1.0	[NA]	[NA]
Arsenic	mg/kg	4.0	5.0	4.1
Barium	mg/kg	1.0	[NA]	[NA]
Beryllium	mg/kg	1.0	[NA]	[NA]
Cadmium	mg/kg	0.40	0.99	0.69
Cobalt	mg/kg	1.0	[NA]	[NA]
Chromium	mg/kg	1.0	18	23
Copper	mg/kg	1.0	53	1100
Iron	mg/kg	10	[NA]	[NA]
Mercury	mg/kg	0.10	<0.10	<0.10
Manganese	mg/kg	1.0	[NA]	[NA]
Nickel	mg/kg	1.0	11	15
Lead	mg/kg	1.0	69	62
Zinc	mg/kg	1.0	680	800

Certificate of Analysis MGI0052

Inorganic Soil Extractions (Soil)

Envirolab ID	Units	PQL	MGI0052-26	MGI0052-35
Your Reference			SS19	SS28
Date Sampled			26/08/2025	26/08/2025
Trivalent Chromium	mg/kg	1.0	16	19

Certificate of Analysis MGI0052

Inorganics - General Chemical Parameters (Soil)

Envirolab ID	Units	PQL	MGI0052-26	MGI0052-35
Your Reference			SS19	SS28
Date Sampled			26/08/2025	26/08/2025
Hexavalent Chromium	mg/kg	1.0	<1.0	<1.0

Certificate of Analysis MGI0052

Inorganics - Moisture (Soil)

Envirolab ID	Units	PQL	MGI0052-01	MGI0052-05	MGI0052-07	MGI0052-12	MGI0052-13
Your Reference			SS01	SS05	SS07	SS10_0.2	SS11
Date Sampled			25/08/2025	25/08/2025	25/08/2025	25/08/2025	25/08/2025
Moisture	%	0.10	9.1	7.6	7.2	9.7	3.4

Envirolab ID	Units	PQL	MGI0052-16	MGI0052-21	MGI0052-24	MGI0052-26	MGI0052-27
Your Reference			SS14_0.0	SS17_0.0-0.2	QC02.A	SS19	SS20
Date Sampled			25/08/2025	25/08/2025	25/08/2025	26/08/2025	26/08/2025
Moisture	%	0.10	4.8	7.0	6.9	6.8	9.6

Envirolab ID	Units	PQL	MGI0052-30	MGI0052-33	MGI0052-35	MGI0052-37	MGI0052-40
Your Reference			SS23	SS26	SS28	SS30	SS33
Date Sampled			26/08/2025	26/08/2025	26/08/2025	26/08/2025	26/08/2025
Moisture	%	0.10	5.0	6.5	7.7	15	11

Envirolab ID	Units	PQL	MGI0052-41	MGI0052-42
Your Reference			SS34	SS35
Date Sampled			26/08/2025	26/08/2025
Moisture	%	0.10	11	7.0

Certificate of Analysis MGI0052

Inorganics - Cyanide Species and Similar (Soil)

Envirolab ID	Units	PQL	MGI0052-26	MGI0052-35
Your Reference			SS19	SS28
Date Sampled			26/08/2025	26/08/2025
Total Cyanide	mg/kg	0.50	<0.50	<0.50

Certificate of Analysis MGI0052

Result Comments

Identifier	Description
[3]	Surrogate recovery is outside routine acceptance criteria (60-140%) as a result of the high concentration of analyte(s) in the sample.
[4]	PQL(s) has/have been raised due to matrix interference.
[5]	PQL has been raised due to matrix requiring dilution

Certificate of Analysis MGI0052

Method Summary

Method ID	Methodology Summary
Calc - Trivalent Cr	Calculation
INORG-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
INORG-014	Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish). Solids/Filters and sorbents are extracted in a caustic media prior to analysis. Impingers are pH adjusted as required prior to analysis. Cyanides amenable to Chlorination - samples are analysed untreated and treated with hypochlorite to assess the potential for chlorination of cyanide forms.
INORG-118	Hexavalent Chromium by Ion Chromatographic separation and colourimetric determination. Waters samples are filtered prior to analysis. Solids are extracted with an alkaline buffered solution, for air sampling media the same alkali extraction can be used or alternatives from NIOSH/OSHA. For aqueous samples, Total Hexavalent Chromium includes the dissolved Hexavalent Chromium and any Hexavalent Chromium solubilised by the preservative i.e. Sodium Hydroxide from any particulate that may be present.
METALS-020	Determination of various metals by ICP-OES. Where salts (oxides, chlorides etc.) are calculated from the element concentration stoichiometrically there is no guarantee that the salt form is completely soluble in the acids used in the preparation.
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-021/022/025_P CB	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS.
ORG-022	Determination of semi-volatile organic compounds (SVOCs) by GC-MS. Water samples are extracted by LLE and soils using DCM/Acetone/Methanol.
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-022_PAH	Determination of semi-volatile organic compounds (SVOCs) by GC-MS. Water samples are extracted by LLE and solids using DCM/Acetone/Methanol. For PAHs:- Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, for Total +ve calculations, the PQL is reflective of the lowest individual PQL and therefore, for example, "Total +ve PAHs" is simply a sum of the positive individual PAHs.
ORG-023	Determination of volatile organic compounds (VOCs) by P&T-GC-MS. Water samples are analysed directly by purge and trap GC-MS. Soils are extracted with Methanol, diluted and analysed by purge and trap GC-MS.
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)-BTX 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 therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Certificate of Analysis MGI0052

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 MGI0052

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 volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volume(s) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

Data Quality Assessment Summary MGI0052

Client Details

Client	EHS Support
Your Reference	PTY.07104
Date Issued	10/09/2025

Recommended Holding Time Compliance

No recommended holding time exceedances

Quality Control and QC Frequency

QC Type	Compliant	Details
Blank	Yes	No Outliers
LCS	Yes	No Outliers
Duplicates	Yes	No Outliers
Matrix Spike	No	Matrix Spike Outliers Exist - See detailed list below
Surrogates / Extracted Internal Standards	No	Surrogates / Extracted ISTD Outliers Exist - See detailed list below
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 MGI0052

Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
Tetrachloroethene Soil	35	26/08/2025	08/09/2025	09/09/2025	Yes
	26	26/08/2025	08/09/2025	10/09/2025	Yes
VOC - Surrogates Soil	35	26/08/2025	08/09/2025	09/09/2025	Yes
	26	26/08/2025	08/09/2025	10/09/2025	Yes
VTRH&MBTEXN Soil	12, 16, 21	25/08/2025	08/09/2025	10/09/2025	Yes
	35	26/08/2025	08/09/2025	09/09/2025	Yes
	26, 30	26/08/2025	08/09/2025	10/09/2025	Yes
sTRH Soil	21	25/08/2025	08/09/2025	09/09/2025	Yes
	12, 16	25/08/2025	08/09/2025	10/09/2025	Yes
	35	26/08/2025	08/09/2025	09/09/2025	Yes
	26, 30	26/08/2025	08/09/2025	10/09/2025	Yes
PAH Soil	5, 16	25/08/2025	08/09/2025	09/09/2025	Yes
	21	25/08/2025	08/09/2025	10/09/2025	Yes
	26, 35	26/08/2025	08/09/2025	09/09/2025	Yes
	33	26/08/2025	08/09/2025	10/09/2025	Yes
OCP Soil	5, 7	25/08/2025	08/09/2025	09/09/2025	Yes
	26-27, 35, 42	26/08/2025	08/09/2025	09/09/2025	Yes
PCB Soil	26, 35	26/08/2025	08/09/2025	09/09/2025	Yes
Speciated Phenols Soil	26, 35	26/08/2025	08/09/2025	09/09/2025	Yes
Phenoxy Acid Herbicides Soil	5, 13	25/08/2025	08/09/2025	10/09/2025	Yes
	26, 35, 41	26/08/2025	08/09/2025	10/09/2025	Yes
Metals Soil	1, 5, 7, 12-13, 16, 21, 24	25/08/2025	08/09/2025	10/09/2025	Yes
	26-27, 30, 33, 35, 37, 40-42	26/08/2025	08/09/2025	10/09/2025	Yes
Metals-Hg Soil	1, 5, 7, 12-13, 16, 21, 24	25/08/2025	08/09/2025	10/09/2025	Yes
	26-27, 30, 33, 35, 37, 40-42	26/08/2025	08/09/2025	10/09/2025	Yes
SA EPA Waste Soil	26, 35	26/08/2025	08/09/2025	10/09/2025	Yes
Cr6+ Soil	26, 35	26/08/2025	08/09/2025	09/09/2025	Yes
Moisture Soil	1, 5, 7, 12-13, 16, 21, 24	25/08/2025	08/09/2025	10/09/2025	Yes
	26-27, 30, 33, 35, 37, 40-42	26/08/2025	08/09/2025	10/09/2025	Yes
Cyanide - Total Soil	26, 35	26/08/2025	08/09/2025	10/09/2025	Yes

Data Quality Assessment Summary MGI0052

Outliers: Matrix Spike

METALS-020 | Acid Extractable Metals (Soil) | Batch BGI1308

Sample ID	Analyte	% Limits	% Recovery
BGI1308-MS1#	Iron	70 - 130	##[1]

METALS-020 | Acid Extractable Metals (Soil) | Batch BGI1318

Sample ID	Analyte	% Limits	% Recovery
MGI0052-41	Barium	70 - 130	##[2]
MGI0052-41	Iron	70 - 130	##[1]
MGI0052-41	Zinc	70 - 130	##[1]

ORG-020 | Semi-volatile TRH (Soil) | Batch BGI1317

Sample ID	Analyte	% Limits	% Recovery
MGI0052-42	TRH C29-C36	60 - 140	##[1]

Outliers: Surrogate / Extracted Internal Standards

ORG-020 | Semi-volatile TRH (Matrix) | Batch BGI1306

Sample ID	Analyte	% Limits	% Recovery
MGI0052-12	o-Terphenyl	60 - 140	## [3]
MGI0052-16	o-Terphenyl	60 - 140	## [3]
MGI0052-21	o-Terphenyl	60 - 140	## [3]
MGI0052-30	o-Terphenyl	60 - 140	## [3]

Quality Control MGI0052

ORG-023 | Volatile Organic Compounds (Soil) | Batch BGI1305

Analyte	Units	PQL	Blank	DUP1 BGI1305-DUP1# Samp QC RPD %	DUP2 MGI0052-30 Samp QC RPD %	LCS %	Spike % BGI1305-MS1#
Tetrachloroethene	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	88.7	91.0

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

ORG-023 | Volatile Organic Compounds (Soil) | Batch BGI1316

Analyte	Units	PQL	Blank	DUP1 MGI0052-35 Samp QC RPD %	DUP2 BGI1316-DUP2# Samp QC RPD %	LCS %	Spike % BGI1316-MS1#
Tetrachloroethene	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	82.7	90.5

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

ORG-023 | Volatile Organic Compounds - Surrogates (Soil) | Batch BGI1305

Analyte	Units	PQL	Blank	DUP1 BGI1305-DUP1# Samp QC RPD %	DUP2 MGI0052-30 Samp QC RPD %	LCS %	Spike % BGI1305-MS1#
Surrogate Dibromofluoromethane	%		101	99.1 101	107 104	96.9	96.4
Surrogate aaa-Trifluorotoluene	%		99.6	94.0 97.0	99.6 103	98.6	95.1
Surrogate Toluene-D8	%		98.5	97.9 98.8	104 103	104	104
Surrogate 4-Bromofluorobenzene	%		106	106 106	107 108	101	102

Analyte	Units	PQL	Blank	LCS %	Spike % BGI1305-MS2#
Surrogate Dibromofluoromethane	%			102	102
Surrogate aaa-Trifluorotoluene	%			102	97.8
Surrogate Toluene-D8	%			104	104
Surrogate 4-Bromofluorobenzene	%			102	103

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

ORG-023 | Volatile Organic Compounds - Surrogates (Soil) | Batch BGI1316

Analyte	Units	PQL	Blank	DUP1 MGI0052-35 Samp QC RPD %	DUP2 BGI1316-DUP2# Samp QC RPD %	LCS %	Spike % BGI1316-MS1#
Surrogate Dibromofluoromethane	%		108	107 108	109 109	108	104
Surrogate aaa-Trifluorotoluene	%		83.7	81.6 81.7	83.4 81.6	84.9	80.1
Surrogate Toluene-D8	%		101	101 101	101 101	101	101
Surrogate 4-Bromofluorobenzene	%		97.4	97.6 97.1	116 107	100	101

Analyte	Units	PQL	Blank	LCS %	Spike % BGI1316-MS2#
Surrogate Dibromofluoromethane	%			107	107
Surrogate aaa-Trifluorotoluene	%			82.8	94.9
Surrogate Toluene-D8	%			99.8	118
Surrogate 4-Bromofluorobenzene	%			98.3	98.4

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

Quality Control MGI0052

ORG-023_F1_TOT|Volatile TRH and BTEX (Soil) | Batch BGI1305

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1305-DUP1# Samp QC RPD %	MGI0052-30 Samp QC RPD %		
TRH C6-C9	mg/kg	25	<25	<25 <25 [NA]	39.9 43.3 [NA]	112	117
TRH C6-C10	mg/kg	25	<25	<25 <25 [NA]	139 149 7.59	115	117
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	<0.50 <0.50 [NA]	[NA]	[NA]
Benzene	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	85.2	87.9
Toluene	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	<0.50 <0.50 [NA]	85.2	87.2
Ethylbenzene	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	90.3	92.8
meta+para Xylene	mg/kg	2.0	<2.0	<2.0 <2.0 [NA]	<2.0 <2.0 [NA]	98.8	102
ortho-Xylene	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	1.25 1.22 [NA]	96.2	98.5
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<2.0 <2.0 [NA] [4]	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%		99.6	94.0 97.0	99.6 103	102	97.8

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

ORG-023_F1_TOT|Volatile TRH and BTEX (Soil) | Batch BGI1316

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				MGI0052-35 Samp QC RPD %	BGI1316-DUP2# Samp QC RPD %		
TRH C6-C9	mg/kg	25	<25	<25 <25 [NA]	<25 <25 [NA]	80.8	108
TRH C6-C10	mg/kg	25	<25	<25 <25 [NA]	<25 <25 [NA]	92.4	102
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	<0.50 <0.50 [NA]	[NA]	[NA]
Benzene	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	82.8	81.9
Toluene	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	<0.50 <0.50 [NA]	85.7	101
Ethylbenzene	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	83.7	82.9
meta+para Xylene	mg/kg	2.0	<2.0	<2.0 <2.0 [NA]	<2.0 <2.0 [NA]	86.7	86.1
ortho-Xylene	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	84.8	84.0
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	%		83.7	81.6 81.7	83.4 81.6	82.8	94.9

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

ORG-020|Semi-volatile TRH (Soil) | Batch BGI1306

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1306-DUP1# Samp QC RPD %	MGI0052-21 Samp QC RPD %		
TRH C10-C14	mg/kg	50	<50	<50 <50 [NA]	7630 7820 2.53	120	110
TRH C15-C28	mg/kg	100	<100	<100 <100 [NA]	20800 22000 5.76	107	99.7
TRH C29-C36	mg/kg	100	<100	<100 <100 [NA]	111 139 [NA]	116	94.4
TRH >C10-C16	mg/kg	50	<50	<50 <50 [NA]	13300 13700 3.05	96.0	89.2
TRH >C16-C34 (F3)	mg/kg	100	<100	<100 <100 [NA]	14300 15300 6.68	110	102
TRH >C34-C40 (F4)	mg/kg	100	<100	<100 <100 [NA]	<100 <100 [NA]	110	75.6
Surrogate o-Terphenyl	%		91.0	86.2 85.9	## ##[NA] [3]	96.4	91.3

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

ORG-020|Semi-volatile TRH (Soil) | Batch BGI1317

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				MGI0052-35 Samp QC RPD %	BGI1317-DUP2# Samp QC RPD %		
TRH C10-C14	mg/kg	50	<50	<50 <50 [NA]	<50 <50 [NA]	106	100
TRH C15-C28	mg/kg	100	<100	<100 <100 [NA]	<100 <100 [NA]	97.0	90.9
TRH C29-C36	mg/kg	100	<100	114 127 [NA]	<100 <100 [NA]	109	##[1]
TRH >C10-C16	mg/kg	50	<50	<50 <50 [NA]	<50 <50 [NA]	84.8	83.3
TRH >C16-C34 (F3)	mg/kg	100	<100	113 123 [NA]	<100 <100 [NA]	100	100
TRH >C34-C40 (F4)	mg/kg	100	<100	<100 <100 [NA]	<100 <100 [NA]	105	109
Surrogate o-Terphenyl	%		82.5	80.9 79.9	77.5 77.4	96.2	97.1

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

Quality Control MGI0052

ORG-022_PAH | Polycyclic Aromatic Hydrocarbons (Soil) | Batch BGI1306

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1306-DUP1# Samp QC RPD %	MGI0052-21 Samp QC RPD %		
Naphthalene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<8.0 <8.0 [NA] [4]	89.7	84.3
Acenaphthylene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Acenaphthene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	94.5	91.0
Fluorene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<2.0 <2.0 [NA] [4]	85.1	83.0
Phenanthrene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	1.61 1.71 [NA]	96.9	98.8
Anthracene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Fluoranthene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	106	106
Pyrene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	1.71 1.84 [NA]	116	113
Benzo(a)anthracene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Chrysene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	107	110
Benzo(b,j,k)fluoranthene	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	[NA]	[NA]
Benzo(a)pyrene	mg/kg	0.050	<0.050	<0.050 <0.050 [NA]	<0.50 <0.50 [NA] [5]	95.0	95.2
Indeno(1,2,3-c,d)pyrene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Dibenzo(a,h)anthracene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Benzo(g,h,i)perylene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Surrogate p-Terphenyl-D14	%		91.2	97.8 / 95.4	101 / 98.8	105	101

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

ORG-022_PAH | Polycyclic Aromatic Hydrocarbons (Soil) | Batch BGI1317

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				MGI0052-35 Samp QC RPD %	BGI1317-DUP2# Samp QC RPD %		
Naphthalene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	99.7	113
Acenaphthylene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Acenaphthene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	103	116
Fluorene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	94.1	109
Phenanthrene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	91.0	98.6
Anthracene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Fluoranthene	mg/kg	0.10	<0.10	0.145 0.142 [NA]	<0.10 <0.10 [NA]	107	124
Pyrene	mg/kg	0.10	<0.10	0.151 0.155 [NA]	<0.10 <0.10 [NA]	114	134
Benzo(a)anthracene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Chrysene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	105	116
Benzo(b,j,k)fluoranthene	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	[NA]	[NA]
Benzo(a)pyrene	mg/kg	0.050	<0.050	0.0868 0.0846 [NA]	<0.050 <0.050 [NA]	104	129
Indeno(1,2,3-c,d)pyrene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Dibenzo(a,h)anthracene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Benzo(g,h,i)perylene	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Surrogate p-Terphenyl-D14	%		114	122 / 116	112 / 102	110	118

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

Quality Control MGI0052

ORG-022_OC|Organochlorine Pesticides (Soil) | Batch BGI1306

Analyte	Units	PQL	Blank	DUP1			DUP2			LCS %	Spike %
				BGI1306-DUP1#			MGI0052-21				
				Samp	QC	RPD %	Samp	QC	RPD %		
alpha-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	87.7	82.9
Hexachlorobenzene	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
beta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<6.0	<6.0	[NA] [4]	84.5	79.4
gamma-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<5.0	<5.0	[NA] [4]	[NA]	[NA]
delta-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<3.0	<3.0	[NA] [4]	[NA]	[NA]
Heptachlor	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<4.0	<4.0	[NA] [4]	114	109
Aldrin	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<2.0	<2.0	[NA] [4]	126	126
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	127	126
trans-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
cis-Chlordane	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
Endosulfan I	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
4,4'-DDE	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	103	102
Dieldrin	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	100	101
Endrin	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	88.9	86.8
4,4'-DDD	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	127	128
Endosulfan II	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
Endrin aldehyde	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
4,4'-DDT	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
Endosulfan sulfate	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	85.6	82.9
Endrin ketone	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
Methoxychlor	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
Mirex	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<1.0	<1.0	[NA] [5]	[NA]	[NA]
Surrogate 4-chloro-3-nitrobenzotrifluoride	%		83.2	84.7 / 90.4			89.8 / 91.4			92.9	90.6

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 BGI1317

Analyte	Units	PQL	Blank	DUP1			DUP2			LCS %	Spike %
				MGI0052-35			BGI1317-DUP2#				
				Samp	QC	RPD %	Samp	QC	RPD %		
alpha-BHC	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<0.10	<0.10	[NA]	100	111
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]	96.8	112
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]	111	127
Aldrin	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<0.10	<0.10	[NA]	116	130
Heptachlor epoxide	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<0.10	<0.10	[NA]	115	130
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	0.903	0.980	8.18	<0.10	<0.10	[NA]	110	130
Dieldrin	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<0.10	<0.10	[NA]	117	138
Endrin	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<0.10	<0.10	[NA]	72.1	140
4,4'-DDD	mg/kg	0.10	<0.10	<0.10	<0.10	[NA]	<0.10	<0.10	[NA]	126	136
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	<0.20	<0.20	[NA] [4]	<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]	87.2	104
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 4-chloro-3-nitrobenzotrifluoride	%		111	118 / 108			109 / 101			115	123

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

Quality Control MGI0052

ORG-021/022/025_PCB | Polychlorinated Biphenyls (Soil) | Batch BGI1306

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1306-DUP1#	MGI0052-21		
				Samp QC RPD %	Samp QC RPD %		
Aroclor 1016	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Aroclor 1221	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Aroclor 1232	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Aroclor 1242	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Aroclor 1248	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Aroclor 1254	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
Aroclor 1260	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<1.0 <1.0 [NA] [5]	[NA]	[NA]
PCB C103	mg/kg			0.00 0.00 [NA]	0.00 0.00 [NA] [5]	91.5	87.9
Surrogate 2-Fluorobiphenyl	%		72.7	79.1 85.0	82.0 82.0	78.8	81.0

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

ORG-021/022/025_PCB | Polychlorinated Biphenyls (Soil) | Batch BGI1317

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				MGI0052-35	BGI1317-DUP2#		
				Samp QC RPD %	Samp QC RPD %		
Aroclor 1016	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Aroclor 1221	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Aroclor 1232	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Aroclor 1242	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Aroclor 1248	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Aroclor 1254	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
Aroclor 1260	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]	<0.10 <0.10 [NA]	[NA]	[NA]
PCB C103	mg/kg			0.00 0.00 [NA]	0.00 0.00 [NA]	109	122
Surrogate 2-Fluorobiphenyl	%		96.4	97.4 96.9	101 95.7	100	107

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

ORG-022 | Speciated Phenols (Soil) | Batch BGI1306

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1306-DUP1#	MGI0052-21		
				Samp QC RPD %	Samp QC RPD %		
Phenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	80.5	82.6
2-Chlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	93.5	91.6
2-Methylphenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	112	110
3/4-Methylphenol	mg/kg	0.40	<0.40	<0.40 <0.40 [NA]	<4.0 <4.0 [NA] [5]	[NA]	[NA]
2-Nitrophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	[NA]	[NA]
2,4-Dimethylphenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	[NA]	[NA]
2,4-Dichlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	[NA]	[NA]
2,6-Dichlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	74.2	76.5
4-Chloro-3-methylphenol	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<10 <10 [NA] [5]	[NA]	[NA]
2,4,6-Trichlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	[NA]	[NA]
2,4,5-Trichlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	[NA]	[NA]
2,4-Dinitrophenol	mg/kg	4.0	<4.0	<4.0 <4.0 [NA]	<40 <40 [NA] [5]	[NA]	[NA]
4-Nitrophenol	mg/kg	4.0	<4.0	<4.0 <4.0 [NA]	<40 <40 [NA] [5]	[NA]	[NA]
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.40	<0.40	<0.40 <0.40 [NA]	<4.0 <4.0 [NA] [5]	[NA]	[NA]
2,3,5,6-Tetrachlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<2.0 <2.0 [NA] [5]	[NA]	[NA]
4,6-Dinitro-2-methylphenol	mg/kg	10	<10	<10 <10 [NA]	<100 <100 [NA] [5]	[NA]	[NA]
Pentachlorophenol	mg/kg	2.0	<2.0	<2.0 <2.0 [NA]	<20 <20 [NA] [5]	[NA]	[NA]
Dinoseb	mg/kg	10	<10	<10 <10 [NA]	<100 <100 [NA] [5]	[NA]	[NA]
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	20	<20	<20 <20 [NA]	<200 <200 [NA] [5]	[NA]	[NA]
Surrogate 2-Fluorophenol	%		82.4	80.1 84.0	93.2 77.8	84.3	83.0
Surrogate Phenol-D6	%		84.5	86.0 90.5	90.4 88.2	87.4	88.8

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

Quality Control MGI0052

ORG-022 | Speciated Phenols (Soil) | Batch BGI1317

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				MGI0052-35 Samp QC RPD %	BGI1317-DUP2# Samp QC RPD %		
Phenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	95.4	118
2-Chlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	96.5	117
2-Methylphenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	99.7	118
3/4-Methylphenol	mg/kg	0.40	<0.40	<0.40 <0.40 [NA]	<0.40 <0.40 [NA]	[NA]	[NA]
2-Nitrophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	[NA]	[NA]
2,4-Dimethylphenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	[NA]	[NA]
2,4-Dichlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	[NA]	[NA]
2,6-Dichlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	81.5	97.3
4-Chloro-3-methylphenol	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	[NA]	[NA]
2,4,6-Trichlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	[NA]	[NA]
2,4,5-Trichlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	[NA]	[NA]
2,4-Dinitrophenol	mg/kg	4.0	<4.0	<4.0 <4.0 [NA]	<4.0 <4.0 [NA]	[NA]	[NA]
4-Nitrophenol	mg/kg	4.0	<4.0	<4.0 <4.0 [NA]	<4.0 <4.0 [NA]	[NA]	[NA]
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.40	<0.40	<0.40 <0.40 [NA]	<0.40 <0.40 [NA]	[NA]	[NA]
2,3,5,6-Tetrachlorophenol	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	[NA]	[NA]
4,6-Dinitro-2-methylphenol	mg/kg	10	<10	<10 <10 [NA]	<10 <10 [NA]	[NA]	[NA]
Pentachlorophenol	mg/kg	2.0	<2.0	<2.0 <2.0 [NA]	<2.0 <2.0 [NA]	[NA]	[NA]
Dinoseb	mg/kg	10	<10	<10 <10 [NA]	<10 <10 [NA]	[NA]	[NA]
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	20	<20	<20 <20 [NA]	<20 <20 [NA]	[NA]	[NA]
Surrogate 2-Fluorophenol	%		77.4	78.9 / 71.3	70.0 / 67.6	76.3	79.3
Surrogate Phenol-D6	%		98.6	103 / 95.6	99.6 / 92.2	94.8	106

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

ORG-022 | Phenoxy Acid Herbicides (Soil) | Batch BGI1307

Analyte	Units	PQL	Blank	DUP1	LCS %	Spike %
				MGI0052-05 Samp QC RPD %		
Clopyralid	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
3,5-Dichlorobenzoic acid	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
2-Chlorophenoxy acetic acid	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
4-Chlorophenoxy acetic acid	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
Dicamba	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	125	123
Mecoprop	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	103	99.6
MCPA	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	109	105
2,6-D	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
Dichlorprop	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
2,4-D	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	106	98.9
Bromoxynil	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
Triclopyr	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
2,4,6-T	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
2,4,5-TP	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
2,4,5-T	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	106	113
MCPB	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
Dinoseb	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	[NA]	[NA]
2,4-DB	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
Ioxynil	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	[NA]	[NA]
Picloram	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	[NA]	[NA]
Acifluorfen	mg/kg	2.0	<2.0	<2.0 <2.0 [NA]	[NA]	[NA]
Fluroxypyr	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	[NA]	[NA]
Chloramben	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	[NA]	[NA]
Bentazon	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	[NA]	[NA]
Surrogate 2,4-DCPA	%		107	109 / 108	110	112

Quality Control MGI0052

METALS-020 | Acid Extractable Metals (Soil) | Batch BGI1258

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1258-DUP1#	BGI1258-DUP2#		
				Samp QC RPD %	Samp QC RPD %		
Arsenic	mg/kg	4.0	<4.0	<4.0 <4.0 [NA]		99.1	99.3
Cadmium	mg/kg	0.40	<0.40	<0.40 <0.40 [NA]		104	89.5
Chromium	mg/kg	1.0	<1.0	27.1 25.8 5.17		100	98.8
Copper	mg/kg	1.0	<1.0	15.2 14.1 7.41		98.7	108
Lead	mg/kg	1.0	<1.0	5.33 4.82 10.0		96.1	88.9
Mercury	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]		122	120
Nickel	mg/kg	1.0	<1.0	14.3 13.6 4.92		98.7	90.2
Zinc	mg/kg	1.0	<1.0	17.2 16.0 7.50		103	89.2

Analyte	Units	PQL	Blank	DUP3	DUP4	LCS %
				BGI1258-DUP3#	BGI1258-DUP4#	
				Samp QC RPD %	Samp QC RPD %	
Arsenic	mg/kg	4		<4.0 <4.0 [NA]		[NA]
Cadmium	mg/kg	0.4		<0.40 <0.40 [NA]		[NA]
Chromium	mg/kg	1		28.3 26.3 7.52		[NA]
Copper	mg/kg	1		17.4 16.8 3.55		[NA]
Lead	mg/kg	1		7.07 6.68 5.65		[NA]
Mercury	mg/kg	0.1		<0.10 <0.10 [NA]		[NA]
Nickel	mg/kg	1		14.8 13.6 8.67		[NA]
Zinc	mg/kg	1		18.8 17.6 6.78		[NA]

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

Quality Control MGI0052

METALS-020 | Acid Extractable Metals (Soil) | Batch BGI1308

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1308-DUP1#	BGI1308-DUP2#		BGI1308-MS1#
				Samp QC RPD %	Samp QC RPD %		
Arsenic	mg/kg	4.0	<4.0	<4.0 <4.0 [NA]		107	96.4
Barium	mg/kg	1.0	<1.0	93.1 89.3 4.20		107	103
Beryllium	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]		106	96.1
Cadmium	mg/kg	0.40	<0.40	<0.40 <0.40 [NA]		112	91.1
Chromium	mg/kg	1.0	<1.0	29.5 31.1 5.05		107	101
Cobalt	mg/kg	1.0	<1.0	8.56 9.03 5.26		107	91.8
Copper	mg/kg	1.0	<1.0	16.3 17.3 6.06		107	105
Iron	mg/kg	10	<10	18500 19800 7.19		113	##[1]
Lead	mg/kg	1.0	<1.0	5.80 6.45 10.6		104	89.5
Manganese	mg/kg	1.0	<1.0	242 291 18.5		109	114
Mercury	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]		112	116
Nickel	mg/kg	1.0	<1.0	15.7 16.4 4.33		106	91.9
Silver	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]		92.4	102
Zinc	mg/kg	1.0	<1.0	19.2 20.8 7.78		110	91.8

Analyte	Units	PQL	Blank	DUP3	DUP4	LCS %
				MGI0052-16	MGI0052-16	
				Samp QC RPD %	Samp QC RPD %	
Arsenic	mg/kg	4		6.76 9.05 [NA]		[NA]
Barium	mg/kg	1		72.8 73.9 1.54		[NA]
Beryllium	mg/kg	1		<1.0 <1.0 [NA]		[NA]
Cadmium	mg/kg	0.4		<0.40 <0.40 [NA]		[NA]
Chromium	mg/kg	1		21.1 25.3 18.0		[NA]
Cobalt	mg/kg	1		4.97 5.39 7.96		[NA]
Copper	mg/kg	1		46.4 48.9 5.39		[NA]
Iron	mg/kg	10		9250 10900 16.5		[NA]
Lead	mg/kg	1		14.7 15.5 4.81		[NA]
Manganese	mg/kg	1		321 329 2.36		[NA]
Mercury	mg/kg	0.1		<0.10 <0.10 [NA]		[NA]
Nickel	mg/kg	1		8.55 10.5 20.3		[NA]
Silver	mg/kg	1		<1.0 <1.0 [NA]		[NA]
Zinc	mg/kg	1		249 277 10.5		[NA]

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

Quality Control MGI0052

METALS-020 | Acid Extractable Metals (Soil) | Batch BGI1318

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				MGI0052-35 Samp QC RPD %	MGI0052-35 Samp QC RPD %		
Arsenic	mg/kg	4.0	<4.0	<4.0 4.10 [NA]		102	99.5
Barium	mg/kg	1.0	<1.0	104 122 16.4		102	##[2]
Beryllium	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]		101	96.4
Cadmium	mg/kg	0.40	<0.40	0.471 0.500 [NA]		107	90.7
Chromium	mg/kg	1.0	<1.0	19.5 20.4 4.71		103	99.1
Cobalt	mg/kg	1.0	<1.0	6.05 6.36 5.09		102	92.9
Copper	mg/kg	1.0	<1.0	47.6 47.6 0.0593		101	102
Iron	mg/kg	10	<10	12900 14600 12.8		110	##[1]
Lead	mg/kg	1.0	<1.0	67.9 66.3 2.43		99.2	87.1
Manganese	mg/kg	1.0	<1.0	393 411 4.49		104	76.5
Mercury	mg/kg	0.10	<0.10	<0.10 <0.10 [NA]		109	92.4
Nickel	mg/kg	1.0	<1.0	11.6 12.3 6.18		101	92.8
Silver	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]		86.4	94.4
Zinc	mg/kg	1.0	<1.0	444 444 0.00146		108	##[1]

Analyte	Units	PQL	Blank	DUP3	DUP4	LCS %	
				BGI1318-DUP3# Samp QC RPD %	BGI1318-DUP4# Samp QC RPD %		
Arsenic	mg/kg	4		<4.0 <4.0 [NA]		[NA]	
Barium	mg/kg	1		28.8 33.0 13.8		[NA]	
Beryllium	mg/kg	1		<1.0 <1.0 [NA]		[NA]	
Cadmium	mg/kg	0.4		<0.40 <0.40 [NA]		[NA]	
Chromium	mg/kg	1		7.34 7.95 8.09		[NA]	
Cobalt	mg/kg	1		1.83 2.07 [NA]		[NA]	
Copper	mg/kg	1		3.88 4.48 [NA]		[NA]	
Iron	mg/kg	10		5320 5710 6.97		[NA]	
Lead	mg/kg	1		2.55 2.46 [NA]		[NA]	
Manganese	mg/kg	1		94.1 107 12.4		[NA]	
Mercury	mg/kg	0.1		<0.10 <0.10 [NA]		[NA]	
Nickel	mg/kg	1		4.43 4.92 [NA]		[NA]	
Silver	mg/kg	1		<1.0 <1.0 [NA]		[NA]	
Zinc	mg/kg	1		11.0 12.0 8.21		[NA]	

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

INORG-118 | Inorganics - General Chemical Parameters (Soil) | Batch BGI1331

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1331-DUP1# Samp QC RPD %	MGI0052-35 Samp QC RPD %		
Hexavalent Chromium	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	94.8	111

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

INORG-008 | Inorganics - Moisture (Soil) | Batch BGI1256

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	
				BGI1256-DUP1# Samp QC RPD %	BGI1256-DUP2# Samp QC RPD %		
Moisture	%	0.1		7.33 6.46 12.6	13.4 11.4 16.4	[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 BGI1304

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	
				BGI1304-DUP1# Samp QC RPD %	MGI0052-12 Samp QC RPD %		
Moisture	%	0.1		11.4 9.76 15.2	9.69 9.25 4.65	[NA]	

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

Quality Control MGI0052

INORG-008 | Inorganics - Moisture (Soil) | Batch BGI1315

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %
				MGI0052-35 Samp QC RPD %	BGI1315-DUP2# Samp QC RPD %	
Moisture	%	0.1		7.66 12.5 48.1	0.840 0.620 30.1	[NA]

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

INORG-014 | Inorganics - Cyanide Species and Similar (Soil) | Batch BGI1332

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI1332-DUP1# Samp QC RPD %	MGI0052-35 Samp QC RPD %		
Total Cyanide	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	<0.50 <0.50 [NA]	83.0	75.6

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

QC Comments

Identifier	Description
[1]	Spike recovery is not applicable due to the relatively high analyte background in the sample (>3* spike level). However, the LCS recovery is within acceptance criteria.
[2]	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.
[3]	Surrogate recovery is outside routine acceptance criteria (60-140%) as a result of the high concentration of analyte(s) in the sample.
[4]	PQL(s) has/have been raised due to matrix interference.
[5]	PQL has been raised due to matrix requiring dilution

Certificate of Analysis MGI0146

Client Details

Client	EHS Support
Contact	Julian Howard
Address	PO Box 297, PORT MELBOURNE, VIC, 3207

Sample Details

Your Reference	PTY.07104
Number of Samples	12 Soil
Date Samples Received	09/09/2025
Date Instructions Received	09/09/2025

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 soils and on an as received basis for other matrices.

Report Details

Date Final Results Expected	15/09/2025
Date of Issue	15/09/2025

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Authorisation Details

Results Approved By	Chris De Luca, Lab Manager Maggie Hu, Organics Supervisor
Laboratory Manager	Chris De Luca

Certificate of Analysis MGI0146

Samples in this Report

Envirolab ID	Sample ID	Matrix	Date Sampled	Date Received
MGI0146-01	Base 1	Soil	05/09/2025	09/09/2025
MGI0146-02	Base 2	Soil	05/09/2025	09/09/2025
MGI0146-03	Base 3	Soil	05/09/2025	09/09/2025
MGI0146-04	Base 4	Soil	05/09/2025	09/09/2025
MGI0146-05	Side 1	Soil	05/09/2025	09/09/2025
MGI0146-06	Side 2	Soil	05/09/2025	09/09/2025
MGI0146-07	Side 3	Soil	05/09/2025	09/09/2025
MGI0146-08	Side 4	Soil	05/09/2025	09/09/2025
MGI0146-09	Corner 1	Soil	05/09/2025	09/09/2025
MGI0146-10	Corner 2	Soil	05/09/2025	09/09/2025
MGI0146-11	Corner 3	Soil	05/09/2025	09/09/2025
MGI0146-12	Corner 4	Soil	05/09/2025	09/09/2025

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Volatile TRH and BTEX (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0146-01 Base 1 05/09/2025	MGI0146-02 Base 2 05/09/2025	MGI0146-03 Base 3 05/09/2025	MGI0146-04 Base 4 05/09/2025
TRH C6-C9	mg/kg	25	<25	<25	<25	<25
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 less BTEX (F1)	mg/kg	25	<25	<25	<25	<25
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.20	<0.20	<0.20	<0.20	<0.20
Toluene	mg/kg	0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	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
ortho-Xylene	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0
Total +ve Xylenes	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene (value used in F2 calc)	mg/kg	1.0	<1.0	<1.0	<1.0	<1.0
Total +ve BTEX	mg/kg	0.20	<0.20	<0.20	<0.20	<0.20
Surrogate aaa-Trifluorotoluene	%		83.9	91.4	87.4	74.1

Certificate of Analysis MGI0146

Semi-volatile TRH (Soil)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGI0146-01 Base 1 05/09/2025	MGI0146-02 Base 2 05/09/2025	MGI0146-03 Base 3 05/09/2025	MGI0146-04 Base 4 05/09/2025
TRH C10-C14	mg/kg	50	<50	<50	<50	<50
TRH C15-C28	mg/kg	100	<100	<100	<100	370
TRH C29-C36	mg/kg	100	<100	<100	<100	260
Total +ve TRH C10-C36	mg/kg	50	<50	<50	<50	630
TRH >C10-C16	mg/kg	50	<50	<50	<50	<50
TRH >C10-C16 less Naphthalene F2	mg/kg	50	<50	<50	<50	<50
TRH >C16-C34 (F3)	mg/kg	100	<100	<100	<100	570
TRH >C34-C40 (F4)	mg/kg	100	<100	<100	<100	<100
Total +ve TRH >C10-C40	mg/kg	50	<50	<50	<50	570
Surrogate o-Terphenyl	%		92.2	91.3	90.1	## [1]

Certificate of Analysis MGI0146

Inorganics - Moisture (Soil)

Envirolab ID	Units	PQL	MGI0146-01	MGI0146-02	MGI0146-03	MGI0146-04
Your Reference			Base 1	Base 2	Base 3	Base 4
Date Sampled			05/09/2025	05/09/2025	05/09/2025	05/09/2025
Moisture	%	0.10	10	6.9	11	8.0

Certificate of Analysis MGI0146

Result Comments

Identifier	Description
[1]	Surrogate recovery is outside routine acceptance criteria (60-140%) as a result of the high concentration of analyte(s) in the sample.

Certificate of Analysis MGI0146

Method Summary

Method ID	Methodology Summary
INORG-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
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-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 therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Certificate of Analysis MGI0146

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 MGI0146

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 volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volume(s) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

Data Quality Assessment Summary MGI0146

Client Details

Client	EHS Support
Your Reference	PTY.07104
Date Issued	15/09/2025

Recommended Holding Time Compliance

No recommended holding time exceedances

Quality Control and QC Frequency

QC Type	Compliant	Details
Blank	Yes	No Outliers
LCS	Yes	No Outliers
Duplicates	Yes	No Outliers
Matrix Spike	Yes	No Outliers
Surrogates / Extracted Internal Standards	No	Surrogates / Extracted ISTD Outliers Exist - See detailed list below
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 MGI0146

Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
vTRH&MBTEXN Soil	1-4	05/09/2025	12/09/2025	15/09/2025	Yes
sTRH Soil	1-4	05/09/2025	12/09/2025	15/09/2025	Yes
Moisture Soil	1-4	05/09/2025	12/09/2025	15/09/2025	Yes

Outliers: Surrogate / Extracted Internal Standards

ORG-020 | Semi-volatile TRH (Matrix) | Batch BGI2269

Sample ID	Analyte	% Limits	% Recovery
MGI0146-04	o-Terphenyl	60 - 140	## [1]

Quality Control MGI0146

ORG-023_F1_TOT|Volatile TRH and BTEX (Soil) | Batch BGI2268

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI2268-DUP1#	BGI2268-DUP2#		
				Samp QC RPD %	Samp QC RPD %		
TRH C6-C9	mg/kg	25	<25	<25 <25 [NA]	<25 <25 [NA]	73.4	69.5
TRH C6-C10	mg/kg	25	<25	<25 <25 [NA]	<25 <25 [NA]	77.2	71.9
Methyl tert butyl ether (MTBE)	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	<0.50 <0.50 [NA]	[NA]	[NA]
Benzene	mg/kg	0.20	<0.20	<0.20 <0.20 [NA]	<0.20 <0.20 [NA]	82.6	78.9
Toluene	mg/kg	0.50	<0.50	<0.50 <0.50 [NA]	<0.50 <0.50 [NA]	89.7	86.4
Ethylbenzene	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	90.1	86.6
meta+para Xylene	mg/kg	2.0	<2.0	<2.0 <2.0 [NA]	<2.0 <2.0 [NA]	88.9	85.3
ortho-Xylene	mg/kg	1.0	<1.0	<1.0 <1.0 [NA]	<1.0 <1.0 [NA]	92.0	88.3
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	%		87.3	86.5 85.0	87.0 74.6	92.5	90.7

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

ORG-020| Semi-volatile TRH (Soil) | Batch BGI2269

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGI2269-DUP1#	BGI2269-DUP2#		
				Samp QC RPD %	Samp QC RPD %		
TRH C10-C14	mg/kg	50	<50	<50 <50 [NA]	<50 <50 [NA]	104	119
TRH C15-C28	mg/kg	100	<100	<100 <100 [NA]	<100 <100 [NA]	82.4	112
TRH C29-C36	mg/kg	100	<100	<100 <100 [NA]	<100 <100 [NA]	102	98.1
TRH >C10-C16	mg/kg	50	<50	<50 <50 [NA]	<50 <50 [NA]	83.9	97.4
TRH >C16-C34 (F3)	mg/kg	100	<100	<100 <100 [NA]	<100 <100 [NA]	83.9	114
TRH >C34-C40 (F4)	mg/kg	100	<100	<100 <100 [NA]	<100 <100 [NA]	106	97.9
Surrogate o-Terphenyl	%		102	102 97.8	86.8 83.1	110	107

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

INORG-008| Inorganics - Moisture (Soil) | Batch BGI2264

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %
				BGI2264-DUP1#	BGI2264-DUP2#	
				Samp QC RPD %	Samp QC RPD %	
Moisture	%	0.1		20.0 18.1 9.81	20.2 21.3 5.36	[NA]

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



CHAIN OF CUSTODY FORM - Client

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Contact Person:	Julian Howard	PO No. (if applicable):	Arumpo
Project Mgr:	Julian Howard	Envirolab Quote No.:	
Sampler:	Natalie Newman	Date results required:	
Address:	Level 7, 115 King William Street, 5000	Or choose: ☒ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day	
Phone:		Mob:	0403 272 519
Email Results to:	joel.kirk@ehs-support.com; ESdat AU+ehssupport@ESdatLabSync.net	Additional report format:	☒ ESdat ☐ Equis
Email Invoice to:	julian.howard@ehs-support.com AP@ehs-support.com	Lab Comments:	

Sample information					Tests Required															Comments
Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	SA Waste Screen	Metals	PAHs	OCPs	TRH BTEXN	Phenoxy herbicides	Asbestos									Provide as much information about the sample as you can
1	Base 1	5/9/25 All samples KS ELS ADL	25.08.2025	soil					X											
2	Base 2		25.08.2025	soil					X											
3	Base 3		25.08.2025	soil					X											
4	Base 4		25.08.2025	soil					X											
5	Side 1		25.08.2025	soil																
6	Side 2		25.08.2025	soil																
7	Side 3		25.08.2025	soil																
8	Side 4		25.08.2025	soil																
9	Corner 1		25.08.2025	soil																
10	Corner 2		25.08.2025	soil																
11	Corner 3		25.08.2025	soil																
12	Corner 4		25.08.2025	soil																

☒ Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis

Relinquished by	Client	Interstate Office	Laboratory	Lab Use Only
Print Name:	Natalie Newman	ELS ADL Kspence	ELS-KW	Job number: MG10146
Date & Time:	28.08.2025 5pm	8/9/25 9.30am	0825 9/9/25	Temp Office: 15.0C Temp Lab: 9.7C
Signature:	N. Newman	KS	KW	TAT: SAME day / 1 / 2 / 3 / 4 / STD
				Office Cooling: Ice / Ice pack / None
				Lab Cooling: Ice / Ice pack / None
				Security seal: Intact / Broken / None

(Client relinq. in after hours drop off)



Appendix F Quality Assurance and Control Summary

An evaluation of QA/QC information is provided in **Table F-1** below. This includes consideration of data quality objectives outlined in the ASC NEPM 1999 (as amended 2013) covering both field methodology and laboratory data integrity. As part of the evaluation, field duplicate sample chemical data were compared by determining the relative percentage difference (RPD) between the results.

Duplicate RPDs are provided in **Table 2 (as attached)**. The results of internal laboratory quality control procedures are provided within the laboratory certificates in **Appendix E**.

Table F-1 Soil Data Validation

QA/QC Aspect	Compliant	Comment
COC documentation completed	Yes	All samples were transported under COC procedures.
Samples delivered to the laboratory within sample holding times and with correct preservative	Yes	All samples were delivered to the contract laboratories within the sample holding times and in laboratory-supplied containers.
All analysis NATA accredited	Yes	Chemical analysis was undertaken in accordance with Schedule B(3) of the ASC NEPM. Envirolab and ALS performed all analyses and were NATA accredited for all of the analyses.
Required number of sample duplicates and blanks collected	Yes	For the primary soil investigation one intra-lab duplicate sample and one inter-laboratory analysis meeting the recommendations in AS4482.1-2005 [1] and ASC NEPM for 5% primary samples for the assessment (17 Primary samples). Duplicates were not collected during the validation works however this is considered acceptable due to the localised visual nature of the works and residual risk.
Soil QA/QC samples reported RPDs within limits set by AS4482.1-2005 and ASC NEPM	Yes	Duplicate pair RPDs were within +/- 30% with the exception of the zinc inter-laboratory duplicate which was marginally above the threshold. This is not expected to affect the outcomes of this report.
Acceptable field blank sample results	NA	Field blanks were not analysed as a part of the soil investigation as dedicated equipment was used.



QA/QC Aspect	Compliant	Comment
Acceptable laboratory QC results	Yes	All sample hold times were complied with. Laboratory QC result non-conformances were noted in the following MGI0146; - Surrogate outlier for o-Terphenyl. MGI0052; - Surrogate outlier for o-Terphenyl. - Matrix spikes outliers: Iron: Spike recovery outside acceptance criteria due to high analyte background in the sample. Laboratory control sample (LCS) recovery was acceptable. Barium (Sample SS35): Spike recovery outside acceptance criteria, suspected non-homogeneity and/or matrix interference effects. LCS recovery was acceptable. Iron (Sample SS35): Spike recovery outside acceptance criteria, suspected non-homogeneity and/or matrix interference effects. LCS recovery was acceptable. Zinc (Sample SS35): Spike recovery outside acceptance criteria, suspected non-homogeneity and/or matrix interference effects. LCS recovery was acceptable. TRH C29–C36 (Sample SS42): Spike recovery outside acceptance criteria due to high analyte background in the sample. LCS recovery was acceptable. Results were considered acceptable for the purposes of this assessment. Note for MGI0146 and MGI0052 some of the QC reported was not specifically part of this workorder but formed part of the QC process batch.

Table Notes:

[1] Australian Standard AS 4482.1-2005 Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil - Non-volatile and Semi-Volatile Compounds

RPDs have only been considered where a concentration is greater than 1 times the EQL.

Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 [1 - 10 x EQL]; 50 [10 - 20 x EQL]; 30 [> 20 x EQL]).

Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory.



Appendix G Asbestos Remediation Plan

Asbestos Remediation Plan

Arumpo Street
Renmark

Prepared for:

JHN Investments

Prepared by:

EHS  **Support**TM

October 2025



Document Control

PROJECT DETAILS

Client	JHN Investments
Client Contact	Jason Neilly
EHS Support Project Manager	Julian Howard
EHS Support Project No.	PTY.07104

PLAN DETAILS

Title	Asbestos Management Plan Arumpo Street
Main Author(s)	Julian Howard
Reviewed	Joel Kirk
Approved by	Julian Howard (CenvP SC)

DISTRIBUTION LIST

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3/10/2025	1	JHN Investments Pty. Ltd	Jason Neilly	e

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(e) electronic file

(h) hardcopy

REVISION HISTORY

Date	Revision No.	Key Changes
3/10/2025	A	Draft Report

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Acronyms

ACM	Asbestos Containing Materials
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999
AS/NZS	Australian Standards / New Zealand Standards
COC	Chain of Custody
COM/IND	Commercial/industrial
EHS Support	EHS Support Pty Ltd
EV	Environmental Values
GAR	Guidelines for the assessment and remediation of site contamination
GDA	Geocentric Datum of Australia
HIL	Health Investigation Level
mAHD	Metres Above Australian Height Datum
mBGL	Metres Below Ground Level
NATA	National Association of Testing Authorities
SA EPA	South Australian Environment Protection Authority

Trademarks, trade names, company, or product names referenced herein are used for identification purposes only and are the property of their respective owners.



Units of Measure

Area	
ha	hectare
m ²	square metres
Density	
kg/m ³	kilograms per cubic metre
Electrical Conductance	
μS/cm	microsiemen per centimetre
dS/m	decisiemen per metre
mS/cm	millisiemen per centimetre
mV	millivolt
Length	
μm	micrometres
cm	centimetres
km	kilometres
m	metres
mm	millimetres
Mass	
μg	micrograms
g	grams
kg	kilograms
mg	milligrams
t	metric tonnes
Concentration by Mass	
μg/kg	microgram per kilogram
mg/kg	milligram per kilogram

Pressure	
kPa	kilopascals
Pa	Pascals
Temperature	
°C	degrees Celsius
°F	degrees Fahrenheit
K	kelvin
Velocity	
m/s	metres per second
Volume	
μL	microlitres
cL	centilitres
cm ³	cubic centimetre
GL	gigalitre
L	litres
m ³	cubic metre
mL	millilitres
ML	megalitre
Concentration by Volume	
μg/L	microgram per litre
mg/L	milligram per litre
ppmv	parts per million by volume
ppbv	parts per billion by volume



1 Introduction

This Asbestos Remediation Plan has been prepared to address residual bonded asbestos containing materials (ACM) identified at the site in shallow soils in two main areas described as the Central Sheds and Quarters Area and the south and east tracks. The lateral and vertical extent of bonded ACM on the surface of the site was confirmed by a site inspection and emu pick undertaken by licenced asbestos assessor Anthony Amorosi (Assessor Licence No. 619427) from HAZMAT Australia & Asbestos SA. The findings of this survey are presented in their report in **Appendix A**.

The balance of the site outside of the two areas identified were assessed to be visually free of bonded ACM on the surface of the site. Some buildings remaining on the site at the time of preparing this plan were identified to have either confirmed or suspected hazardous materials present that will need to be managed during the demolition/site redevelopment works and should be addressed by a specific construction environment management plan (CEMP) prepared by the demolition contractor.

The site is proposed to be redeveloped into 48 residential allotments within internal roads. A site location plan is presented in **Figure 1 (as attached)**.

1.1 Objectives

The objective of this Asbestos Remediation Plan is to describe how bonded ACM fragments will be removed from the surface of the site and underlying shallow soils in the two areas identified. The bonded ACM impacted fill material will then be placed beneath proposed internal road alignments that are planned for the residential redevelopment.

1.2 Site Identification

A summary of the site setting is provided in **Table 1-1**.

Table 1-1 Details, Description, and Environmental Setting of the Assessment Area

Item	Details
Person Requesting Work	JHN Investments Pty Ltd & The Trustee for Callop Le Family Trust
Site Address	Lot 39 Arumpo St, Renmark, SA
Certificate of Title Details	CT Volume 6160 Folio 537
Property Description	The site is approximately 3.1 km northwest of Renmark. The lot is irregular in shape, with elongated rectangular western, southern, and eastern boundaries and an irregular northern boundary. It is bordered by Ral Ral Avenue to the northeast, extends west to Arumpo Street, and extends further south.
Site Area	12.47 ha
Site Owner	JHN Investments Pty Ltd & The Trustee for Callop Le Family Trust
Municipality	Renmark Paringa Council
Current Land Use	The land is currently Primary Production land use with auxiliary residential property in the South Western portion of the site. The site is zoned as 'Rural Living broad hectare under the Planning and Design Code under the <i>Planning, Development and Infrastructure Act 2016</i> .
Proposed Land Use	The site is proposed to be redeveloped into 48 residential allotments.



Item	Details
Surrounding Land Use	• North: Agricultural and rural residential. • East: Agricultural and rural residential, Bookmark Avenue and Renmark Horse & Pony Club with Bookmark Creek beyond. The river Murray is in approximately 4.7km. • South: Agricultural and rural residential, Bookmark Avenue with Bookmark Creek beyond. • West: Agricultural and rural residential.
Topography	The site is generally flat with an elevation of approximately 20 m Australian Height Datum (AHD) and is generally flat.
Hydrology and Drainage	Assumed based on topography surface water from the site will pool on site or drain locally to the road verge.

1.3 Summary of Bonded ACM Issue Addressed in this Plan

As part of the Preliminary Site Investigation (PSI) an inspection and emu pick of portions of the site was undertaken where bonded ACM had been identified on the surface of the site. Two areas were identified where emu picking could not remediate the bonded ACM on the surface of the site and within 0.1 m of the site surface. It appeared these areas had been graded by the previous owner, which had dispersed the issue across the broader areas identified in the HAZMAT report. To address bonded ACM on the surface of the site and within 0.1 m of the site surface, it is proposed to scrape shallow bonded ACM impacted soil and place it beneath road alignments (beneath road base and bitumen seal).

Remaining areas of the site were assessed to be visually free of bonded ACM on the surface of the site.

The areas requiring remediation of bonded ACM and the proposed road alignments where bonded ACM will be placed is presented in **Figure 1 (as attached)**.



2 Asbestos Management Plan

2.1 Areas Requiring Removal of Bonded ACM

The areas requiring removal of shallow soil containing bonded ACM is presented in **Figure 1 (as attached)** and as described in **Table 2-1**.

Table 2-1 Areas Requiring Removal of Shallow Soil Containing Bonded ACM

Description	Area (m ²)	Depth of Scrape	Volume of Soil (in situ m ³)
Central Sheds and Quarters	4,000 m ²	0.1	400 m ³
South and East Tracks	3,325 m ²	0.1	322.5 m ³

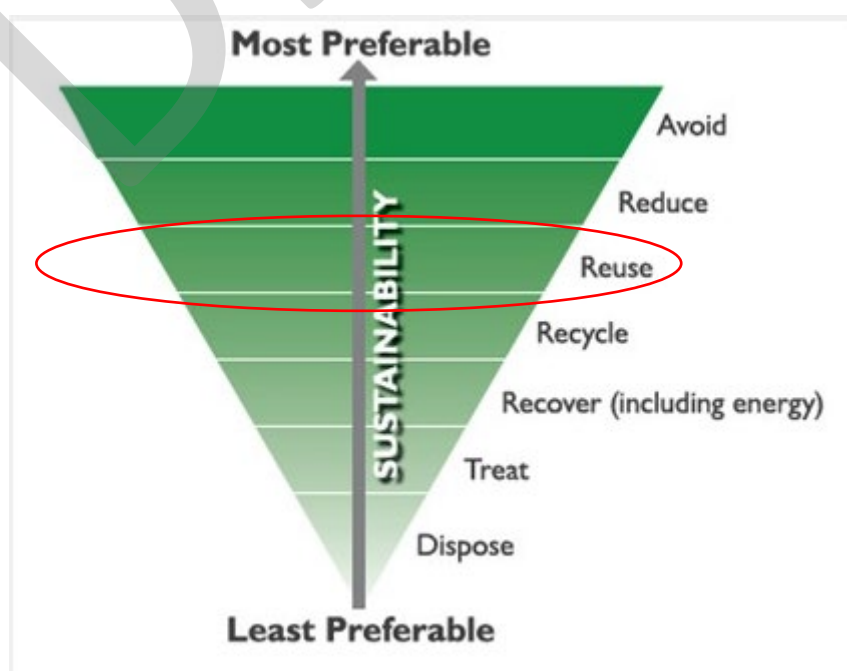
The road alignment where soils containing bonded ACM is proposed to be placed covers an area of 3,230 m² and will be placed in a compacted 0.25 m layer across the area identified in **Figure 1 (as attached)**.

2.2 Management Approach

The proposed remediation approach was considered to be appropriate based on the following considerations:

- Strong alignment with the SA EPA waste management hierarchy shown in **Figure 2-1** below.
- Bonded ACM impacted soil will be covered with > 0.1 m of road base and sealed beneath bitumen eliminating access to these soils.
- Prior to placement of the bonded ACM impacted soil, characterisation sampling will be undertaken using the ASC NEPM gravimetric approach to assess the % w/w concentrations of bonded ACM in the stockpiled material. Providing the concentrations are assessed to be below the Health Investigation Level for residential land use for soil below 0.1 m below ground level, no ongoing management will be warranted.
- The location of the contained bonded ACM impacted fill will be surveyed to facilitate appropriate management of soils that may be excavated during intrusive ground works within the road alignment.

Figure 2-1 – EPA Waste Management Hierarchy





2.3 Control Measures

Based on the field observations made during the HAZMAT survey, the residual bonded ACM in soil represents low concentrations of ACM in soil and will not exceed 10 m² of bonded ACM sheeting (based on the volume collected in this area already and assuming bonded ACM sheeting weighs approximately 10 kg/m³. As such these works are not considered to be a licenced activity. The following control measures will be implemented during the remediation works.

2.3.1 Dust

As this will not be a licenced activity, dust monitoring on the boundary of the site is not considered to be warranted. Dust will be visually monitored during the works. If visible dust is observed during scraping activities, these areas will be wetted down to mitigate dust generation. Workers will wear appropriate Personal Protective Equipment that may include cotton long pants and shirt, Tyvek suite and/or P2 mast as required.

2.3.2 Depth of Containment

The road alignment where bonded ACM impacted fill will be placed may need to be excavated to accommodate the ACM impacted soil. Where required, the designated road alignments will be excavated to a depth whereby the ACM impacted soil can be placed and compacted beneath the designed road construction with a finished surface levels compliant with the designed elevations for stormwater management.

2.3.3 Surveys

Following placement of the ACM impacted soil, the reduced levels of the road will be surveyed prior to placement of road base and bitumen. A survey will then be undertaken on completion of the road. This will provide data on the depth ACM impacted soils would be encountered should intrusive ground works be required within the relevant portion of the road alignment.

2.4 Unexpected Finds

If unexpected finds are encountered during the scraping works or during works within the road alignments, works should cease until the nature of the find can be determined and appropriate management or protection measures can be put in place. Unexpected finds may include:

- Identification of soil heavily impacted with bonded ACM.
- Other evidence of soil contamination such as staining or odour.
- Aesthetic issues such as buried waste.
- Aboriginal and non-Aboriginal heritage.

2.5 Validation

Following removal of the ACM impacted soils from the designated areas a site walkover will be undertaken by an environmental scientist experienced in the assessment of bonded ACM. The site walkover will be undertaken in 10 m north to south and east to west transects. This will divide the validated area into a grid.

If bonded ACM is identified on the surface of the site, the area will be raked and emu picked to remove residual bonded ACM to a depth of 0.1 metre below ground level (mBGL). If this occurs the following will be undertaken:

- The relevant grid reference will be identified.



- Bonded ACM will be collected from the surface by emu picking and then raked to a depth of 0.1 mBGL and emu picked to remove bonded ACM to a depth of 0.1 mBGL within the relevant grid.
- Bonded ACM collected from the grid will be weighed and a % w/w will be calculated based on the validated depth of 0.1 mBGL.
- The %w/w of bonded ACM collected in the upper 0.1 m of soil will be used as a proxy to assess the %w/w in soils below 0.1 mBGL. This assumes that bonded ACM concentrations in surface and shallow soils will have an equal or more % w/w than deeper soils, where deposition has occurred from the surface (i.e. not intentionally buried).
- Providing the %w/w concentration of bonded ACM in the remediated surface soils to a depth of 0.1 mBGL is below the ASC NEPM HIL A then it will be assumed that underlying soils (>0.1 mBGL) do not have a greater concentration than the surficial soils.

2.6 Roles and Responsibilities

The roles and responsibilities for the remediation works are presented in **Table 2-2**.

Table 2-2 Roles and Responsibilities

Role	Responsibility
Site Owner	Engage suitably qualified contractors to execute the works
Earthworks Contractor	Undertake excavation remediation works under direction of the environmental consultant and in accordance with this plan
Environmental Consultant	Provide direction for the remediation works, undertake validation works and reporting
Surveyor	Survey the extents of contained ACM impacted soil.

2.7 Health and Safety

Hazards to workers (those working for us or in adjacent work areas), the public and environment will be identified and mitigated by the project team and any sub-contractors prior to initiating field activities. This risk assessment process is used in the planning for resourcing and also in the daily field-based risk assessments as part of our job safety analysis and tailgate safety meetings.

2.8 Reporting

On completion of the validation inspection a validation report will be prepared for the remediated areas. The remediation validation report will describe the works completed and the outcomes of the remediation against the objectives.



3 Limitations

EHS Support Pty Ltd (“EHS Support”) has prepared this plan in accordance with the usual care and thoroughness of the consulting profession for the use of JHN Investments Pty. Ltd. and only those third parties who have been authorised in writing by EHS Support to rely on the Plan. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Plan. It is prepared in accordance with the scope of work and for the purpose outlined in the Proposal and subsequent variation emails.

The methodology adopted and sources of information used by EHS Support are outlined in this plan. EHS Support has made no independent verification of this information beyond the agreed scope of works and EHS Support assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this Plan as provided to EHS Support was false.

This Plan was prepared on 2 October 2025 and is based on the conditions encountered and information reviewed at the time of preparation. EHS Support disclaims responsibility for any changes that may have occurred after this time.

This Plan should be read in full. No responsibility is accepted for use of any part of this Plan in any other context or for any other purpose or by third parties. This Plan does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

This Plan contains information obtained by inspection, sampling, testing or other means of investigation. This information is directly relevant only to the points in the ground where they were obtained at the time of the assessment.

Where conditions encountered at the site are subsequently found to differ significantly from those anticipated in this Plan, EHS Support must be notified of any such findings and be provided with an opportunity to review the recommendations of this Plan.

Whilst to the best of our knowledge information contained in this Plan is accurate at the date of issue, subsurface conditions, including groundwater levels can change in a limited time. Therefore this document and the information contained herein should only be regarded as valid at the time of the investigation unless otherwise explicitly stated in this Plan.



4 References

EHS Support Pty. Ltd. (2025). Preliminary Site Investigation and Limited Soil Investigation.

HAZMAT Australia & Asbestos SA (2025). Hazardous Material Survey and Report 55 Arumpo Street, Renmark West SA.

National Environment Protection (Assessment of Site Contamination) Measure 1999. As amended in 2013 (ASC NEPM).

South Australian Government (2012). Work Health and Safety Act.

South Australian Government (2012) Work Health and Safety Regulation.

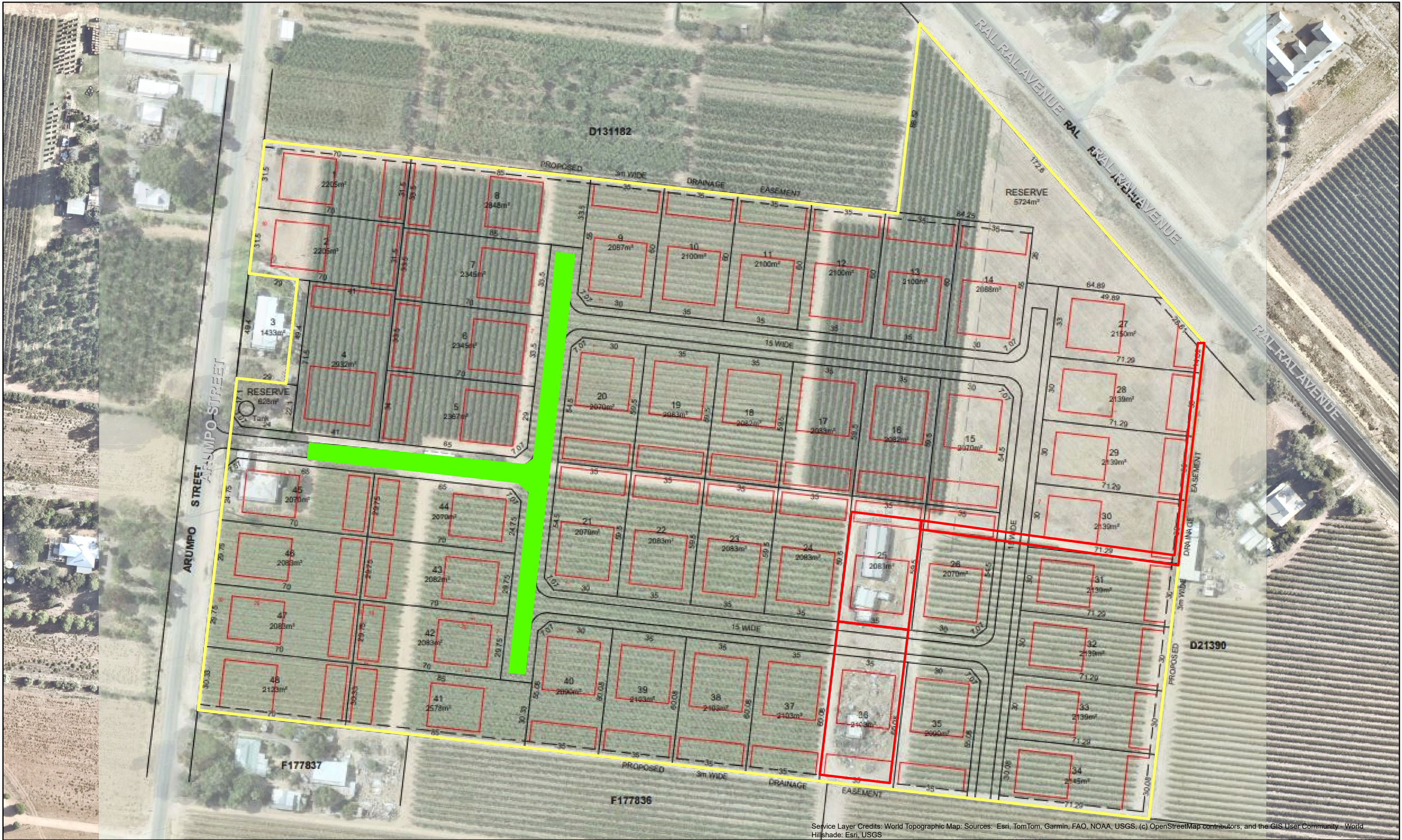
South Australian Government (2024) How to manage and control asbestos in the workplace Code of Practice.

DRAFT



Figure

DRAFT



Internal Document Control Information:
User Name: Chathuri.Nisansala; Date and Time Printed: 10/10/2025 10:58 AM; Document Path: Y:\GIS Projects\Nelly Group\Arumpo\20250926 PSI\03 Mapping\Figures.aprx

Proposed Waste Soil Disposal Boundaries

0 15 30 60 90 120 Meters
1:1,600 [Page Size: A3]

LEGEND

- Site boundary
- ACM
- ACM impacted soil containment area

Asbestos Management Plan Arumpo St, Renmark West SA 5341

EHS Support

Adelaide

Figure 1

CREATED BY:	C. Nisansala
APPROVED BY:	J. Kirk
PROJECT REF. NO:	PTY.07104
MAP PROJECTION:	Transverse Mercator
GRID/DATUM:	GDA2020 MGA Zone 54
SCALE:	1:1,600
AERIAL IMAGE SOURCE:	ESRI Basemap

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Appendix A HAZMAT Report

11th September 2025

Attention: **Julian Howard**

Principal Environmental Scientist | South Australian Manager

EHS Support

Level 7, 115 King William Street

Adelaide, 5000

E: Julian.howard@ehs-support.com

Dear Julian,

RE: Hazardous Material Survey and Report 55 Arumpo Street, Renmark West SA

Please find attached Hazardous Material Survey and Report.

If you require any further information, please do not hesitate to contact me on **0476 943 768**.

Regards



Andrew Butler
Principal Consultant | Director
Assessor Licence number 555676



Anthony Amorosi
Senior Asbestos Consultant
Assessor Licence number 619427

Encl. - Asbestos Register Report

HAZARDOUS MATERIAL SURVEY AND REPORT

55 Arumpo Street, Renmark West SA



11TH SEPTEMBER 2025

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Appendices

- A - Certificates of Analysis
- B – Plans | Site Drawings
- C - General limitations of an inspection and/or report
- D - Health risks of asbestos and general information
- E – Glossary of Terms
- F – Register and Activity Log

1. Introduction and Scope

The hazardous materials scope included a detailed inspection for:

- Asbestos containing products.

The objective of the inspection was to identify, within the practical constraints of access, the presence, location, and condition of asbestos containing materials within the inspection area, and record, collate and report on the findings in accordance with the methodology and limitations of this survey. Samples were collected (where necessary) to qualify suspect asbestos containing material and analysed in the laboratory.

Other cursory observations and general recommendations were also made in regard to other hazardous materials including:

- Synthetic Mineral Fibre (SMF).
- Lead in Paints.
- Lead in building materials,
- Polychlorinated Biphenyls (PCBs) in fluorescent lights,
- Mercury containing lamps / lights,
- Ozone depleting substances in air conditioners, and
- Radioactive Isotopes in Smoke Detectors.
- Stored paint, solvents, and chemicals.
- Stored energy (solar panels)

The “Summary of Work and Findings” section of this report provides an overview of the asbestos containing materials, while gauging an understanding of the other hazardous materials on site (listed above).

Item by item information on suspect asbestos containing material is elaborated on, under the report heading “Specific Findings - Asbestos”. This includes representative photographs and laboratory assessment (where applicable)

No one section or part of a section should be taken as giving an overall idea of this report. This report must be read in its entirety, including its appendices and attachments.

The assessment herein is for guidance for demolition or building contractors. Any work relating to building or demolition requires specific risk assessment and appropriate safe work method development.

2. General Inspection Notes

Hazmat Australia | Asbestos SA was requested by Julian of EHS Support to undertake a Hazardous Materials Survey and Report of 55 Arumpo Street, Renmark West SA.

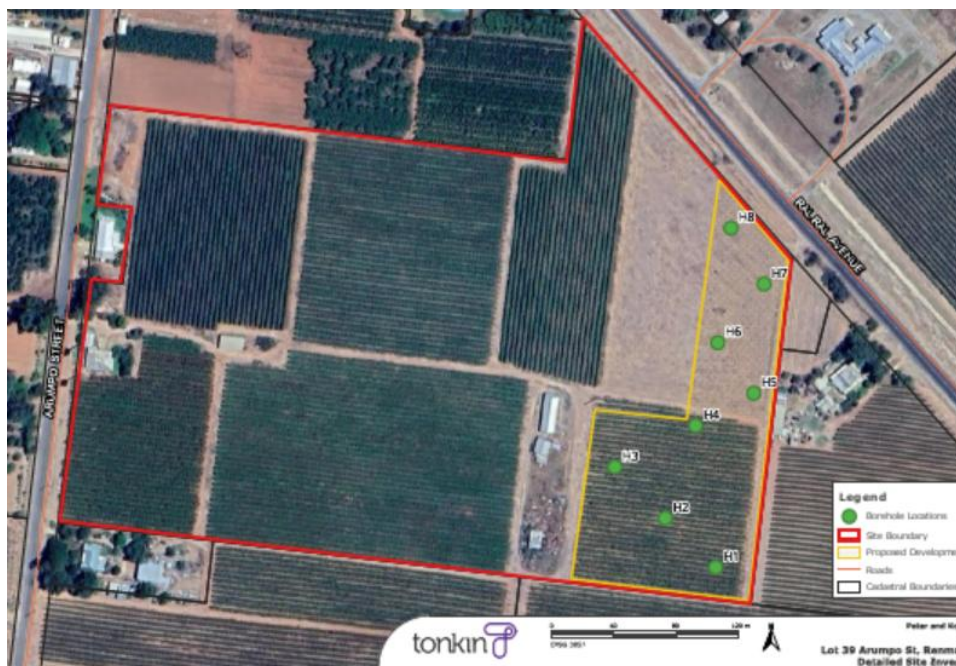
The hazardous material inspection was carried out by Mr Anthony Amorosi on the 25th, 26th, and 28th of August 2025.

Buildings on Site

The following provides general detail of the structures inspected:

The following provides general detail of the structures inspected:

- **Residence** was a timber fibrous cement clad structure with a timber framed metal roof and a combination of timber and concrete floors. The walls were a combination of masonry and fibrous cement at the wet area extension, with metal clad roof all on a concrete slab floor. The western Outhouse is a “Bessa” block structure with a metal roof and concrete floor slab.
- **Shed 1** directly north adjacent the Residence was metal clad and framed structure with a soil floor.
- **Shed 2** directly east of the Residence, was metal clad, timber and metal framed structure with a soil floor and concrete floor slab to the western section.
- **Shed 3** east south east of the Residence, was metal clad, timber and metal framed structure with a soil floor and partial concrete floor slab.
- **Shed 4** directly south of Shed 3, was metal framed and clad, with a concrete floor slab.
- **Old Chicken Coup**, was timber framed, cement block and fibrous cement sheet clad walls, with a metal roof and concrete floor slab
- **Old Pickers’ Quarters** was a solid masonry construction with a timber framed metal roof and a combination of timber and concrete floors.



Aerial Image – area of inspection outlined in red.



Aerial Image – Residence and shed 1; Shed 2 to east



Aerial Image – Shed 3; Shed 4 and Chicken Coup outlined Old Picker's Quarters

3. Limitations

- No other structures or areas were inspected other than listed above.
- Soil inspection was limited to the surface and conditions at that time around Shed 3, 4, and the Old Pickers' Quarters.
- This report deals specifically with identified hazardous materials listed. This report is not a building or environmental assessment of any kind. Any inference or reference to other building or structural matters, soil or building products in general (or otherwise) are to be regarded as cursory information only.
- Plant and general equipment were not included
- A non-intrusive inspection was carried out.
- All suspect asbestos containing materials discovered during demolition must be presumed to contain asbestos with appropriate controls in place to minimise significantly the risk of exposure, unless proven otherwise by sample analysis.
- Refer to General limitations of an inspection and/or report (attached).

4. Action ratings for asbestos

A simple traffic light rating system is provided for hazard management purposes to help prioritise each asbestos containing item (if applicable). Action 1 (red) represents a higher priority, over Action 2 (amber) and finally Action 3 (green).

The action rating is based upon visual inspection and consideration of the condition, stability, site activity and accessibility of the asbestos containing material at that time - as well as the experience of the assessor. An assessment of risk is incorporated into this rating system of high, medium, or low.

Rating	Interpretation
 A1	This rating indicates some immediate control is required. Options are typically to restrict access, isolate and remove as soon as practicable. <i>This asbestos containing item would be considered to have a high level of risk.</i>
 A2	This rating represents a requirement for an immediate to short term action. Often this includes a measure of isolation to limit access, making safe an item and/or implementation of an immediate hazard management plan which may identify the part or whole remediation depending on various factors. Weathered, worn, unsealed or partially disturbed asbestos containing materials would also take precedence for planned removal over A3 items. <i>This asbestos containing item would be considered to have a medium level of risk.</i>
 A3	This rating represents items in good condition that may be left in place for the medium to longer term with the ultimate goal for planned removal. <i>This asbestos containing item would be considered to have a low level of risk.</i>

Items in the register requiring more specific recommendations or comments are detailed on the line item in the register table (under the *Findings - Asbestos* heading) based on the above rating standard.

Recommendations are no substitute for the Person Conducting a Business or Undertaking to implement and review hazard management strategies to ensure compliance.

As a general recommendation, disturbance through physical or mechanical means should be avoided to prevent release of airborne fibre unless to remove or remediate the offending material in accordance with appropriate hazard management controls and legislation. Asbestos containing materials should also be identified by warning signs.

5. Methodology

Each hazard group was assessed based on the following:

Asbestos

Assessment included visual inspection of accessible areas from the experience of the assessor and their familiarity with these materials. A sample program was also undertaken to help assess suspect asbestos containing products. Samples collected were analysed using Polarised Light Microscopy (PLM) with Dispersion Staining Techniques and X-ray Diffraction using a NATA accredited laboratory.

Synthetic Mineral Fibres (SMFs)

Cursory observations were made only. Recommendations of a general nature are included considering requirements prior to demolition. Assessment focused on insulation type products only and excluded, for example but not limited to, synthetic materials such as (but not limited to) curtains, carpets, and underlays.

Lead in Paint

Cursory observations were made only. Recommendations of a general nature are included considering requirements prior to demolition.

Lead Building Products

Cursory observations were made only. Recommendations of a general nature are included considering requirements prior to demolition.

Polychlorinated Biphenyls (PCBs) in fluorescent lights

Individual PCB investigation including dismantling light fittings was not undertaken. Cursory observations and general recommendations are below.

Mercury containing lamps / lights

Only cursory observations of light fittings were undertaken. Recommendations of a general nature are included considering requirements prior to demolition.

Ozone Depleting Substances (CFCs, HCFCs and Halons) from typical air conditioning

Only cursory observations of air conditioners were undertaken. Recommendations of a general nature are included considering requirements prior to demolition.

Halons in fire suppression systems or extinguishers were not included in the survey. General notes are provided.

Radioactive Isotopes in Smoke Detectors

No specific inspection was carried out. Cursory notes and recommendations are below.

Stored paint, solvents, and chemicals

Only cursory observations of light fittings were undertaken. Recommendations of a general nature are included considering requirements prior to demolition.

Stored energy (solar panels)

Only cursory observations of solar installations were made. Recommendations of a general nature are included considering requirements prior to demolition.

6. Summary of Work and Findings

Asbestos

Suspect building materials were sampled on site (11 in total) and tested in the laboratory. 4 samples were confirmed as containing asbestos.

Asbestos containing materials were identified, in general, as installed products or recently damaged products.

Residence

Asbestos containing material of the following type was identified:

- * fibrous cement sheeting, wall cladding and lining plus ceiling lining.
- * fibre impregnated resin board “Zelemite” electrical board.

Shed 1

No asbestos containing material identified.

Shed 2

No asbestos containing material identified.

Shed 3

Asbestos containing material was identified in the electrical mounting board as fibre impregnated resin board “Zelemite”.

Shed 4

No asbestos containing material identified.

Old Chook Coup

No asbestos containing material identified.

Old Pickers’ Quarters

Asbestos containing material of the following type was identified:

- * fibrous cement sheeting as ceiling linings.
- * fibre cement as stored debris.

A detailed schedule of items is recorded in section 7, labelled “Specific Findings – Asbestos” with individual assessments, recommendations, and photographs.

Other suspect material that maybe discovered during demolition and earthworks should be treated as asbestos containing, unless confirmed otherwise by specific sample analysis.

General Information

A visual inspection carries limitations, particularly (but not limited to) accessibility. If any suspect material is uncovered, discovered, or revealed during demolition, building or excavation work, this material should be treated as asbestos containing or confirmed otherwise by specific sample analysis.

All work relating to the asbestos removal (where applicable) shall be carried out by a Safework SA approved “A Class” (full license) or “B Class” (non-friable) asbestos licensed contractor where appropriate. Clearance inspections and air monitoring are to be carried out by a Licensed Asbestos Assessor.

All asbestos removal work is to be carried out in accordance with the following South Australian approved Codes of Practice:

- How to Safely Remove Asbestos, February 2024.
- How to Safely Manage and Control Asbestos in the Workplace, February 2024.

Synthetic Mineral Fibre (SMF) – insulation products

The following SMF products and their locations are listed below.

Residence

Throughout the main roof space, SMF as insulation loose on ceilings.

Possible insulation withing hot water service.



Example: Ceiling insulation over ceilings to main roof of Residence



Example: Hot water unit in Laundry of Residence

General notes and information

All reasonable steps should be made to minimise airborne dust/fibre concentration to reduce inhalable risk from installation, removal, or related handling. “PPE should be provided to workers and worn when insulation is being removed during the demolition process and dust should be suppressed by damping down” (ref: Demolition Work Code of Practice, June 2020).

Waste shall be placed in plastic bags or other containers which prevent fibre and/or dust emission and disposed of in accordance with the requirements of the local waste disposal authority.

Lead in Paint

Lead in Paint Inspection

The age of the property and subsequent maintenance activity is consistent with lead in paint use. This includes coating used on (but is not limited to) fascia's, barge boards, gutters, posts, windows/door frames and doors. Internally where surfaces were more vulnerable to impact, wear, or UV light, lead based paint were typically used on skirtings, architraves, door and window frames or trims, and on doors themselves.

Below illustrates example applications on site where lead in paint coatings is more likely given the age of the structures on the property. Lead in paint, including primers, can often be disguised, and painted over by more modern paints.

In some locations , for example the internal of the Old Pickers' Quarters, had paint in very poor condition.



Example: External paint to Residence



Example: Internal paint to Residence



Example: External/Internal paint to Residence Outhouse



Example: Internal paint to Old Picker's Quarters – flaked



Example: Internal paint to Old Picker's Quarters



Example: Internal paint to structural steel frame of Shed 3

General

Lead was used in paint to improve its durability, moisture resistance and generally dried quicker upon application. On steel applications it improved corrosion protection.

These characteristics generally meant this type of tough durable coating was used on exterior steel and timber work in enamel paints, and on internal surfaces that needed a more hard-wearing surface protection.

Primers and undercoats (especially pink primers) are also known to contain lead.

Adding certain lead compounds to paint also helped create a specific colour. For example, adding Lead (II) carbonate or white lead acted as a pigment and turned the paint to a white or cream colour. Generally speaking, white paint was a base colour for tinting.

Lead (II) chromate is a yellow pigment while addition of lead tetroxide compounds turned the paint into a red colour. Other colours can be produced from mixing pigments, for example Lead (II) Chromate mixed with iron blue to create green.

It may be possible that lead was used in acrylic paints, but more likely as a pigment to tint yellow, red or oranges shades (and not a drier or for corrosion protection). Generally older enamel or oil-based paints are more likely to have a lead base than not.

Background

In December 2017, a new Australian Standard (AS/NZS 4361.2:2017) was published for management of lead paint in residential and commercial buildings which saw a major change in the safe concentration standard, which was reduced from 1.0% lead down to 0.1% in paint.

This Australian Standard now reflects the paint manufacturing definition of lead-free paint (the Australian Uniform Paint Standard) which has been 0.1% concentration since 1997.

The Uniform Paint Standard formed the main reference in Australia historically. Before 1969, the recommended amount of lead in paint was 50 percent in Australia. From 1969 onwards, the acceptable level was lessened to 1 percent in the. In 1992, the level was reduced to 0.25 percent, and from 1997 until now, the maximum allowable level of lead in paint is 0.1 percent (as aforementioned).

To confuse this once more, "...although all paints manufactured for Australian dwellings from the 1970s onwards will have contained less than 1% lead, it is possible that industrial paints, having higher concentrations of lead, may have been applied to housing and commercial buildings." (Ref: AS 4361.2).

Amendments to SA's WHS Regulation in mid-2021 placed more importance lowering lead in blood criteria with relevance to the Workplace Exposure Standard.

The newer and lower lead in blood criteria placed more emphasis on safe work protocols to minimise health concern for remediation, upgrade, and disturbance activity and ultimately to help mitigate ingestion, absorption, and inhalation for workers.

While the WHS Regulation recently introduced a lower acceptable threshold for lead in blood, the definition of a lead process (e.g. sanding lead painted surfaces) did not change. Lead processes with material with lead greater than 1% dry weight provides some contradiction to what is required for producing modern paints (below 0.1% of lead in residential and commercial paints), and, either way, is also impossible to quantify on what might or might not end up in a worker's blood for a particular process.

To qualify, the primary focus should be to mitigate exposures irrespective of the percentage content of lead in the material or coating, especially when analysis of paint samples can have some variability when comparing the small physical sample amounts and the larger painted surfaces on site.

Undisturbed paint in good condition is typically low risk, however, if there is paint in poor quality, or if there are refurbishment or demolition works planned that may disturb it.

Testing maybe carried out to determine the concentration of lead (i.e. to assess percentage content). However, the age of the structure may simply dictate the prevalence of lead in paint, common in older buildings as discussed above. Hence, lead in paint is often readily assumed, and all precautions should be adopted so that management or remediation can be undertaken.

Lead in industrial paint is also more prevalent in those settings (irrespective of date) and in higher concentrations, despite the discussion above for commercial/domestic paints.

Current requirements for lead based paints

Inhalation of lead dust and paint chips from blasting, burning, dry scraping, dry sanding and using power tools (for example, but not limited to) creates a risk of inhalational exposure to the lead in the paint dust. Furthermore, ingestion of paint dust due to poor hygiene practices may also be a risk.

As aforementioned, the mention of 1% dry weight of lead in paint in WHS Regulation can be confusing and should be ignored, with preference to assessing lead in paint using the standard (AS/NZS-4361.2:2017) and lower threshold of 0.1%. This also factors in limitations of sampling and inconsistencies in paint product/application where there is likely variation in concentration, particularly at the lower end of the scale.

This lower threshold assessment also reflects current knowledge, for example from the World Health Organisation, where they state there is no known safe level of lead exposure and no known safe blood lead concentration. Obviously, as lead exposure increases, the range and severity of symptoms and effects also increase.

Instead, emphasis is on stringent regulation requirements to minimise the likelihood of lead in blood, as there can be poor health outcomes if no controls are in place, for example, when working with products over time, with relatively low concentrations or concentrations not detected from limited sampling.

The point being that any activities with either lead or lead in paint or suspected lead in paint should be controlled to ensure that risk is minimised significantly.

General remediation strategies

In regard to refurbishment or upgrade of areas, where activities such as sanding and using other power tools maybe used even on lower concentrated paint, for example, dust suppression and clean up using HEPA vacuum equipment is recommended. Other remediation options are listed below.

Safe hygiene principles should be adopted when handling suspect lead paint including appropriate gloves, P2/P3 respiratory protection, gloves, and personal washing/decontamination prior to smoking, eating, or drinking as a minimum precaution. Fit for purpose testing is a requirement for respiratory use and protection under regulation 44 of the SA WHS Regulation.

During greater building demolition it is recommended that manual handling activities are avoided where possible, with preference to remote handling. For example, using excavators with an operator in a sealed cabin. Any spotters or workers in the vicinity of demolition should wear P2 respiratory protection as a minimum with appropriate fit testing irrespective of percentage content of lead in paint.

During demolition, the use of hydraulic shears as opposed to cutting lead primed metal (for example) with an oxy-cutting torch significantly reduces lead exposure to workers.

Lead paint remediations options include:

- **Encapsulation**

Covering the lead-containing paint with fresh layers of paint to ensure that the lead is less likely to be disturbed. This enables a water tight bond securing the hazardous elements within.

Advantages: cheapest, least complicated.

Disadvantages: May not work well in high traffic or be a long-lasting solution as the encapsulating layers might wear off over a period. Problem remains below.

- **Enclosure**

Cover up with other building materials. For example, installing a new wall lining over the top to create a barrier.

Advantages: not as cheap.

Disadvantages: Not a permanent fix (as for encapsulation).

- **Replacement** – this involves physical removal of the item painted altogether. For example, replacement of an old window frame or door.

Advantages: Removes problem. Can update the building especially tired building elements.

Disadvantages: Expensive.

- **Removal**

Wet sanding/scraping, dry sanding with HEPA vacuum attachments, or chemical stripping are accepted methods. Requiring training, specific PPE and safe disposal.

In the context of demolition, physically removing the entire building element with lead paint on it, is an established practice.

Advantages: Removes problem. Cheapest solution when removing the whole item during demolition.

Disadvantages: Labour intensive for wet sanding and chemical stripping for removal/maintenance. More costly in this instance.

▪ **Processes to avoid**

- × Do not dry sand or dry scrape by hand tool or by power tool (without HEPA filter vacuum attachment).
- × Do not sandblast or high-pressure water wash/blast.
- × Do not use *heat guns or open flame burners to remove old paint.
- × Do not eat, drink or smoke in the work area containing lead waste.
- × Do not eat drink or smoke without proper personal decontamination.

*Low heat lead in paint removal is acceptable when the heat gun can be limited below 200°C to mitigate fumes, with controls, including PPE, in place.
(ref: <https://www.worksafe.qld.gov.au/safety-and-prevention/hazards/hazardous-exposures/lead/working-with-lead-based-paint>)

Defined Lead Processes and Lead Risk Work under Regulation 392/393 of the SA WHS Regulation requires compliance with Regulations 392 – 418.

Lead in Building Products

Lead building products were observed on the property.
Lead products were visible at the following structures:

Residence – External, Rooftop chimney possible flashing, Gutters have soldered joints, and there are leadlight windows to the northern elevation (will possibly be removed for salvage by the owner).

Any “soft” metal flashings should be treated as lead containing if discovered.



Example: Residence, External – flashing to chimney



Example: Residence, External – Leadlight windows



Example: Old Pickers' Quarters, External – solder to gutters/downpipes

General notes and recommendations

Lead may be found in, but is not limited to:

- electronic devices (lead in solder)
- plumbing fittings (in the pipes themselves or in the solder)
- lead acid batteries to emergency lighting
- lead sheathed cables (generally higher voltage or larger diameter cables)
- lead in galvanised steel products.
- lead batteries for vehicles

Activities that may generate lead dust from lead in building product, for example (but not limited to) grinding or abrading, should be avoided.

Safe hygiene principles should be adopted when handling suspect lead products including appropriate gloves, P2 respiratory protection, and personal washing / decontamination prior to smoking, eating, or drinking as a minimum precaution. Fit for purpose testing is a requirement for respiratory use and protection under regulation 44 of the SA WHS Regulation.

Lead products (e.g. roof flashing, lead lighting/glazing, batteries) should be separated and recycled via a metal merchant to avoid prescribed waste costs.

Defined Lead Processes and Lead Risk Work under Regulation 392/393 of the SA WHS Regulation requires compliance with Regulations 392 – 418.

Polychlorinated Biphenyls (PCBs) in Fluorescent Lights

There were single light fixtures of an age where PCBs were used, that were identified in following locations:

Residence – Internal, Kitchen and Bathroom.

Shed 3 – Internal, hanging from trusses.

It was likely PCBs were used in this context based on the ban on PCBs in 1975 in Australia and these are older fixtures.



Example: Fluorescent light fixture in the Residence, Kitchen



Example: Fluorescent light fixtures in the Residence, Bathroom



Example: Fluorescent light fixtures in Shed 3

General notes and recommendations

The below is provided as cursory information.

The ban on importation of PCB's in Australia was in 1975 (reference National Pollutant Inventory, Australian Government – Department of Environment). This does not exclude the likelihood of PCB thereafter but provided a reference point where PCB's would be less common and/or gradually phased out by trades and suppliers.

If older fluorescent lights or suspect PCB's are uncovered or identified during demolition, then a hierarchy of control should be employed to isolate the hazard from demolition workers as follows:

- All older fluorescent light fittings, particularly with metal capacitors, should be removed in full using safe access platforms and then set aside at ground level.
- There should be no access to internal components of the fluorescent light fittings when removing lights from their installed ceiling position. Neoprene or butyl rubber gloves should be worn, as a minimum, in the event capacitors or ballast may contain leaking PCB oil from historic degradation or through accidental disturbance during the manual handling process. Hence, skin contact with PCB's within capacitors in fluorescent lighting can be avoided.
- In addition, removal, handling, transport, and appropriate disposal can be catered for in a demolition contract with specific reference to PCB's. A company, for example, like Toxfree can take the fluorescent fitting in full from the demolition operator, recycle the glass globes, separate, and recycle the steel housings/fittings and remove the ballast and/or capacitor for bulk disposal. The PCB capacitors themselves would then be transported in bulk safely to Brisbane to a plasma-arc unit for full disposal. Using this compliant process will also enable the fluorescent tubes (with mercury) to be handled and disposed of appropriately.
- "Safeguard" information from Safework SA is also available for additional detail for PPE requirements, hygiene practices and disposal requirements.

Reference <https://www.safework.sa.gov.au/workplaces/chemicals-substances-and-explosives/polychlorinated-biphenyls>

Mercury containing lamps / lights

Fluorescent light tubes were identified in following locations:

Residence – Internal, Kitchen and Bathroom.

Shed 3 – Internal, hanging from trusses.



Example: Fluorescent light x 1 in the Residence, Kitchen



Example: Fluorescent lights x 2 in the Residence, Bathroom



Example: Fluorescent lights x 5 in Shed 3

General notes and recommendations

The below is provided as cursory information. Fluorescent light fittings (where identified) should be treated as follows.

Mercury in general exists in compact fluorescents, fluorescent tubes, bug zappers, car headlights and mercury vapour lights used for larger industrial, street or sports lighting. Some versions of neon lights (i.e. only red neon lights use neon gas) also contain mercury.

Fluorescent lights, in particular, contain a small amount of mercury sealed within the glass tube/vessel. The quantity is comparable to 1 percent of an old mercury household thermometer.

Regardless of the amount of mercury, all mercury-containing lamps, should be handled as a hazardous waste and stored carefully to avoid breakage. A broken lamp clean-up procedure is available from Department of Health WA.

Refer: https://www.healthywa.wa.gov.au/Articles/J_M/Mercury-and-compact-fluorescent-lamps.

Vacuuming, for example should be avoided to minimise causing airborne vapour.

Household quantities can be recycled for free through selected vendors in SA. Refer to <https://recyclingnearyou.com.au/light-globes/AdelaideSA> for more detail of vendors and locations.

According to the Australian Government Department of Environment and Energy:

“The short-term nature of the potential exposure to mercury from a broken CFL or fluorescent tube – particularly after effective clean-up of lamp material – does not constitute a significant health risk to exposed adults, pregnant women or children.”

The notable emphasis in this statement is on effective clean up and the quantity involved. Commercial quantities and repeated breaking of tubes, for example through demolition, may increase risk and exposure to workers. Illegal dumping of larger quantities of mercury can also find its way into the air, water, and soil and consequently bio-accumulate in plants, and animals. This includes, for example, affecting fish and humans both directly and by consumption of other bio-accumulators.

In South Australia, there is a state-wide environmental ban on disposal to landfill of fluorescent lights and any other lighting containing mercury.

It is therefore recommended that compact fluorescents, fluorescent tubes, and other mercury containing lights are handled and managed by a recycling vendor like CMA Ecocycle or Tox free. These recycling vendors generally can take the whole light fitting and dismantle the units for recycling including the metal and glass, and handling and correct disposal of PCB's as well (if applicable).

Ozone Depleting Substances (CFCs, HCFCs and Halons) & Greenhouse Gases from typical air conditioning

A box air conditioning unit was located above the northern entry doorway to the Residence.



Example: Residence, installed air conditioning unit

General notes and recommendations

The below information is provided for correct removal and disposal of refrigerant gases.

All refrigerant gases irrespective of type (including non-ozone depleting replacements) should be collected from their plant prior to demolition/removal to prevent ozone depletion, greenhouse emissions, refrigerant burns, and/or accidental fire or explosion.

This work is to be carried out by personnel who have a current Refrigeration Handling License. Compliance is required with licensing conditions including, but not limited to, minimising the environmental impacts of ozone depleting substances.

Furthermore, if a fluorocarbon refrigerant is acquired, stored, or disposed of the business or individual is required to have a Refrigerant Trading Authorisation (reference - Australian Government – Department of Environment, plus the Ozone Protection and Synthetic Greenhouse Gas Management legislation).

Refer: <https://www.safework.sa.gov.au/workplaces/chemicals-substances-and-explosives/refrigerants>

Notes on old fire extinguishers

No obvious old halon fire extinguishers were visible as part of cursory inspection. However, if discovered during demolition or clean out, they must be removed from site by a fire protection technician who holds an Extinguishing Agent License. Halons were often coded yellow and common types found are:

- Halon 1211 (BCF) usually found in hand-held old fire extinguishers; and
- Halon 1301 (BCM) used mainly in flooding systems, for example in computer rooms, and machinery rooms.

It has been illegal to own or use halon-based fire protection systems in Australia since 1995. It has also been illegal for fire protection technicians to service halon systems since that date. There are some exemptions to this usually only in the aviation industry or for military systems.

Radioactive Isotopes in Smoke Detectors (Ionisation Detectors)

One fire detector was noted located at the Residence, internal, central Livingroom, southwestern doorway during this survey.



Example: Residence, internal, central Livingroom, southwestern doorway



Smoke detector identifies radioactive isotope

The below is provided for general information, and in the event older Ionisation detectors are found.

The two main styles of detectors on the market are:

1. Photoelectric Detectors, and
2. Ionisation detectors.

The latter containing a very low level of radioactive isotope, Americium, and usually encased in metal when the detector's plastic cover is removed. Refer example picture and typical labelling.



Generic photo (from alternate site) :Smoke detector with radiation symbol within unit (i.e. what to look out for)

In relation to health:

"The dose rate from a domestic smoke alarm at a distance of one metre is less than one thousandth of that from background radiation, which in Australia is on average 1.5 millisievert per year. At greater distances, the dose rate is much lower. The dose rate to the hands when holding a smoke alarm is higher but is still less than one tenth that from background radiation. As the hands are very much less sensitive to radiation than internal organs and the time of exposure is likely to be only a few minutes per year, no significant radiation exposure would occur."

Reference:

<https://www.arpsa.gov.au/understanding-radiation/radiation-sources/more-radiation-sources/smoke-detectors>

Despite this smoke detectors must be removed in full prior to demolition and disposed of as below in SA:

"In accordance with international best practice, disposal of small quantities of smoke alarms that contain radioactive material in domestic waste in South Australia was made legal in early 2009 under provisions of the Radiation Protection and Control Act 1982, administered by the Radiation Protection Branch.

An exemption under the Act permits up to 2 smoke alarms to be disposed into domestic waste during any period of 7 days.... Smoke alarms used in commercial or industrial applications contain a different type or greater amount of radioactive material than domestic smoke alarms. Commercial or industrial smoke alarms may not be suitable for disposal in domestic waste.

Advice on the disposal of commercial or industrial smoke alarms should be sought from the Radiation Protection Branch (of the EPA SA)."

Reference: https://www.epa.sa.gov.au/environmental_info/waste_recycling/disposing-waste

Stored paint, solvents, and chemicals

Stored farm dry chemicals were located in Shed 2.

A 45kg propane gas bottle was noted at the southern side of the Residence



Example: Residence, installed air conditioning unit



Example: Residence, 45kg gas bottle

General notes and recommendations

All household paints, thinners, cleaning products, pesticides, oil, fuel, and solvents must be separated, sealed for transport, and sent to a waste handling centre, similar to Adelaide Waste and Recycling (AWR) at 181 Morphett Road, North Plympton SA, for disposal/recycling.

Other hazardous material drop-off locations are available via the Green Industries SA website.

Reference: <https://www.greenindustries.sa.gov.au/hazwaste>

ChemClear provides agricultural and veterinary chemical users with collection and disposal for their unwanted chemicals. For more information, [visit the ChemClear website](#).

Gas from household butane and LPG bottles should be returned to the supplier, community recycling centres run by councils, or similar private transfer/recycling stations. They cannot be disposed of in household recycling bins or waste bins for collection as this presents a significant risk if accidentally crushed in the compactor of the waste collecting truck.

The disposal of CCA treated timber requires management that reduces the potential of various disposal pathways to impact upon the environment, particularly due to the arsenic and chromium content of the material. In the absence of available recycling technologies in South Australia landfill disposal of CCA treated timber is currently the only option.

Gloves should be worn when handling treated timber, and post handling wash your hands and face thoroughly with soap and water before and after eating, drinking, smoking or using the toilet.

Stored energy (solar systems)

No stored solar energy was located during this survey.

General notes and recommendations

Solar panels continue to produce electricity when the mains power is disconnected. Batteries also associated with solar systems, may contain stored energy. Hence, it can be misleading to think that if a solar system is not connected to the grid that it won't cause electrocution as it still remains "live".

Solar panels, invertors, electrical equipment and batteries must be isolated and disconnected by a licensed electrician and disposed of correctly.

A company like CMA Ecocycle can recycle solar panels and products. Lithium-ion and Nickel Metal Hydride batteries can also be recycled there. Glass, aluminium, copper, plastic and silicon are typical recyclables within photo voltaic (PV) panels also.

Note that some batteries may contain toxic chemicals, heavy metals and other environmental pollutants that can contaminate water supplies and ecosystems when they are incorrectly disposed of. Damaged batteries can also flare up or combust if heated.

Never touch a swollen or ruptured device or battery with bare hands as the heat and/or chemicals can cause severe burns.

Always use gloves/hand protection and safety glasses before touching or moving leaking batteries or dismantled batteries.

The electrolytic fluid can cause injury through the skin, eye contact, ingestion or inhalation.

7. Specific Findings - Asbestos

Residence - External:

1. Original build, perimeter walls, cladding

Material:	Fibrous cement sheeting and corner capping
Size (approx.):	120m ²
Sample:	A1025
Result:	Chrysotile asbestos detected
Findings:	Medium condition, damage visible. Non-friable. Painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



2. Original build, Northern entry porch, east wall mounted upper electrical mounting board

Material:	Fibre impregnated backing board "Zelemite"
Size (approx.):	0.2m ²
Sample:	Visual assessment
Result:	Presumed asbestos content
Findings:	Good condition. Non-friable. Painted. Limited access. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



3. Original build, wood framed windows, glassing sealant

Material:	Putty
Size (approx.):	30 lineal metres
Sample:	A0593
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



4. West extension, west wall north end, cladding

Material:	Fibrous cement sheeting
Size (approx.):	4m ²
Sample:	A1026
Result:	Chrysotile asbestos detected
Findings:	Poor condition, damage visible. Non-friable. Not painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A1



5. West extension, southern gable, infill

Material:	Fibrous cement sheeting
Size (approx.):	1m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Painted. Limited access. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A3x



6. West extension, northern entry surround, cladding/infill

Material:	Fibrous cement sheeting
Size (approx.):	2m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Medium condition. Non-friable. Painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A2x



Residence - Internal:

7. Laundry, original east wall, lining

Material:	Fibrous cement sheeting and corners
Size (approx.):	8m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Medium condition. Non-friable. Partially painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



8. Laundry, ceiling, lining

Material:	Fibrous cement sheeting
Size (approx.):	10m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Painted. Limited access The building is due for demolition. Recommend remove prior to demolition.

Action Rating:



9. Bathroom, original east wall, lining

Material:	Fibrous cement sheeting
Size (approx.):	7m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A3x



10. Bathroom, ceiling, lining

Material:	Fibrous cement sheeting
Size (approx.):	6m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Medium condition, exposed holes. Non-friable. Painted. Limited access The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A2x



11. Kitchen, Range and associated cupboards, linings

Material:	Fibrous cement sheeting
Size (approx.):	9m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Not painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	A3x



12. Central Living room, combustion heater, door seal

Material:	Rope
Size (approx.):	2m ²
Sample:	A1027
Result:	Chrysotile asbestos detected
Findings:	Poor condition. Friable. Not painted. Accessible. Note: Other internal components may contain asbestos. Recommend remove.
Action Rating:	A1x



13. Central Living room, combustion heater, base infill

Material:	Fibrous cement sheeting
Size (approx.):	0.1m ²
Sample:	Similar to A1026
Result:	Chrysotile asbestos detected
Findings:	Good condition. Non-friable. Not painted. Accessible. Recommend remove.
Action Rating:	A2x



Shed 2 - External:

14. West on ground, debris

Material:	Fibrous cement sheeting
Size (approx.):	1m ² affected area
Sample:	A1029
Result:	No asbestos detected
Findings:	Debris removed as sample during survey
Action Rating:	Not applicable



Before – minor fragment removed as sample



After - Subsequently the area was raked and checked for other possible fragments – no asbestos was visible

Shed 3 - Internal:

15.Southwestern wall mounted, electrical mounting panel

Material:	Fibre impregnated backing board "Zelemite"
Size (approx.):	0.3m ²
Sample:	Visual assessment
Result:	Presumed asbestos content
Findings:	Good condition. Non-friable. Painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.
Action Rating:	



Shed 4 - Internal:

16.Northeast floor, covering

Material:	Vinyl sheeting
Size (approx.):	3m ²
Sample:	A1079
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



Overview



Close-up

Old Chicken Coup - Internal:

17.Ceilings, lining

Material: Fibrous cement sheeting

Size (approx.): 18m²

Sample: A1080

Result: No asbestos detected

Findings: Not applicable

Action Rating: Not applicable



Over view



Close-up

18. North and west walls, lining and debris

Material:	Fibrous cement sheeting
Size (approx.):	18m ²
Sample:	A1081
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



Old Picker’s Quarters - External:

19.Wood framed windows, remnant glazing sealant

Material:	Putty
Size (approx.):	10 windows
Sample:	A1082
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



Old Picker's Quarters - Internal:

20. Main structure ceilings, Linings and debris on ground

Material:	Fibrous cement sheeting
Size (approx.):	40m ²
Sample:	A1083
Result:	Chrysotile asbestos detected
Findings:	Poor condition. Non-friable. Not painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.

Action Rating:

A1x



21. Main structure floors, lino/vinyl coverings

Material:	Fibre impregnated tar sheeting
Size (approx.):	40m ²
Sample:	A1084
Result:	No asbestos detected
Findings:	Not applicable
Action Rating:	Not applicable



22.Southern Lean-to, stored debris on ground

Material:	Fibrous cement sheeting
Size (approx.):	100kg
Sample:	Similar to A1083
Result:	Chrysotile asbestos detected
Findings:	Poor condition. Non-friable. Not painted. Accessible. The building is due for demolition. Recommend remove prior to demolition.



Action Rating:



Grounds:

23. Central sheds and Quarter's area, debris in soil

Material:	Fibrous cement sheeting fragments mixed in soil
Size (approx.):	4000m ² affected area
Sample:	Visual assessment
Result:	Presumed asbestos content
Findings:	During this survey, an emu pick of the surface was conducted, collecting 11kg of fibrous cement fragments. Based on the site finds to date the remaining soil may be lightly contaminated or impacted with hidden fibrous cement debris but only at a shallow depth down to between 100mm to both the northern section outlined in blue, and approximately down to 50mm to 75mm deep to the southern section outlined in red. Recommend a remediation action plan is developed for these two marked areas.
Action Rating:	

A2



24. Five acre division, south and east tracks, debris on surface

Material:	Fibrous cement fragments
Size (approx.):	215m tracks affected
Sample:	Visual assessment
Result:	Presumed asbestos content
Findings:	During this survey, an emu pick of the track's surface was conducted, collecting 0.5kg of fibrous cement fragments from the track /roadway outlined in red. Recommend a remediation action plan is developed for the marked area.
Action Rating:	A2



8. Sample Summary

Sample Ref	Location	Item use	Material type	Result or Presumption
A0593	Residence, External – Original build, wood framed windows	Glassing sealant	Putty	No Asbestos detected
A1025	Residence, External – Original build, perimeter walls	Cladding	Fibrous cement sheeting	Chrysotile Asbestos detected
A1026	Residence, External – West extension, west wall north end	Cladding	Fibrous cement sheeting	Chrysotile Asbestos detected
A1027	Residence, Internal – Central Living room, combustion heater	Door seal	Rope	Chrysotile Asbestos detected
A1029	Shed 2, External – West on ground	Debris	Fibrous cement sheeting	No Asbestos
A1079	Shed 4, Internal – Northeast floor	Covering	Vinyl sheeting	No Asbestos
A1080	Old Chicken Coup, Internal – Ceilings	Lining	Fibrous cement sheeting	No Asbestos
A1081	Old Chicken Coup, Internal – North and west walls	Lining	Fibrous cement sheeting	No Asbestos
A1082	Old Pickers' Quarters, External – Wood framed windows	Remnant glassing sealant	Putty	No Asbestos
A1083	Old Pickers' Quarters, Internal – Main structure ceilings	Lining	Fibrous cement sheeting	Chrysotile Asbestos detected
A1084	Old Pickers' Quarters, Internal – Main structure floors	Covering	Fibre impregnated tar sheeting	No Asbestos

9. General Recommendations

Notwithstanding the above specific recommendations:

All remediation activities in relation to asbestos containing products must be carried out by a licensed asbestos removalist in accordance with relevant Work Health Safety and Environmental Protection regulation including (but not limited to) applicable Codes of Practice.

All asbestos containing products items should be maintained/sealed to prevent on-going deterioration.

Safe work methods should be implemented for any disturbance activity, and not limited to Personal Protective Equipment (PPE).

10. Inspection protocols

All asbestos containing materials should be inspected or monitored on a regular basis to make on-going assessments of the condition, stability, durability, and product suitability. This provides consistent up to date risk assessment considering possible changes in site use, environment, human interaction, or condition.

Asbestos containing material can be affected by (but not limited to): weather, site traffic, changes in building structure, plant or process, vandalism, disturbance, redundancy, upgrade, excavation, or demolition.

11. Asbestos Management and Planning

Consideration should be given to the removal of asbestos containing material prior to renovation, refurbishment, demolition and/or maintenance which is generally more practical at that time. This is in preference to other control measures such as enclosure, encapsulation or sealing where the asbestos containing material remains as a legacy item to the property.

Planning should consider the requirements of the property and owners, in terms of investment and intentions for upgrade or downgrade in the future, but principally it should provide guidance on how to deal with asbestos. Ultimately, the risk an item may pose may determine what needs addressing first.

The plan is to set out how asbestos will be managed to prevent or minimise significantly the likelihood of exposure through controls and removal strategies.

An Asbestos Management Plan can be developed upon request.

12. Unexpected Finds

Where previously unknown or suspect asbestos containing material is identified through the course of works (i.e. an unexpected find) the Asbestos Supervisor should be contacted immediately. Work should be suspended in the related area until the situation is qualified. Sample analysis is an effective way to verify material content and must be performed by competent personnel.

If the suspected Asbestos Containing Material(s) has been worked upon, accidentally disturbed or suspect asbestos containing dust or debris is present then:

1. **Protect Yourself** – avoid inhaling dust or fibres by moving to a safe location;
2. **Isolate** – area of the disturbed asbestos from other personnel;
3. **Report** – the incident to the Asbestos Supervisor.
4. **Standby** – strictly follow instructions provided by the Asbestos Supervisor and requirements under the Emergency Plan

13. Emergency Protocol

Unplanned accidental or inadvertent asbestos disturbance or fibre release maybe caused by (but not limited to):

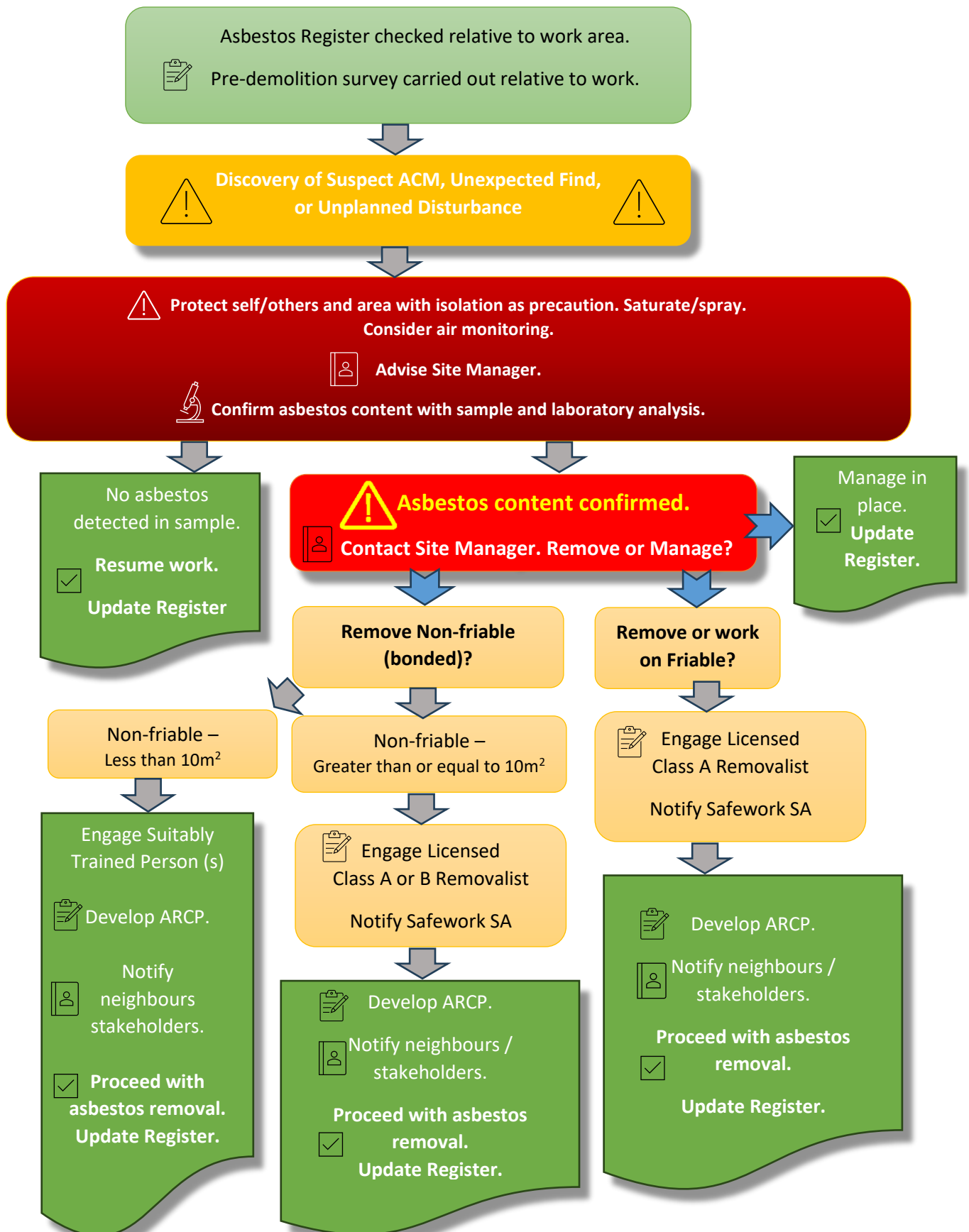
- A general discovery or unexpected find.
- Maintenance, upgrade or demolition.
- Vehicle or mobile plant accident / impacts.
- Acts of vandalism.
- Fire event.
- Severe weather e.g. Storm damage, wind.
- Excavation and discovery of buried waste or old infrastructure.
- Illegal dumping.

In all cases, personnel should advise the Asbestos Supervisor immediately who then must undertake the following actions:

1. **Isolate the area** – close doors, barricade/bunt off the area with appropriate signage, and isolate airflow. Remove all personnel from the area.
2. **Consult the Asbestos Register** – if the material is not identified in the Asbestos Register, then assume asbestos is present until proven otherwise. Sample analysis is an effective way to verify material content (refer section 9) and must be performed by a competent person.
3. **Seek advice** - from an Asbestos Consultant, Licensed Asbestos Assessor, or suitably qualified Hygienist immediately - determine remedial action.
4. **Instigate remedial action** - with appropriately trained and licensed personnel.
5. **Obtain clearance** - ensure Clearance Inspection Certificates are provided and fibre monitoring results allow re-occupancy of the area; and

Document the incident - record remedial actions and revise the Asbestos Register and Asbestos Management Plan.

Diagram 1 - General Process for Unexpected Find | Emergency



14. Register Log

Prior to building works, remediation, or removals on a property, all, person involved should be familiar with the asbestos register content. A Register Log (Appendix F: Forms) is attached. The purpose of the log is to record all persons who have viewed this register and to prompt the reader to address any concerns prior to commencing work.

15. Activity Log

The purpose of the Activity Log (Appendix F: Forms) is to record all maintenance, remediation or removal activity relating to asbestos upon completion and to include statutory information.

16. References

The following documents were used as references in the investigative process and compilation of this Hazardous Materials Register.

- National Occupational Health and Safety Commission (NOHSC) Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(1999). Australian Government Publishing Service. Canberra.
- Work Health and Safety Act (2012), South Australia
- Work Health and Safety Regulations (2012), South Australia
- Code of Practice on How to Safely Remove Asbestos, February 2024 (SA)
- Code of Practice on How to Safely Manage and Control Asbestos, February 2024 (SA)
- Australian and New Zealand Environment and Conservation Council (ANZECC) Identification of PCB-Containing Capacitors (1997).
- AS/NZS 4361.2:2017 Guide to hazardous paint management Lead paint in residential, public, and commercial buildings
- Safework SA – Polychlorinated Biphenyls, Safety Alert, 6 October 2017
<https://www.safework.sa.gov.au/news/polychlorinated-biphenyls>
- EPA SA - Disposal of domestic smoke alarms that contain radioactive material
https://www.epa.sa.gov.au/environmental_info/waste_recycling/disposing-waste
- Australian Radiation Protection and Nuclear Safety Agency –
<https://www.arpsa.gov.au/understanding-radiation/radiation-sources/more-radiation-sources/smoke-detectors>
- Smoke Alarm Association of Australia - Fact Sheet Smoke Detectors and Health, March 2015.
<https://www.saaaaustralia.org.au/wp-content/uploads/Smoke-Detectors-and-Health.pdf>
- EPA SA – Ban of fluorescent lighting disposal to landfill.
http://www.epa.sa.gov.au/data_and_publications/standards_and_laws/waste_to_resources_policy/landfill_bans
- Dept of Health WA – Cleaning up a broken CFL or fluorescent globe.
https://www.healthywa.wa.gov.au/Articles/J_M/Mercury-and-compact-fluorescent-lamps

Appendix A

Certificates of Analysis

(Laboratory analysis of sampled material)



Accredited for compliance with ISO/IEC 17025-Testing.
Accreditation No. 20148, Site No. 24777 Melbourne Laboratory, 24016 Darwin Laboratory &
25528 Adelaide Laboratory.
The results relate only to the samples tested and are for the sole use by the client.
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ASBESTOS IDENTIFICATION BY PLM AND SERPENTINE BY XRD RESULTS

Date: 4 September 2025 **Agon Job No:** JH25.0033 – 111
Client: Asbestos SA **Attention:** Andrew Butler
Client Contact No: 0476 943 768 **Received Date:** 2 September 2025
Site Job Ref: 55 Arumpo Street, Renmark West SA **Identification Date:** 4 September 2025
Sampled By: As received **Agon Lab Site:** Adelaide
Test Method: Qualitative Identification of asbestos samples under polarising light microscopy including dispersion staining and trace analysis with a calculated practical detection limit of 0.01% using methodology as per Australian Standard AS4964 (2004) and inhouse Laboratory Procedure LP-004 Asbestos Identification Manual and/or LP-005 Serpentine Detection by X-ray diffraction.

Lab ID	Location Of Item	Item Use	Material Type	Wt. (g)	Asbestos detected	Analysis Result
A0593	Residence, External – Original build, wood framed windows	Glassing sealant	Putty	2	No	No asbestos detected
A1025	Residence, External – Original build, perimeter walls	Cladding	Fibrous cement sheeting	3	Yes	Chrysotile asbestos detected Organic fibre detected
A1026	Residence, External – West extension, west wall north end	Cladding	Fibrous cement sheeting	3.5	Yes	Chrysotile asbestos detected
A1027	Residence, Internal – Central Living room, combustion heater	Door seal	Rope	0.1	Yes	Chrysotile asbestos detected
A1029	Shed 2, External – West on ground	Debris	Fibrous cement sheeting	2	No	No asbestos detected Organic fibre detected
A1079	Shed 4, Internal – Northeast floor	Covering	Vinyl sheeting	2	No	No asbestos detected ^(*) No asbestos detected by XRD ^(*)
A1080	Old Chicken Coup, Internal – Ceilings	Lining	Fibrous cement sheeting	15	No	No asbestos detected Organic fibre detected
A1081	Old Chicken Coup, Internal – North and west walls	Lining	Fibrous cement sheeting	2	No	No asbestos detected Organic fibre detected
A1082	Old Picker's Quarters, External – Wood framed windows	Remnant glassing sealant	Putty	0.1	No	No asbestos detected
A1083	Old Picker's Quarters, Internal – Main structure ceilings	Lining	Fibrous cement sheeting	1	Yes	Chrysotile asbestos detected

Melbourne Laboratory - H76, 63-85 Turner Street, Port Melbourne, 3207 | Darwin Laboratory - 1/41 Jessop Crescent, Berrimah, NT 0828 |
Adelaide Laboratory - 3/224 Glen Osmond Road, Fullarton, SA 5063
Agon Environmental Pty Ltd A.B.N. 29 167 746 063
admin@agonenviro.com.au (08) 8338 1000
www.agonenviro.com.au

JH25.0033-111 55 Arumpo Street, Renmark West SA

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agon

ENVIRONMENTAL

Accredited for compliance with ISO/IEC 17025-Testing.
Accreditation No. 20148, Site No. 24777 Melbourne Laboratory, 2401G Darwin Laboratory &
25528 Adelaide Laboratory.
The results relate only to the samples tested and are for the sole use by the client.
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Lab ID	Location Of Item	Item Use	Material Type	Wt. (g)	Asbestos detected	Analysis Result
A1084	Old Picker's Quarters, Internal – Main structure floors	Covering	Fibre impregnated tar sheeting	2	No	No asbestos detected Organic fibre detected

* As noted in AS 4964, asbestos may be difficult to detect in materials of this type and therefore confirmation by another analytical technique is recommended.

^ Asbestos detection by XRD is not covered by our NATA accreditation

Naciye Haliloff

Approved Identifier (PLM) and XRD Analyst and Signatory (PLM/XRD)

Any and all services carried out by Agon for the Client are subject to the Terms and Conditions provided in Agon form QFB-008 and are governed by our Statement of Limitations provided in Agon form QFB-024 (both documents accessible at <https://agonenviro.com.au/documents/>).

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Appendix B

Plans | Site Drawings



Aerial Image – Five acre division outlined in red; Residence and Shed 1 outlined in green; Shed 2 outlined in pale blue; Shed 3, Shed 4, Old Chook Coup and Old Picker's Quarters outlined in purple



Aerial Image – Residence and shed 1; Shed 2 to east



Aerial Image – Shed 3; Shed 4 and Chicken Coup outlined Old Picker's Quarters

Appendix C

General limitations of an inspection and/or report

(Including explanations to help understand this report)

General limitations of an inspection and/or report

Scope of services

This inspection and/or report ("the report") has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and HAZMAT Australia | Asbestos SA ("scope of services"). In some circumstances the scope of services may have been limited by a range of factors such as type of inspection, time, budget, access and/or site disturbance constraints.

Reliance on data

In preparing the report, HAZMAT Australia | Asbestos SA has relied upon data, surveys, analyses, designs, plans, and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise stated in the report, HAZMAT Australia | Asbestos SA has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. HAZMAT Australia | Asbestos SA will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented, or otherwise not fully disclosed to HAZMAT Australia | Asbestos SA.

No inspection can be guaranteed to locate all asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria)

In practice it is generally impossible to locate all asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) in the course of an inspection.

This is because of factors such as:

- Restrictions on access to building, property, plant, and equipment including (but not limited to) lifts, lift shafts and rooms, air conditioning duct work and airways, hot water services and internal construction components.
- There is a need to avoid damage to the Client's property (e.g. through sample taking or gaining access), as well as minimising disruption (e.g. dismantling equipment) and inconvenience.
- There is no destruction, dismantling or demolition of finishes, structures, fixtures, plant, or other equipment) during inspection unless otherwise stated nor is there provision to make good areas if access or sampling is nominated at a particular location or locations.
- Obstructions or impediments such as (but not limited to) furniture, equipment, stored items, and chattels occupying areas of the property may impede inspection.
- The availability of building/plant construction plans.
- A report may be conditional on the following information provided by a client, person, employees, or agents of the person on site or acting for the client which may conceal possible defects, asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) and any other factor limiting the preparation of the report.
- Environmental, para-occupational, and occupational influences.
- Workplace or occupant activity.

Limitations on scope of services

- No specific inspection will be conducted in under-floor spaces or under existing floor coverings (unless detailed in certain locations) and is limited to those ceilings spaces that are (in HAZMAT Australia | Asbestos SA's opinion) reasonably accessible.
- Assessment of the presence of asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) in soil is expressly excluded from any assessment unless stated otherwise.
- Integral parts of plant/equipment will not be inspected unless stated otherwise and are specifically de-energised, isolated, deactivated or rendered safe prior to any inspection. Where no inspection of items of plant and equipment is carried out, a presumption of the presence of asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) may still be documented.
- Asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) may be located or identified in inaccessible areas such as (but not limited to) wall cavities, lift shafts, under floor slabs, along pipework and within shrouds, within boilers, heater banks, ductwork, live electrical installations, within pipe chases, soil, foundations, and the like.
- Results of laboratory analysis of any asbestos or ACM may be affected or compromised in instances where: the material has been heat-affected, as heat may alter the morphology of the fibrous material; or simply because asbestos (or lack of) in the sample may be inconsistent in the originating product.
- Results of laboratory analysis on any hazard material or substance may vary and are subject to laboratory and testing limitations.
- Any measurements or quantities stated or referred to in any report should not be relied upon for estimation of asbestos containing materials or any other hazardous materials or substances (including but not limited to mould/bacteria) for remediation costs or as a basis for contracts for such remediation.
- The inspection was limited to readily accessible areas of the building and site. The Client shall arrange right of entry, facilitate physical entry, and supply necessary information to enable the inspector to undertake the inspection and prepare a report. The Inspector is not responsible for arranging entry to property or parts of the property, where access is not available at the time of inspection or entry is denied - those areas are excluded from and do not form part of the inspection report.
- **Reliance on an inspection**
The client must not rely upon an inspection or report as indicating that a site or building is "asbestos free" (or that such asbestos as was reported to have been found is the only asbestos at the site or building). This is the same for any other hazardous materials or substances (including but not limited to mould/bacteria). All that the report can be relied upon to show is that no asbestos or no hazardous materials or substances (including but not limited to mould/bacteria) was found or was not identified at the location where it was reported to have been found previously, in the course of the inspection. The findings of the report must be considered together with the specific scope and limitations of the type of inspection undertaken.

Report for benefit of client

The report has been prepared for the benefit of the Client and no other party. HAZMAT Australia | Asbestos SA assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of HAZMAT Australia | Asbestos SA or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

For the purposes of this limitations statement, “conclusions” include statements, opinions, facts, information, summary, comments conclusions and/or recommendations in this report.

Other limitations

HAZMAT Australia | Asbestos SA will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report. No one section, or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in its entirety, including its appendices/attachments.

*Reports and services relating specifically to asbestos:***▪ There is no instrument which can detect asbestos**

The presence of asbestos must be determined visually, as there is no reliable instrument currently available for the purpose. An inspector relies on experience and may take samples of suspect materials and have them analysed in a laboratory. Thus, any restrictions on the amount of sampling may reduce confidence in the asbestos inspection findings. The consequence of this is that asbestos which cannot be seen will not be found.

▪ Asbestos is commonplace

From the early 1900s until the early 1980s, asbestos was widely used in industry. The use of asbestos-cement sheets in roof pipes and wall cladding was particularly widespread, as was the use of “limpet” asbestos fibre insulation in steel framed high-rise buildings. Asbestos was also used for applications such as insulation of pipes and high temperature electricity cables, in plastics, in vinyl floor tiles, for reinforcement in cements, putties and mastic and in gaskets and friction materials.

Whilst major uses of asbestos were sometimes recorded on engineering drawings, there are few records of the ad hoc use of asbestos containing products and materials. To give examples from the building industry, plumbers frequently used asbestos fibre in caulking compounds and builders often used asbestos cement sheeting as packing under floorboards.

In short, asbestos could be almost anywhere in a building or plant constructed before the 1990s with imported and stored asbestos containing material introduced thereafter.

Appendix D

Health risks of asbestos and general information

Health risks of asbestos and general information

Health aspects of exposure to airborne asbestos fibres

Asbestos is a known carcinogen. The inhalation of asbestos fibres is known to cause asbestosis, mesothelioma, and lung cancer.

Malignant mesothelioma is a cancer of the outer covering of the lung (the pleura) or the abdominal cavity (the peritoneum). It is usually fatal.

Mesothelioma is caused by the inhalation of microscopic fibres deep into the lungs where they can damage mesothelial cells, potentially resulting in cancer.

The latency period varies and may be between 10 and 40 years, and the disease is very difficult to detect prior to the onset of illness.

Mesothelioma was once rare, but its incidence is increased throughout the industrial world as a result of past exposures to asbestos. Australia has the highest incidence rate in the world.

Lung cancer symptoms are rarely felt until the disease has developed to an advanced stage can be related to exposure to asbestos fibres. Lung cancer is a general cancer of the lung and can be difficult to differentiate from other causes (e.g. smoking – the likelihood of development of lung cancer from exposure to asbestos by a smoker is multiplicatively greater). The average latency period of the disease, from the first exposure to asbestos, ranges from 20 to 30 years.

Asbestosis is a form of lung disease (pneumoconiosis) directly caused by inhaling asbestos fibres, causing scarring (fibrous) of the lung tissue, which decreases the ability of the lungs to transfer oxygen to the blood. The latency period of asbestosis is generally between 15 and 25 years.

Asbestos poses a risk to health by inhalation whenever asbestos fibres become airborne and people are exposed to these fibres.

Asbestos containing materials (ACMs) can release asbestos fibres into the air whenever they are in poor condition, disturbed and especially during the following activities:

- any direct action on ACM, such as drilling, boring, cutting, filing, brushing, grinding, sanding, breaking, smashing, or blowing with compressed air
- the inspection or removal of ACM from workplaces (including vehicles, plant, and equipment)
- the maintenance or servicing of materials from vehicles, plant, equipment, or workplaces
- the renovation or demolition of buildings containing ACM

Non friable ACM that has been subject to extensive weathering or deterioration also has a higher potential to release asbestos fibres into the air.

The exact process and links from exposure to asbestos fibres to the development of asbestos related illnesses are not fully understood and is dependent upon a combination of factors, but it is generally accepted that cumulative high exposure over a long time increases the likely of contraction.

Research into the health effects is currently ongoing with other asbestos related disease noted such as:

Pleural plaques are small areas of thickening or scarring of the lining of the lung, which in itself may not necessarily be fatal, but it usually seen as an indicator of exposure to asbestos and can also be a precursor of other asbestos related diseases.

Exposure

The risk of exposure to airborne asbestos fibres is not confined to those personnel who work or have worked directly with asbestos related products. Exposure may also be significant to personnel in the vicinity of asbestos containing materials (particularly in poor condition), maintenance personnel, and the like, whose tasks may involve accessing these areas containing ACMs or accidentally disturbing them when safe work practices are not enforced.

Various factors determine how exposure to asbestos affects an individual including:

- propensity to disease (genetic make-up),
- exposure concentration, duration, frequency, and
- size, shape, and chemical makeup of asbestos fibres.

Asbestos in materials

Asbestos is the general name given to certain mineral silicates which are found occurring as natural mineral deposits within the ground. The natural occurring minerals have been subsequently mined in various countries including Australia and are categorised into two groups:

Serpentine group:	CHRYSTILE	(commonly known as white asbestos)
Amphibole group:	CROCIDOLITE	(commonly known as blue asbestos)
	AMOSITE	(commonly known as brown asbestos)
	ANTHOPHYLLITE	
	ACTINOLITE	
	TREMOLITE	

Asbestos fibre has been historically cheap to mine with minimum process to incorporate into products. It has been exploited commercially due to its useful properties of:

- flexibility
- high tensile strength
- incombustibility
- resistance to chemical attack
- water resistance

Chrysotile, Crocidolite, and Amosite are common types of occurring asbestos, with the other amphiboles occurring rarely or as contaminants within other asbestos or mineral deposits.

The physical and chemical properties of asbestos have determined its uses and commercial value.

The fine fibres of chrysotile and crocidolite are ideal for textile products.

The thermal stability of asbestos minerals made them particularly suitable for friction products.

The low thermal conductivity of asbestos has led to the materials being extensively used as an insulation material.

Asbestos cements consisting mainly of chrysotile and cement binders are high quality products because of the chemical bonding of the lime with the surface of the asbestos fibres.

Appendix E

Glossary of Terms

Glossary of terms

The following describes the terms used in this report.

Person Undertaking a Business or Undertaking (PCBU)	A PCBU includes an employer, corporation, association, partnership, sole trader, and certain volunteer organisations. For example, a volunteer organisation that employs a person to carry out work is a PCBU. However, a volunteer organisation that operates with volunteers and does not employ anyone is not a PCBU. A PCBU has the primary duty of care for workplace health and safety.
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Accessibility:

Accessible	In a physical location where building occupants or users might readily access material without use of assistance, e.g. asbestos based material used as wall cladding or on outside of equipment in a laboratory etc.
Limited Access	Requiring some assistance or equipment to allow access, e.g. requiring a ladder or lifting of ceiling tiles or keys to normally locked cupboard, room, etc.
Generally Inaccessible	Requiring dismantling, demolition or similar to allow access, e.g. material inside cavity walling, under floorboards, inside air conditioning ducting or plant, etc.

Material friability:

Friable	Non-bonded asbestos fabric or material, is in a powder form or can be crumbled, pulverised, or reduced to powder by hand pressure when dry
Non-Friable (bonded)	Material where the asbestos fibres are bonded by cement, vinyl, resin, or another similar binder.
Semi-bonded Material	Which is generally bonded but exhibits some signs of deterioration or weathering, generally on the outer surface.

Material condition:

Good Condition	Showing no, or very minor, signs of damage and/or deterioration of material.
Medium Condition	Showing small amounts of damage and/or deterioration of material.
Poor Condition	Showing a large amount of damage or deterioration or that material is unserviceable for its intended use.

Risk rating:

Low level of risk	Left undisturbed, under normal occupational circumstances, it is unlikely to generate airborne asbestos fibres.
Medium level of risk	Left undisturbed, under normal occupational circumstances, it may generate airborne asbestos fibres.
High level of risk	Left undisturbed, under normal occupational circumstances, it is likely to generate airborne asbestos fibres.

Appendix F

Forms:

- **Register Log**

The purpose of the log is to record all persons who have viewed this register and to prompt the reader to address any concerns prior to commencing work.

- **Activity Log**

The purpose of the Activity Log F) is to record all maintenance, remediation or removal activity relating to asbestos upon completion and to include statutory information.

Unless otherwise detailed, this register was produced without an intrusive survey or destructive testing, and limitations apply. Demolition or building work may reveal previously unknown asbestos material. Treat unknown or hidden building material as asbestos containing or, preferably, ensure an intrusive survey is performed prior to commencing work to help identify hidden hazards or potential risk.

[illegible]

F

Activity Log

The purpose of the Activity Log is to record all maintenance, remediation or removal activity relating to asbestos upon completion and to include statutory information. Additional documentation should be maintained with the asbestos register, including (but not limited to) Clearances Certificates and Air Monitoring results.

Date(s) of Work	
Company	
Supervisor	
Safework Authority / Notification no.	
Register item no. and description of remediation/removal	
Qty removed/remediated	
Licensed Assessor/Hygienist	
Clearance provided	Yes / No / Not applicable. Detail:
Notes	

Date(s) of Work	
Company	
Supervisor	
Safework Authority / Notification no.	
Register item no. and description of remediation/removal	
Qty removed/remediated	
Licensed Assessor/Hygienist	
Clearance provided	Yes / No / Not applicable. Detail:
Notes	



Appendix H Site Contamination Declaration

SITE CONTAMINATION DECLARATION FORM

Council area: Renmark Paringa Council

Regarding the land comprised in Certificate(s) of Title Register Book Volume CT Volume 6160 Folio 537 (the *subject land*).

I Julian Howard (CenvP SC), a site contamination consultant, certify the following details:

Part 1—Investigations

(a) I have relied on the following reports to complete this statement:

EHS Support, 2025. Preliminary Site Investigation Report

(b) Investigations were conducted in accordance with the *National Environment Protection (Assessment of Site Contamination) Measure 1999*. (ASC NEPM).

Yes.

Part 2—Site contamination unlikely to exist (for the purposes of planning consent)*

(a) ~~A potentially contaminating activity (as defined in the *State Planning Commission Practice Direction 14 (Site Contamination Assessment)*) is not known to have occurred on the subject land*.~~

(b) ~~A class 1 activity (see the *State Planning Commission Practice Direction 14 (Site Contamination Assessment)*) is not known to have occurred on adjacent land*.~~

Part 3—Site contamination exists or may exist*

(a) Site contamination exists or may exist on or below the surface of the land* as a result of a class 1 activity (including where a class 1 activity exists or previously existed on adjacent land*), class 2 activity, class 3 activity (see the *State Planning Commission Practice Direction 14 (Site Contamination Assessment)*), or notification of site contamination of underground water (as shown on the South Australian Property and Planning Atlas) including where such a notification exists on adjacent land*.

(b) The site contamination or potential site contamination originated or is likely to have originated—

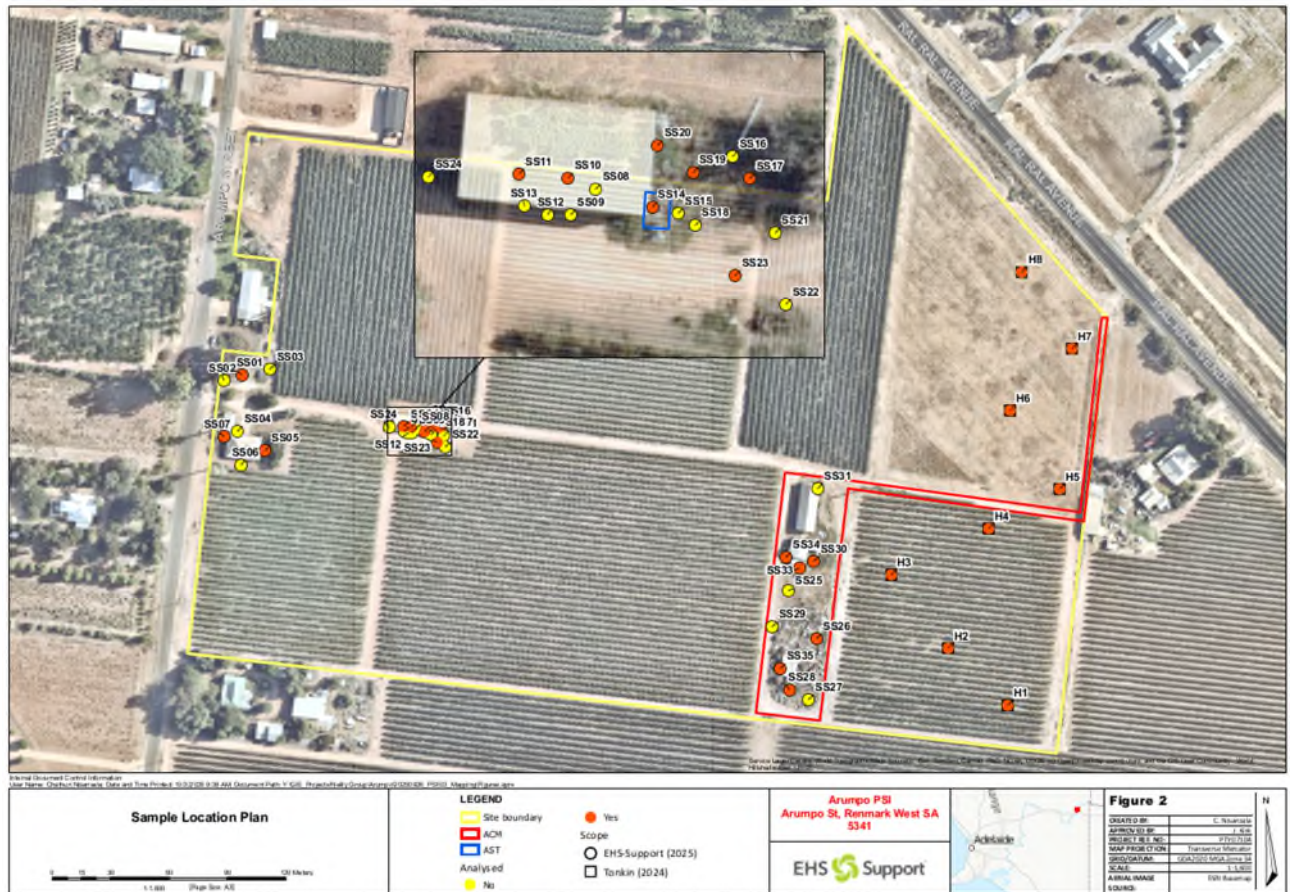
(i) on the subject land*—

(A) as a result of the following activities carried on there

Class 1 - Asbestos Disposal

(B) at the following location:

*Delete whichever is not applicable



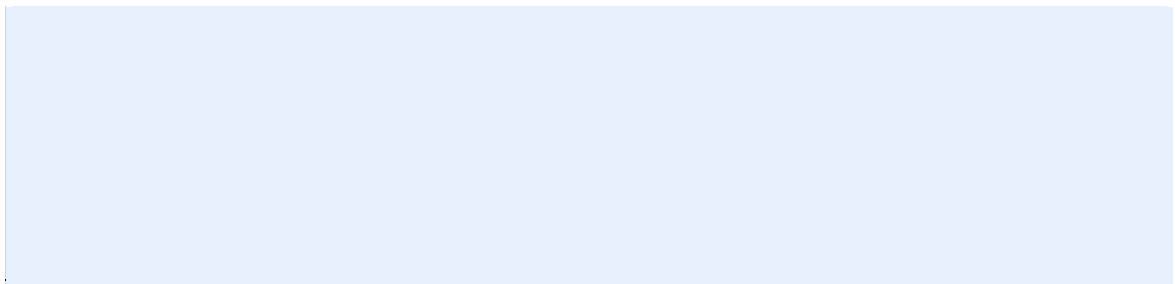
or

- (ii) ~~on adjacent land* (i.e. class 1 activity or notification of site contamination of underground water (as shown on the South Australian Property and Planning Atlas))*—~~

~~(A) as a result of the following activities carried on there:~~

~~Click here to enter text.~~

~~(B) at the following location:~~



~~(C) the subject site is impacted by a notification of site contamination of underground water originating from adjacent land*:~~

~~Click here to enter text.~~

Part 4—Observations*

The subject land* is located on land within a [select any that apply]—

*Delete whichever is not applicable

- ☐ groundwater prohibition area (as shown on the South Australian Property and Planning Atlas)
- ☐ subject of a notation under section 103P of the *Environment Protection Act 1993* on the relevant title that a site contamination audit report has been prepared in respect of the land.

Signed: [Click here to enter text.](#)

Date: 7/10/2025

☒ If being lodged electronically please tick to indicate agreement to this declaration.

Name of company or business / accreditation body and number

EHS Support, Julian Howard is a certified environmental practitioner (General Cert. No. 1123, SC40069)

Note 1—Investigations found the existence of ‘fill or soil importation’ on-site (i.e. importation, to a premises of a business, of soil or other fill originating from a site at which another potentially contaminating activity has taken place pursuant Schedule 3 of the *Environment Protection Regulations 2009*). Fill or soil importation is not a potentially contaminating activity for the purposes of the *State Planning Commission Practice Direction: (Site Contamination Assessment)*, but remains a potentially contaminating activity under the *Environment Protection Regulations 2009*. The EPA’s Industry Guideline on ‘*Construction environmental management plans (CEMP)*’ provides assistance on meeting the obligations of the *Environment Protection Act 1993*.

Note 2—It is an offence to provide false or misleading information on this Form. Maximum penalty: \$20 000 pursuant to section 217 of the *Planning, Development and Infrastructure Act 2016*.

Note 3—The “subject land” is the land the subject of the subject development application.

Note 4—“Adjacent land” is defined in section 3(1) of the *Planning, Development and Infrastructure Act 2016* to mean “in relation to other land, means land that is no more than 60 metres from the other land”.