Preliminary Site Investigation

Melaleuca Street/ Pitman Avenue, Buronga 2739

For:

MH2 Engineering and Architectural services

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Rev	Purpose	Author	Reviewer	Issue Date
A	Draft report for internal review	R. Allwright	C. Alderton	29 January 2024
B	Draft report for client review	R. Allwright	C. Alderton	30 January 2024
0	Final for submission	R. Allwright	C. Alderton	1 February 2024

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1.0 Introduction

1.1 Objectives

Potentially consisting of a number of stages, a preliminary Site Investigation (PSI) is defined under the *National Environmental protection (Assessment of Site Contamination) Measure 1999* as a set of formal methods for determining the nature, extent and levels of existing contamination and the actual or potential risk to human health or the environment on or off-site resulting from that contamination.

MH2 Engineering and Architectural Services (MH2), project manager, has engaged Green Edge Environmental Pty Ltd to undertake a phase one PSI to establish the potential for contamination of the soil at a 41.37 hectare (ha) property located over four different land parcels in Buronga:

- 88 Melaleuca Street, Buronga
- 90 Melaleuca Street, Buronga
- 133 Pitman Avenue, Buronga
- 165 Pitman Avenue, Buronga

Previous to this assessment, 88 Melaleuca Street and 133 Pitman Avenue were subdivided from the larger land parcels. The residential land use in these two parcels will not change as a result of the proposed development.

The purpose of this assessment is a requirement to the proposed development application and rezoning of land from Rural (RU4) – Primary production Small Lots to Village (RU5) for the proposed residential development.

1.2 Scope of works

A stage one PSI involves a preliminary site assessment with no or limited physical sampling of soils, groundwater, surface water or sediment. A PSI is a mechanism for gathering sufficient information to understand the potential for contamination at the site being investigated. This preliminary assessment will:

- identify past and present potentially contaminating activities
- identify potential contamination types
- discuss the site condition
- provide a preliminary assessment of site contamination
- include some preliminary, targeted soil sampling
- assess the need for further investigations.

2.0 Site identification

Details of the properties assessed as part of this investigation are located in Table 1, Table 2, Table 3, Table 4 and Appendix A, map series containing the location map and site plan.

Table 1: Property one details

Site identification	Detail
Street number	88
Street name	Melaleuca Street
Suburb	Buronga
Lot number	1
DP number	DP1075225
First title	105/756946
Prior titles	105/756946

Table 2: Property two details

Site identification	Detail
Street number	90
Street name	Melaleuca Street
Suburb	Buronga
Lot number	2
DP number	DP1075225
First title	105/756946
Prior titles	105/756946

Table 3: Property three details

Site identification	Detail
Street number	133
Street name	Pitman Avenue
Suburb	Buronga
Lot/DP number	1/DP883678, 106/DP756946 & 2/DP883678
First title	107/756946
Prior titles	232/820163

Table 4: Property four details

Site identification	Detail
Street number	165
Street name	Pitman Avenue
Suburb	Buronga
Lot number	231
DP number	DP820163
First title	107/756946
Prior titles	107/756946

3.0 Site history

This site history review has been conducted in accordance with the following guidelines:

- National Environment Protection (*Assessment of Site Contamination*) Measure 1999, specifically Schedules B1-B4
- Consultants reporting on contaminated land, Contaminated land guidelines (NSW Environmental Protection Authority, 2020)
- Guidelines for assessing former orchards and market gardens (Department of Environment and Conservation, 2005).

3.1 Information sources

Information for this preliminary investigation has been obtained from the following sources:

- Current owners
- Former owners
- Wentworth Shire Council
- NSW Land and Property Information
    - Title and site history searches
    - EPA priority sites register
    - Groundwater bore data
- Google satellite imagery
- Aerial photography
- Past reports

3.2 Zoning

The zoning under the Wentworth Shire Council Local Environmental Plan 2011, is Primary Production (small lots)(RU4).

3.3 Land use

The predominant land use across the properties has been for irrigated horticulture, mainly table grapes and citrus. The study area also comprises three habitable dwellings and multiple farm sheds used for storage.

3.4 Chronology of the site

A number of investigations into the potential contamination of the Buronga/Gol Gol area have been previously undertaken. These include Thompson (2007), which is a historical review of the area from settlement, providing information on land use over time and Sunraysia Environmental (2008) which includes an overview of the larger Buronga/Gol Gol area as well as some limited soil sampling.

The current landowners were interviewed on 2 November 2023. A number of findings from these interviews have added to the chronology of the site and chemicals identified.

The following points relevant to this preliminary assessment are taken from Thompson (2007):

- European settlement commenced in the local area in the 1840's with the arrival of the first grazing run in the region in 1846
- in 1865 the Gol Gol Township was surveyed and excised from Tapio Station and land sales commenced in 1871
- the Buronga Irrigation District was planned in 1956 and settled by 1958
- the Buronga Irrigation Scheme was refurbished, commencing in 1994.

The following points relevant to this preliminary assessment are taken from Sunraysia Environmental (2008):

- the main crop types for the local irrigated areas have been horticulture, including grapes for wine, table and dried fruit, citrus, vegetables and olives
- most horticultural properties over the last 50 years have used agricultural chemicals (fungicide, herbicide or insecticide)
- some properties may also have stored fuels in drums, overhead tanks or underground tanks on the farm
- pre-1950's the study area was vacant land covered in light Mallee scrub, no fences were present so the land was not even used for rangeland grazing
- there may be potential contaminants in the soil from horticultural chemicals use and storage. However, testing of the soil for agricultural chemical residues screen revealed that no contamination had occurred for the parameters analysed.

As documented above, a number of searches were undertaken to develop a chronology of past ownership and land uses of the subject site (refer Appendix B). The results of the searches are summarised in Table 5.

Table 5: Chronology of the land ownership and land uses of the site

Proprietor(s)	Dates	Major land uses
88 Melaleuca Street		
Barry Hancock	≈2009 – Current	Residential dwelling was subdivided from the property approximately 15 years ago.
90 Melaleuca Street		
Government of NSW	Prior to 1950	Mallee Shrubland
Unknown	1950 - unknown	Land was clear for agricultural use and irrigated horticulture commenced.
Charlie Peters	Unknown - 1994	Vineyard was planted over the property.
Barry Hancock	1994 - Current	Predominantly vineyard for table grapes.
133 Pitman Avenue		
Government of NSW	Prior to 1950	Mallee Shrubland
Unknown	1950 – Unknown	Land was clear for agricultural use as irrigated horticulture commenced in the surrounding area.

Joseph Scopelliti	Unknown - 1997	Approximately 25ha of citrus orchids and 1.62ha of vineyard was planted across the property. The house dwelling has also been erected in this time.
Paul Scopelliti	1997 – Current	Some areas of the property have been cleared of irrigation activities however, land use has not significantly changed.
165 Pitman Avenue		
Government of NSW	Prior to 1950	Mallee Shrubland
Unknown	1950 – unknown	Land was clear for agricultural use as irrigated horticulture commenced in the surrounding area.
Joseph Scopelliti	Unknown – Current	House and shed have been erected. This property is also used as a fruit and vegetable retail store.

The site history did not reveal any permits, licences, approvals or trade waste agreements.

3.5 Aerial photo review

As indicated on the attached site plan (Appendix A) the study area comprised approximately 41.37ha, containing six sheds and three residential dwellings. The remainder of the site consists of citrus orchids with irrigation sprinklers vineyard, and seasonal vegetable plantings.

The historical aerial photos of the site provide an insight into the site history. Table 6 provides some comments on the aerial photos; refer to Appendix B for more information.

Table 6: Historical aerial photo review

Date	Comments
1975	First signs of horticulture on the site. Two of the three dwellings have been built prior to this aerial photo.
1981	The entire site has been cultivated for horticulture, assumed vineyard and citrus.
2005	All three dwellings have been erected by this time and the entire study area is being used for horticulture, assumed vineyard and citrus.
2023	No major changes from 2005.

In summary, land use of the site appeared to have been predominantly agricultural from at least 1975. The site layout and land use generally remains unchanged from this time.

3.6 Chemicals identified

As identified in the Sunraysia Environmental (2008) report the following chemical types are likely to have been used:

- fungicide
- herbicide
- insecticide.

Additionally, this preliminary site investigation has identified the following:

- a range of metals
- agricultural chemicals
- pesticides
- petroleum hydrocarbons
- fertilisers.

The above chemicals were also identified in the interview with the landowners between the years 1994 and 2024, with these chemicals being stored and mixed around the farm shed located on site (Appendix A). The orchids and vineyards are still in active use where chemicals and liquid fertilisers are still being used on the site.

3.7 EPA records

3.7.1 CLM Act 1997

The NSW EPA publishes records of contaminated sites under Sections 58 of the *Contaminated Land Management (CLM) Act 1997*. The notices relate to the investigation and/or remediation of the site contamination considered to pose significant risk of harm under the definition of the CLM Act. However, it should be noted that the EPA record of Notices on Contaminated Land does not provide a record for all contaminated land in NSW.

A search of the EPA database revealed that the subject site is not listed. The closest property that is listed is located approximately 900m away at 141 Hendy Road, Buronga and is not considered to cause concern for the site.

Copies of the EPA records can be found in Appendix C.

3.8 Possible contamination sources

Based on the site inspection, site history, previous reports and review of available information from desktop study, the potential Areas of Environmental Concern (AEC) and their associated Contaminants of Concern (CoC) for the site were identified. These are summarised in the following table.

Table 7: Potential AEC

Zone	Location	Comments
1	Off site	Residential dwelling and shedding in the southeast corner of the study area has the potential to contain asbestos, household chemicals OC/OP pesticides and other waste contaminants, including a septic tank.

2	On site	The inhabited dwelling in the northwest extent (90 Melaleuca Street) has the potential to contain asbestos, household chemicals OC/OP pesticides and other waste contaminants, including a septic tank. This property will not be impacted by the proposed development.
3	On site	The shed behind the dwelling in the northwest extent has been subdivided away from the dwelling. The shed is a large, sealed shed with a refrigerated cool room for produce storage. Around the shed is two above ground fuel tanks and visible soil staining. This area will be demolished and developed as a result of the proposed development.
4	On site	The inhabited dwelling and shedding in the southwest extent (133 Pitman Avenue) of the property has the potential to contain asbestos, household chemicals, OC/OP pesticides and other waste contaminants, including a septic tank. There is a large sealed shed next to the dwelling with overhead fuel tanks for domestic use. Visible soil staining appears around the shed and fuel tanks. This property will not be impacted by the proposed development.
5	On site	The inhabited dwelling and shedding in the southeast extent of the property (165 Pitman Avenue) has the potential to contain asbestos, household chemicals, OC/OP pesticides and other waste contaminants, including a septic tank. The large shed on the property operates as a fruit and vegetable retailer with no identifiable contaminants present. This property will not be impacted by the proposed development.
6	On site	The soil around irrigated areas have the potential to contain contaminants through the spraying of chemicals for crop production.
7	On site	In the north of the study area there is vacant land that is currently being used for waste storage. Scrap metal, pallet waste, empty chemical containers and retired farm machinery were observed that have the potential to leach into the soils.
8	On site	Underground flood irrigation main running north south of 90 Melaleuca Street has the potential to be made of asbestos.

No other sewer, site plans, discharges to land, water or air were identified as part of this preliminary assessment. Historically, neighbouring land use has been similar to the study area.

The groundwater is not used for any productive uses as it is highly saline. The Buronga Salt Interception Scheme to the west of the site protects salt from entering the River Murray by intercepting saline groundwater and diverting in to Mourquong disposal basin.

3.9 Complaint history

No known complaints have been made about the site.

3.10 Integrity assessment

The information discovered about this site through the historical review has been verified by previous owners. The information is therefore seen as accurate for the purposes of this PSI.

4.0 Site condition and surrounding environment

4.1 Site assessment

The site assessment revealed seven onsite areas/land uses which have potential to contribute to soil contamination. These areas include sheds, above ground fuel tanks, three residential dwellings, a potential underground irrigation pipe made of asbestos and general chemical use for horticulture.

The soil at the site consists of mallee loam, which could be prone to water and wind erosion with minimal ground cover vegetation. The topography ranges from 47mAHD and slopes to the north to 38mAHD (Appendix A).

The inhabited dwellings situated around the site extent are built between 1970 and 2000. Common contaminants that may occur around the house include PFAS, Pesticides, nitrates and asbestos. Contamination could also come from the septic systems that services the houses.

Figure 1: Vineyards on 90 Melaleuca Street

Situated next to the dwellings were large implement sheds used for the storage of farm machinery and general workshop activity. Free standing fuel tanks were also identified around two of the three dwellings with visible ground staining. The large shed at 133 Pitman Avenue has what appears to be an independent septic system with toilet facilities (Figure 3).

Visible ground staining from leaking oils and fuels were observed under fuel tanks and where machines are generally worked on or stored for longer periods of time around sheds (Figure 6). Through interviews with the landowner these sheds have also been identified as the chemical storage and mixing location for the irrigation.

Figure 2: Citrus orchids on 133 Pitman Avenue

Figure 3: Large sealed shed at 133 Pitman Avenue. Assumed sealed with a independent septic tank

Figure 4: Overhead fuel tank and ground staining next to the large shed at 133 Pitman Avenue

At the time of the site visit the northern extent of 90 Melaleuca Street was being used for waste storage. This was largely made up of scrap metal, pallet waste and empty chemical containers (Figure 7). Preliminary soil sampling was undertaken in this area (section 6.0) however, it is unlikely that the leaching from this waste would be significant enough to lead to contaminated soils above what is acceptable for the proposed residential zoning.

Figure 5: Overhead fuel tank at 90 Melaleuca Street

Figure 6: Ground staining and chemical containers around shed at 133 Pitman Avenue

Figure 7: General landscape of irrigated citus orchids

Horticulture can contribute to soil contamination due to the chemicals used during irrigation. Pesticides that have been used according to manufacturers' directions are unlikely to result in high levels of residual soil contamination in cultivated areas, as modern agricultural chemicals are generally not persistent in the environment. Soil

sampling completed by Sunraysia Environmental (2008), for previous rezoning of the area, also suggests that samples tested were below the threshold criteria set by the EPA and that the EPA requirements for a clean site were satisfied.

Through discussions with landowners, we are confident that the underground irrigation system over the four properties have been upgraded to PVC. However, there is the potential for an old flood irrigation pipe to run north south of 90 Melaleuca Street, to be made of asbestos. The asbestos piping is *in situ* and will not impose any risk in its current state. It is expected to be removed as part of development as per State guided standards.

No odours were recorded at the site. All shedding on the site is in reasonable repair. There are also no formal roads on the property. All access tracks are fit for purpose.

The site is located on a high dune and not subject to flooding. There is a manmade wetland directly surrounding the study area managed by council for the catchment of stormwater.

4.2 Surrounding environment

Directly surrounding the study area is a predominantly made up of other farming properties use for horticulture and cropping. There is an industrial warehouse to the west, a residential dwelling to the southeast.

Moving further away from the site, these same land uses continue with the addition of some residential development in the south and west of the site (Appendix A).

The most sensitive environment is the Murray River (1,220m west) and associated floodplain environment.

5.0 Geology and hydrogeology

5.1 Geology

The Mallee lands of Victoria's north-west and southern NSW consists of multiple layers of sands, clays, limestone and other materials that have accumulated over vast periods of geological time. Only the surface layers can be seen, but exploration of the buried substrate has enabled a greater understanding of the landscape at the surface.

This land is located in an undulating dune/swale landscape formed predominantly from quaternary aged aeolian deposits, known as the Woorinen Formation. Soils formed from this material are characterised by horizons of concentrated calcium carbonate (finely divided lime or calcrete rubble). These soils are commonly sandy at the surface, with the clay content increasing down the profile.

When the sea last retreated some two million years ago, it left behind a spread of sand as well as the strandlines (old shorelines). The materials of the sand spread are called the Parilla Sands. Materials of the same age laid down by rivers in the higher land areas not covered by the sea are known as the Shepparton Formation (refer to figure 8).

Fine textured clay sediments were laid down on top of the sand left by the retreating sea, to form an extensive thin capping, now known as the Blanchetown Clay (refer to figure 8).

The low east-west dunes were formed from materials that may not have been moved a great distance. They have considerable clay and carbonate content and are now relatively stable due to plant cover. These materials are referred to as the Woorinen Formation (refer to figure 8).

The site is typical of the Woorinen Formation with broad swales above flood level interspersed by low east-west dunes of sandier soil. The topography in the local area is generally undulating with the difference in elevation between the dune crests and swales being three to eight metres.

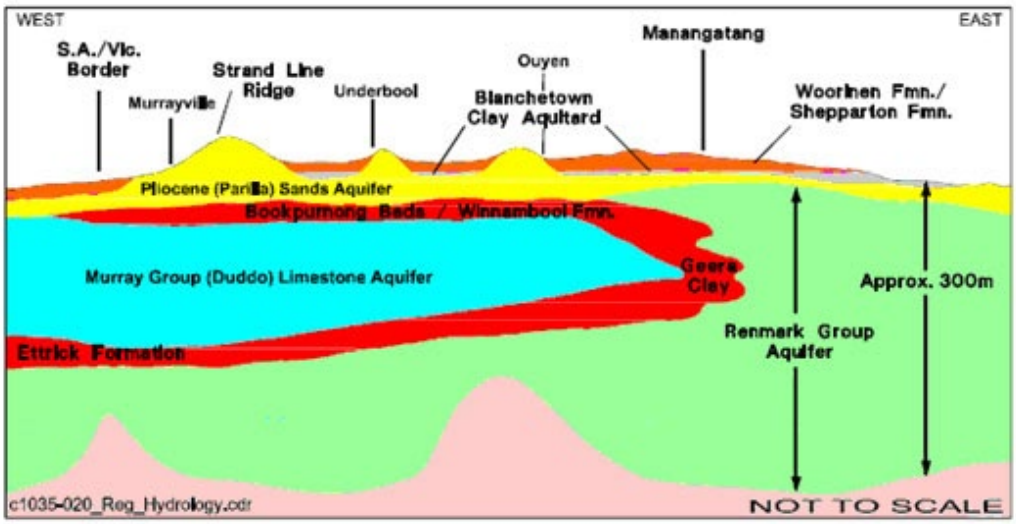

Figure 8: Simplified schematic of the major aquifers of the Mallee dryland (Mallee CMA website, 2011)

5.2 Hydrogeology

Groundwater flow occurs in subsurface aquifers. An aquifer is a sediment or soil which will transmit water. The rate of groundwater movement is controlled by the gradient of the potentiometric surface and the aquifer characteristics. The rate of groundwater movement is generally very slow. Typical rates for sand aquifers, such as found in the Mallee are tens of centimetres per year.

Sediments in the southwest sector of the Murray Darling Basin form a series of 'regional' aquifers that transmit groundwater flows over great distances. The coarse-grained alluvium (Renmark Formation) located at the base of the basin forms the deepest aquifer.

Above this, and separated by layers of clay, lies a thick sequence of marine limestone (Murray-Group Limestone). This is an important aquifer, both from the perspective of groundwater resources and dryland salinity. Water quality in this aquifer is generally good, being less than 2,000mg/l TDS (Hoxley, 1996).

Above the limestone, layers of sand (Parilla or Loxton-Parilla Sands) form the shallowest aquifer and part of the upper land surface in both Victoria and South Australia. These regional aquifers are conduits for groundwater movement from western Victoria to the Murray River in Victoria and South Australia. Groundwater in this aquifer is highly saline, often more saline than sea water (Hoxley, 1996).

The trench of the Murray River is the natural discharge zone or 'drain' for groundwater from most of the region.

Groundwater flow in all Mallee aquifers is generally toward the Murray River. The groundwater flow from all Mallee aquifers eventually discharges to the Murray River, mostly in South Australia.

Three observation bores monitoring the NSW Office of Water located near the study area were approximately 10m below ground level. Refer to Table 8 which contains details of the observation bores.

Table 8: Observation bore data

Name	Easting	Northing	Completion date	Final depth (m)	Observation depth (m)	Standing water level (m)
GW087042	610066	6217575	1972	9.14	N/A	N/A
GW087041	611879	6218528	1972	10.97	N/A	N/A
GW087597	612189	6218355	1989	12.50	N/A	1.300

Note: Data adapted from NSW Natural Resource Atlas (2012), refer to Appendix A for mapped locations.

6.0 Sampling, Analytical and Quality Plan

A Sampling, Analytical and Quality Plan (SAQP) was developed to ensure that data collected for the PSI is representative and provides a robust basis for site assessment decisions. Preparation of the SAQP was completed in general accordance with ASC NEPM (2013) methodology and includes:

- Data Quality Objectives (DQO)
- Sampling methodology and procedures

Field screening methods:

- Sample handling, preservation and storage procedures
- Analytical QA/QC

The following sections summarise the DQO and QA/QC.

6.1 Data quality objectives

DQO were prepared as statements specifying qualitative and quantitative data required to support project decisions. DQO were prepared in general accordance with NSW EPA (2017), EPA (2014) and NEPM (2013) guidelines and are presented in table 9.

Table 9: Data quality objectives

Step 1 Stating the problem	Review of previous site documentation identified potential contaminants that might be accessible to human and environment receptors during construction of the proposed residential and industrial development. This PSI is required to assess risk posed by Contaminants of Potential Concern (COPC) in the identified AEC to receptors.
Step 2 Identifying the decision(s)	To assess the suitability of the site for future land use, decisions are to be made based on the following questions: • What is the contaminant exposure pathway? • Has previous or current site use impacted the study area that may pose a risk to humans or the environment for future land use? • Does the study area require remediation or management prior to constructing the proposed development?
Step 3 Identification of inputs to the decision	The inputs to the assessment include: • Field observations made during intrusive investigation works • Soil sampling at nominated locations across the investigation area • Laboratory analytical results for relevant COPC • Assessment of analytical results against site suitable guidelines.
Step 4 Study boundary definitions	Study boundaries are as follows: • Lateral – Lateral boundary of the assessment is defined by the investigation area boundary

	• Vertical – vertical boundary is governed by the maximum depth reached during subsurface investigations • Temporal – one round of soil sampling has been undertaken at this stage
Step 5 Development and decision rules	The decision rule for this investigation is as follows: If the concentration of contaminants exceeds the adopted assessment criteria, a risk assessment is required. Should the risk be unacceptable, further investigations to remediate and / or manage the onsite impacts, in relation to the proposed development, will be undertaken.
Step 6 Specification of limits on decision errors	Guidance found in ASC NEPM (2013) schedule B2 regarding 95% upper confidence limit (UCL) states that the 95% UCL of the arithmetic mean provides a 95% confidence level that the true population mean will be less than or equal to this value. Therefore, a decision can be made based on a probability that 95% of the data collected will satisfy the site acceptance criteria. A limit of decision error will be 5% that a conclusive statement may be incorrect.
Step 7 Optimisation of sampling design	Proposed sampling locations should provide relevant preliminary data for the purpose of this PSI. Sampling shall attempt to ensure that critical locations are assessed, sampled, and analysed for appropriate contaminants of concern. Soil sampling locations were set subject to site access and selected using a judgmental pattern across the investigation area.

6.2 Methodology and quality assurance / quality control

Site investigation and soil sampling methodology as shown in Table 10, was completed to meet the projects DQO.

Table 10: Investigation and sampling methodology

Activity	Detail / Comments
Fieldwork	Subsurface soil investigations were completed on 7 December 2023 and involved the excavation of four representative surface samples across the site using a trowel up to 0.2m below ground level (bgl). Soil sampling locations are shown in attachment A.
Soil sampling	Soil sampling was completed by Chris Alderton, Director and Environmental Consultant, using a clean pair of nitrile gloves for each sample. Each sample was placed into a laboratory supplied, 250mL jar with no headspace to limit volatile loss and labelled with a unique identification number.
QA / QC sampling	During laboratory analysis. There was duplicate analysis on an individual sample to test the reliability of results.

Sample Handling and transport	Collected soil samples were placed immediately into a cooler bag and dispatched to ALS Victoria, a NATA accredited laboratory, under chain of custody documentation within holding times.

Summary

Four soil samples were taken by Chris Alderton (BAppSc) on the 7 December 2023. General locations of soil samples and what contaminants were going to be tested for were determined beforehand based on previous investigations. All four samples were identified as having potential for various common agricultural and household contaminants, a complete EPA screening was completed following the NSW DEECW Waste Classification Guidelines. For areas under free standing fuel tanks and with visible soil staining, an isolated test for Total Petroleum Hydrocarbons (TPH)/Total Recoverable Hydrocarbons (TRH) was completed, sample IDs include 1 and 4. Locations of soil samples are mapped in Appendix A and the chain of custody for soil samples can be found in Appendix E.

6.3 Site assessment criteria

The site assessment criteria (SAC) adopted for this PSI, are listed in table 11 and derived from the ASC NEPM (2013).

Table 11: Investigation and sampling methodology

Media	Adopted guidelines	Applicability
Soil	ASC NEPM (2013)	Health Investigation levels (HIL) HIL A – Residential was adopted in areas of proposed residential land use. Health screening levels (HSL) HSL A – Residential for sand was adopted based on granualar nartural and fill material. Ecological investigation levels (EIL) EILs were derived from methodology from the ASC NEPM (2013) for the protection of terrestrial ecosystems for urban residential areas and public spaces. Ecological screening levels (ESL) ESL – Urban residential, course soil and commercial industrial, course soil.

7.0 Results

7.1 General field observation

Preliminary field investigations and site walkover were undertaken on 7 December 2023. All locations were examined for signs of contamination (odours, staining etc.). the following observations were made:

- Extensive irrigated horticulture
- No olfactory forms of contamination
- Some ground staining underneath overhead fuel tanks and around implement sheds
- Potential contamination from agriculture activity and storage
- Little to no change in the land use within the past 70 years.

7.2 Soil conditions

Subsurface conditions generally consisted of sandy loam to at least 0.2mbgl. Some soil staining was evident around the property where machines have been stored or below overhead fuel storage tanks.

7.3 Analytical results

The following sections summarises the results of the laboratory analysis. Detailed tabulated results showing individual sample concentrations compared to the adopted SAC are available in Appendix D. Laboratory analytical documentation is available is Appendix E.

Mapping showing identified areas of contamination is provided in Appendix A.

7.3.1 Soil results

Laboratory analytical results are summarised in Table 12 and Table 13.

Table 12: Summary of soil analytical results – EPA screening

Analyte	Results compared to SAC
Heavy metals	HIL All results below SAC EIL All results below SAC
OCP / OPP	HIL All results below SAC
PAH	HIL All results below SAC EIL All results below SAC
PCB	HIL

	All results below SAC
TRH	Sample 1 has elevated levels of TRH. This result was expected where the area surrounding these soil samples had visual triggers of possible contamination, including empty storage containers and canisters (assumed for fuel/oil storage). Mitigation measures will be implemented.
BTEXN	HIL All results below SAC EIL All results below SAC

Table 13: Summary of soil analytical results – TPH/TRH

Analyte	Results compared to SAC
TRH	Sample 1 has elevated levels of TRH. This result was expected where the areas surrounding these soil samples had visual triggers of possible contamination, including soil staining. Mitigation measures will be implemented.
BTEXN	HIL All results below SAC EIL All results below SAC

7.3.2 Data QA / QC

A review of the QA/QC procedure has been completed and is presented in the Quality control report and QA/QC compliance assessment (Appendix G).

The report concludes that the data is suitable for the purposes of the assessment.

8.0 Conclusions and recommendations

The purpose of this assessment was to undertake a phase one PSI to establish the potential for contamination of the soil at a 41.37 hectare (ha) property located over four different land parcels in Buronga:

- 88 Melaleuca Street, Buronga
- 90 Melaleuca Street, Buronga
- 133 Pitman Avenue, Buronga
- 165 Pitman Avenue, Buronga

The purpose of this assessment is a requirement to the proposed development application and rezoning of land from Rural (RU4) – Primary production Small Lots to Village (RU5) for the proposed residential development.

This PSI has:

- identified past and present potentially contaminating activities
- identified potential contamination types
- discussed the site condition
- provided a preliminary assessment of site contamination
- included some preliminary, targeted soil sampling
- assessed the need for further investigations.

The findings of the subsurface investigation and laboratory assessment of the collected soil samples show that COPC generally reported concentrations below the adopted assessment criteria. However, there were areas identified in the field survey as having visual soil staining and therefore higher risk of contamination. Expectedly, this sample resulted in elevated levels of TRH.

Based on the results of this PSI we can justify that the soil contamination present in these areas is isolated to the visual ground staining and storage sheds. Prior to the demolition stage of the proposed development the contaminated soil will need to be removed, extracting approximately $1m^3$ from each effected area, and discarded offsite by an authorised person. Further soil sampling will then be completed at the bottom and sides of the excavation footprint to ensure there is no further leaching of contaminants.

Using the *NSW EPA Waste Classification Guidelines (2014)* the levels of TRH analysed in the soil samples classifies the soil as 'general solid waste'. Alternately, in Victoria using the guidelines for *Waste Disposal Categories – Characteristics and Thresholds*, the soil samples are classified as category D. These classifications both in NSW and Victoria indicate that the soil is significantly low risk where most landfills are licensed to accept this level of contamination, including Mildura Landfill.

Through control measures, the potential risk to receptors is considered to be low and no further contamination investigation is required. The site is considered to be suitable for the proposed residential development.

If any unexpected finds (such as potential asbestos containing materials, odours or soil staining) are encountered during site works, or as part of post demolition inspections, the unexpected find will require assessment to determine requirements for additional investigation or remedial action.

9.0 References

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Appendix A: Map series

greenedge environmental

LEGEND

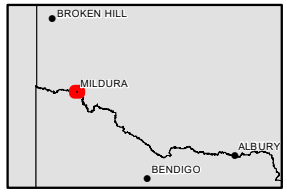
- Site Extent
- LGA Boundary

N

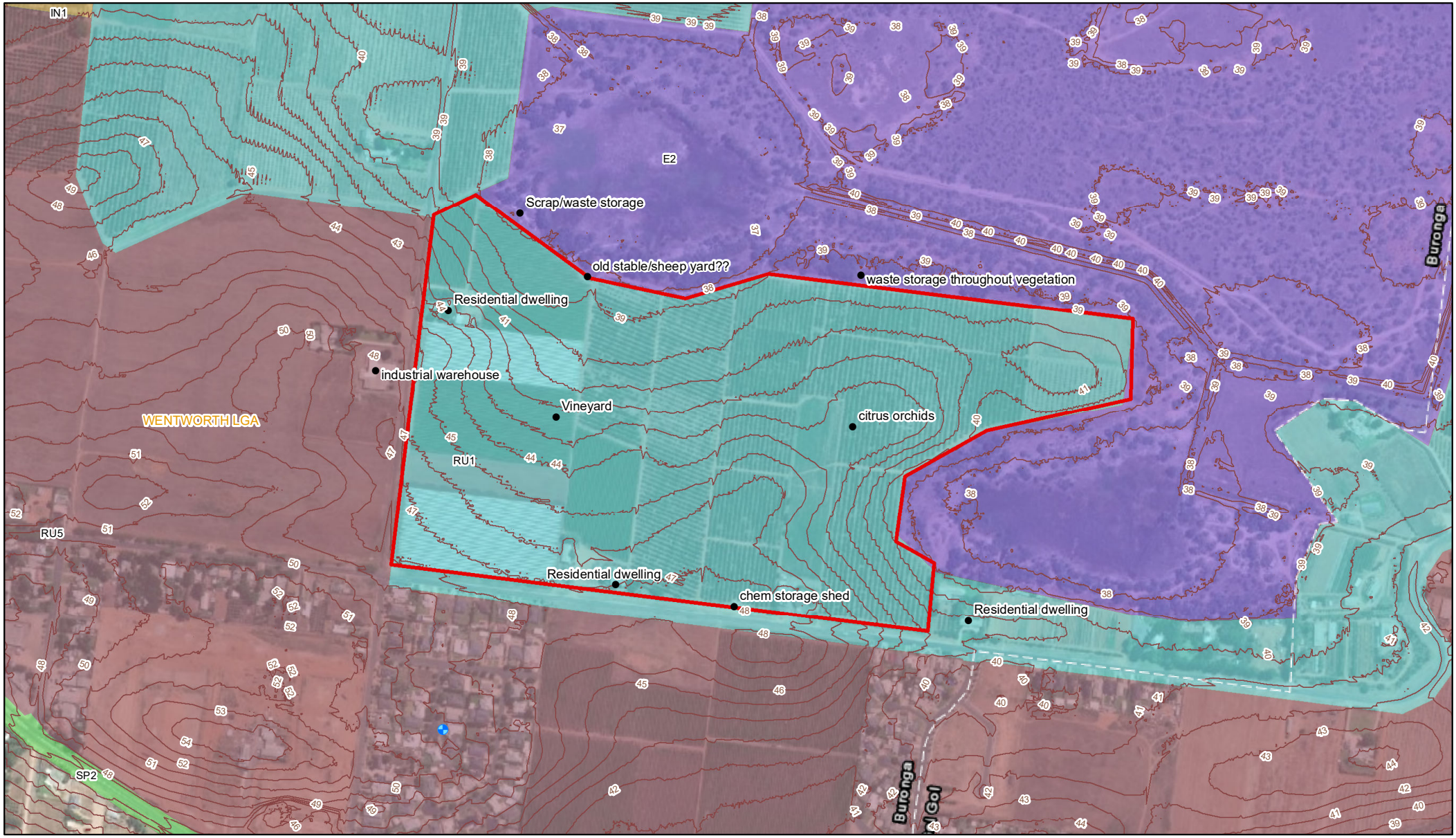
0 250 500 750 1,000 m

Scale 1:50,000 @ A4

Coordinate System: GDA 1994 MGA Zone 54



Melaleuca St & Pitman Ave, Buronga
Location Map



greenedge environmental

Melaleuca St & Pitman Ave, Buronga
Site Map

LEGEND

Bore — Derived Contour 1m — Site Extent

Land Zoning

E2 RU1 SP2

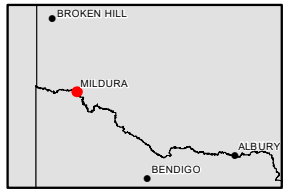
IN1 RU5

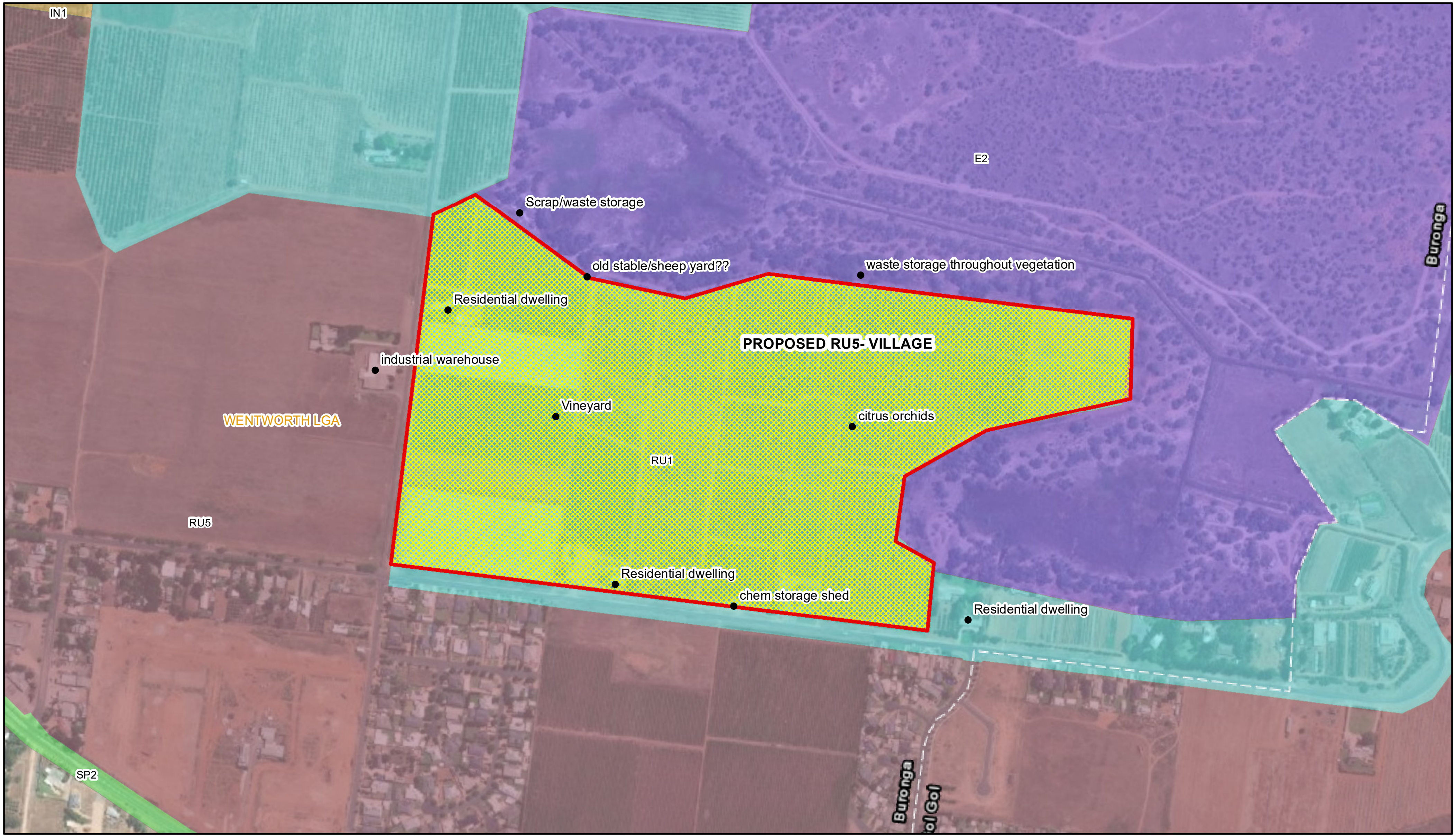
N

0 50 100 150 200 m

Scale 1:7,500 @ A4

Coordinate System: GDA 1994 MGA Zone 54





greenedge environmental

Meeeuat &m anAeba
pedeniMap

LEGEND

Site Extent | Proposed RU5– Village

Current Land Zoning

E2 | RU1 | SP2

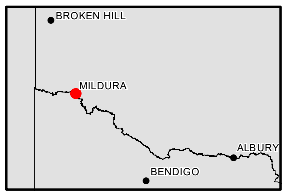
IN1 | RU5

N

0 50 100 150 200 m

Scale 1:7,500 @ A4

Coordinate System: GDA 1994 MGA Zone 54



greenedge environmental

LEGEND

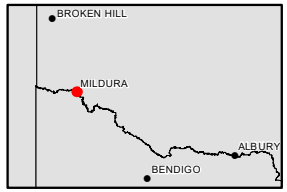
Soil Sample | Site Extent

N

0 50 100 150 200 m

Scale 1:7,500 @ A4

Coordinate System: GDA 1994 MGA Zone 54



Melaleuca St & Pitman Ave, Buronga
Soil Samples

greenedge environmental

LEGEND

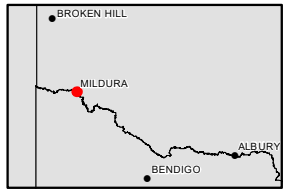
- Soil Sample
- Site Extent
- Areas of TRH contamination

N

0 50 100 150 200 m

Scale 1:7,500 @ A4

Coordinate System: GDA 1994 MGA Zone 54



Melaleuca St & Pitman Ave, Buronga
Areas of TRH contamination

Appendix B: Aerial photos

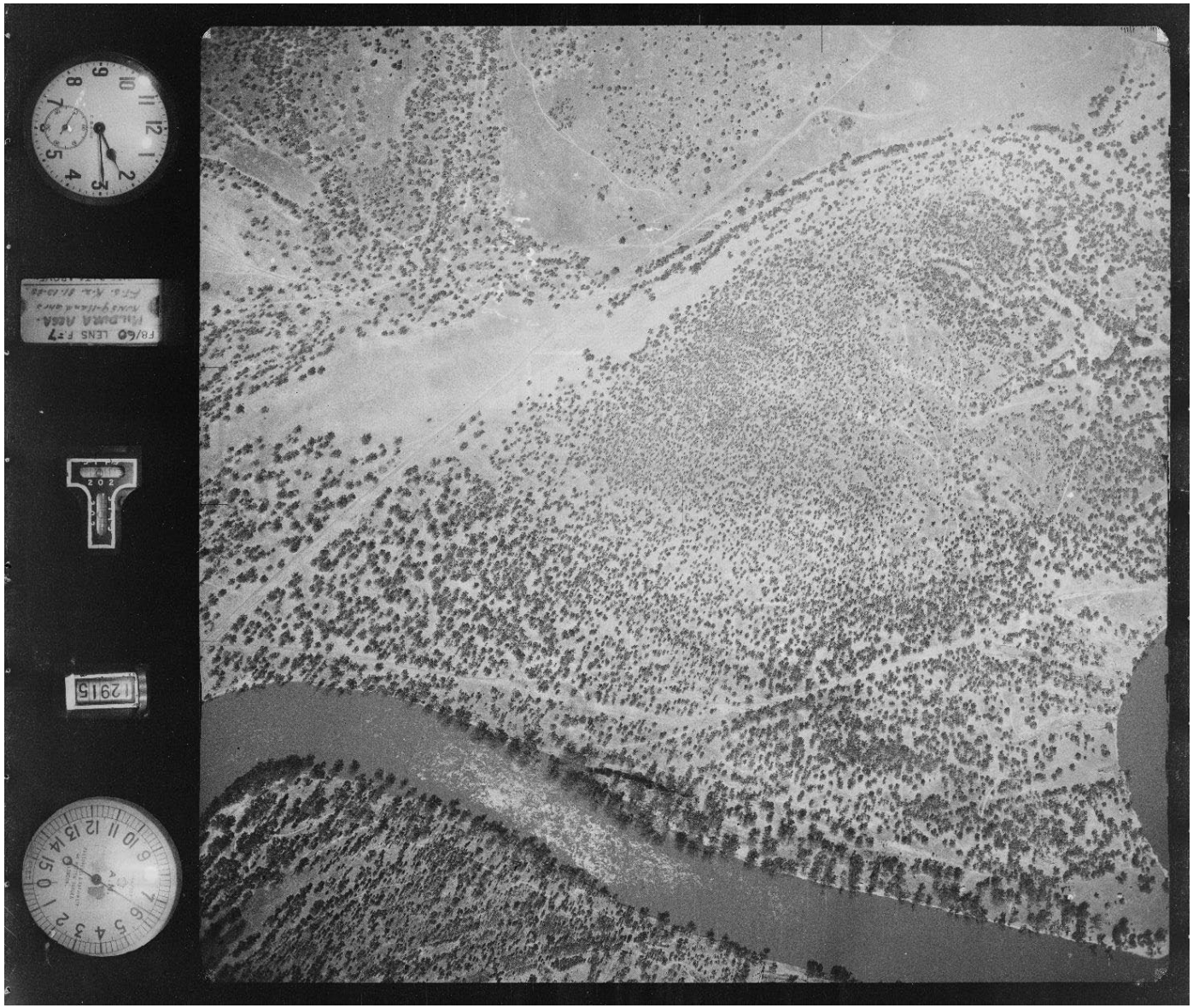


Figure 1: General landscape of the study area 1933

Figure 2: General landscape of the study area 1975

Figure 3: Google earth image of the study area dated 1981

Figure 4: Google earth image of the study area dated 2005

Figure 5: Google earth image of the study area dated 2023

Appendix C: EPA records

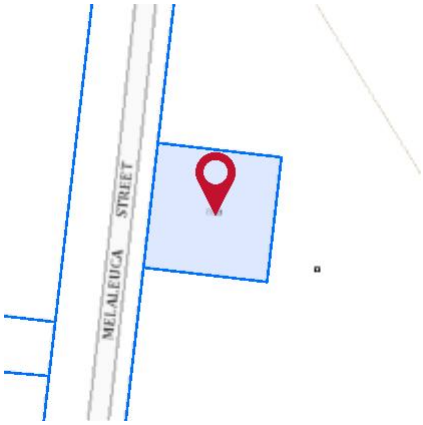
Number	Name	Location	Type	Status	Issued date	LastInspectionDate	InspectionDueDate	ERADueDate	IssueDate	OrganisationFlag	OrganisationType
1626494		ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	8-Mar-23						
1634773		ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Pending	16-Nov-23						
1005700	BURONGA PRE-MIX CONCRETE (VIC) PTY. LTD.	CNR SILVER CITY HIGHWAY & CORBETT AVENUE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	9-Apr-01						
1007401	BURONGA PRE-MIX CONCRETE (VIC) PTY. LTD.	CNR SILVER CITY HIGHWAY & CORBETT AVENUE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	15-Jan-02						
2642	E.B. MAWSON & SONS PROPRIETARY LIMITED	CNR SILVER CITY HIGHWAY & CORBETT AVENUE, BURONGA, NSW 2739	POEO licence	No longer in force	3-Jan-01						
11748	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	POEO licence	Issued	30-Sep-02						
1051346	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	29-Sep-05						
1513046	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	31-May-13						
1526978	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	22-Dec-14						
1529470	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	1-Apr-15						
1532510	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	29-Jul-15						
1533005	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	20-Aug-15						
1536818	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	5-Jan-16						
1548103	ILINGA PTY LTD	30 RIVER DRIVE, BURONGA, NSW 2739	s.58 Licence Variation	Issued	6-Jan-17						
1531597	Pickering Transport Pty Ltd	24 Corbett Avenue, BURONGA, NSW 2739	s.92 Clean Up Notice	Issued	24-Jun-15						
3633	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	POEO licence	Issued	8-May-00						
1002802	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	13-Jun-01						
1011976	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	15-Oct-01						
1012910	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	21-Mar-02						
1016756	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	19-Apr-02						
1032540	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	24-Nov-03						
1034627	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	19-Feb-04						
1039102	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	27-Jul-05						
1092445	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	23-Dec-08						
1106014	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	10-Sep-09						
1113556	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	12-May-10						
1512764	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	15-May-13						
1522395	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	3-Jun-14						
1567445	SIMEON WINES LIMITED	1031 SILVER CITY HIGHWAY, BURONGA, NSW 2739	s.58 Licence Variation	Issued	3-Aug-18						
20209	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	POEO licence	Issued	5-Apr-13						
1519910	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	12-May-14						
1526662	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	12-Dec-14						
1528653	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	6-Mar-15						
1532101	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	17-Jul-15						
1535200	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	9-Nov-15						
1536741	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	21-Dec-15						
1536820	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	5-Jan-16						
1539729	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	12-Apr-16						

1546513	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	10-Nov-16						
1551718	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	23-May-17						
1558634	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	s.58 Licence Variation	Issued	24-Nov-17						
1600208	WENTWORTH SHIRE COUNCIL	ARUMPO ROAD, BURONGA, NSW 2739	Compliance Audit	Complete	11-Sep-20						

Appendix D: Title documents

Property Report

88 MELALEUCA STREET BURONGA 2739



Property Details

Address:	88 MELALEUCA STREET BURONGA 2739
Lot/Section /Plan No:	1/-/DP1075225
Council:	WENTWORTH SHIRE COUNCIL

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

Local Environmental Plans	Wentworth Local Environmental Plan 2011 (pub. 16-12-2011)
Land Zoning	RU4 - Primary Production Small Lots: (pub. 21-4-2023)
Height Of Building	NA
Floor Space Ratio	NA
Minimum Lot Size	10 ha
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

Detailed planning information

State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Excluded (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development: Land Application (pub. 26-7-2002)

Other matters affecting the property

Information held in the Planning Database about other matters affecting the property appears below. The property may also be affected by additional planning controls not outlined in this report. Please speak to your council for more information

Land near Electrical Infrastructure	This property may be located near electrical infrastructure and could be subject to requirements listed under ISEPP Clause 45. Please contact Essential Energy for more information.
Local Aboriginal Land Council	DARETON
Regional Plan Boundary	Far West

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 1/1075225

SEARCH DATE	TIME	EDITION NO	DATE
23/1/2024	8:51 AM	4	8/4/2020

LAND

LOT 1 IN DEPOSITED PLAN 1075225
AT BURONGA
LOCAL GOVERNMENT AREA WENTWORTH
PARISH OF GOL GOL COUNTY OF WENTWORTH
TITLE DIAGRAM DP1075225

FIRST SCHEDULE

BARRY COLIN HANCOCK (TZ AI418558)

SECOND SCHEDULE (6 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE MEMORANDUM S700000A
2 EXCEPTING ANY ROADS AND RESUMED LAND
3 LAND IS SUBJECT TO THE CONDITIONS CONTAINED IN MEMORANDUM S750000B
4 SUBJECT TO THE CONDITIONS CONTAINED IN THE GOVERNMENT GAZETTE DATED 3.5.1957
5 IRRIGATION FARM PURCHASE NO. 5 (BURONGA IRRIGATION AREA)
6 AQ22082 MORTGAGE TO BENDIGO AND ADELAIDE BANK LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

dda35701 PRINTED ON 23/1/2024

PLAN FORM 2

Plan Drawing only to appear in this space

SIGNATURES, AND SEALS ONLY.

Signed at Sydney the 15th day of July 2004 For Commonwealth Bank of Australia ABN 48 123 123 124 by its duly appointed Attorney under Power of Attorney Book 4297 No 297

Witness

NICK CEH

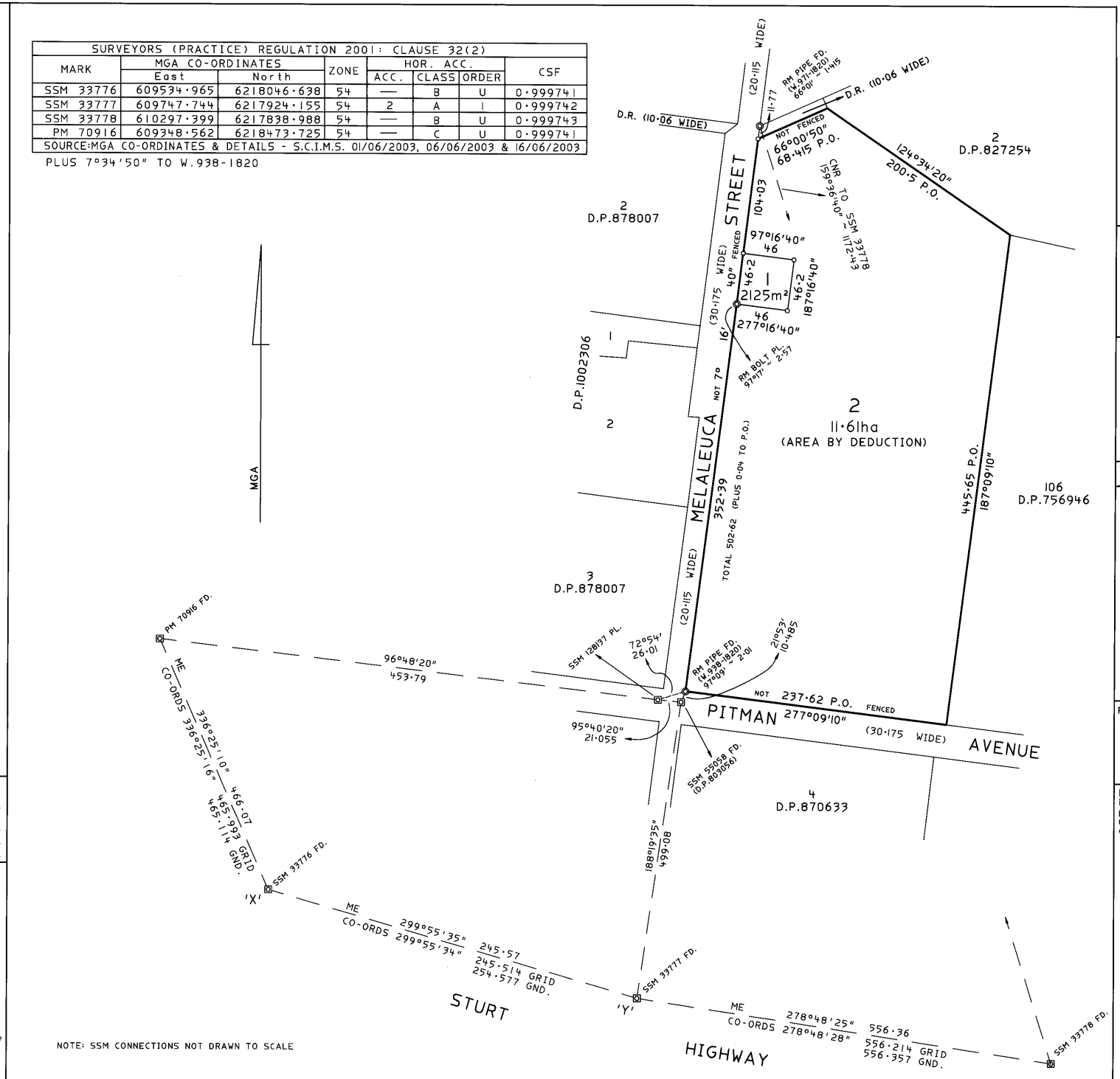
Lauren Smith

150 George St Parramatta

R. K. Hancock
B. Hancock

SURVEYORS (PRACTICE) REGULATION 2001: CLAUSE 32(2)							
MARK	MGA CO-ORDINATES		ZONE	HOR. ACC.			CSF
	East	North		ACC.	CLASS	ORDER	
SSM 33776	609534·965	6218046·638	54	—	B	U	0·999741
SSM 33777	609747·744	6217924·155	54	2	A	1	0·999742
SSM 33778	610297·399	6217838·988	54	—	B	U	0·999743
PM 70916	609348·562	6218473·725	54	—	C	U	0·999741
SOURCE:MGA CO-ORDINATES & DETAILS - S.C.I.M.S. 01/06/2003, 06/06/2003 & 16/06/2003							

PLUS 7°34'50" TO W.938-1820



NOTE: SSM CONNECTIONS NOT DRAWN TO SCALE

10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	Table of mm	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390

DP1075225

Registered: NSW 27.10.2004

C.A.: SEE CERTIFICATE

Title System: TORRENS

Purpose: SUBDIVISION

Ref.Map: BURONGA SH. 1

Last Plan: 938. 1820

PLAN OF SUBDIVISION OF LOT 105 IN D.P.756946

Lengths are in metres. Reduction Ratio 1:2500

LGA WENTWORTH SHIRE

Suburb/Locality: BURONGA

Parish: GOL GOL

County: WENTWORTH

This is sheet 1 of my plan in ~~(Delete if inapplicable).~~ sheets.

Surveyors (Practice) Regulation 2001

I, ROBERT BRUCE FREEMAN of 130 LANGTREE AVENUE, MILDURA, 3500. a surveyor registered under the Surveyor's Act 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveyors (Practice) Regulation 2001 and was completed on 25th AUGUST 2003

The survey relates to LOT 1 (there specify the land actually surveyed, or specify any land shown in the plan that is not the subject of the survey)

(Signature)

Datum Line : 'X'-'Y' Zone : ~~Urban~~/Rural

Surveyor registered under the Surveyor's Act 1929

Plans used in preparation of survey/compilation

D.P.803056
D.P.1002306
W.938-1820

PANEL FOR USE ONLY for statements of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

Crown Lands Office Approval

PLAN APPROVED

Authorised Officer

Land District

Paper No.

Field Book pages

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to the proposed Subdivision set out herein

* (insert 'subdivision' or 'new road')

* Authorised Person/General Manager/Accredited Certifier

Consent Authority : Wentworth Shire Council
Date of endorsement : 11 May 2004
Accreditation no :
Subdivision Certificate no : 05/04
File no : DA 80/03

Note: When the plan is to be lodged electronically in the Land Titles Office it should include a signature in an electronic or digital format approved by the Registrar-General

* Delete if inapplicable.

SURVEYOR'S REFERENCE: 7481

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

FREEMAN & FREEMAN P.O. BOX 2135, MILDURA, 3502. PH (03) 50236239 FAX (03) 50221495 EMAIL ffsurvey@ncable.com.au

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/1/2024 9:11AM

FOLIO: 1/1075225

First Title(s): 105/756946
Prior Title(s): 105/756946

Recorded	Number	Type of Instrument	C.T. Issue
27/10/2004	DP1075225	DEPOSITED PLAN	FOLIO CREATED EDITION 1
11/8/2005	AB686637	DEPARTMENTAL DEALING	
23/4/2014	AI418556	DISCHARGE OF MORTGAGE	
23/4/2014	AI418557	WITHDRAWAL OF CAVEAT	
23/4/2014	AI418558	TRANSFER WITHOUT MONETARY CONSIDERATION	
23/4/2014	AI418559	MORTGAGE	EDITION 2
3/5/2017	AM348400	DEPARTMENTAL DEALING	
8/9/2018	AN695391	DEPARTMENTAL DEALING	EDITION 3 CORD ISSUED
8/4/2020	AQ22081	DISCHARGE OF MORTGAGE	
8/4/2020	AQ22082	MORTGAGE	EDITION 4 CORD ISSUED

*** END OF SEARCH ***

dda35701 PRINTED ON 23/1/2024

NSW Prior Titles

Title reference : 107/756946

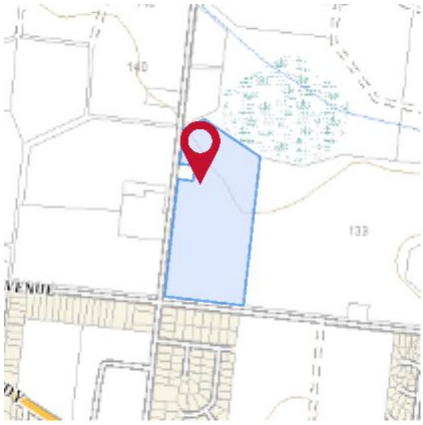
Prior titles :
CROWN LAND

This information is provided as a searching aid only. The Registrar General does not guarantee the information provided.

OBTAINED FROM LRS ON 23 January 2024 at 02:24 PM AEST

Property Report

90 MELALEUCA STREET BURONGA 2739



Property Details

Address:	90 MELALEUCA STREET BURONGA 2739
Lot/Section /Plan No:	2/-/DP1075225
Council:	WENTWORTH SHIRE COUNCIL

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

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Land Zoning	RU4 - Primary Production Small Lots: (pub. 21-4-2023)
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Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

Detailed planning information

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- State Environmental Planning Policy (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
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Local Aboriginal Land Council	DARETON
Regional Plan Boundary	Far West

NSW LRS - Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/1075225

SEARCH DATE	TIME	EDITION NO	DATE
10/9/2021	9:24 AM	4	8/4/2020

NO CERTIFICATE OF TITLE HAS ISSUED FOR THE CURRENT EDITION OF THIS FOLIO.
CONTROL OF THE RIGHT TO DEAL IS HELD BY BENDIGO AND ADELAIDE BANK LIMITED.

LAND

LOT 2 IN DEPOSITED PLAN 1075225
AT BURONGA
LOCAL GOVERNMENT AREA WENTWORTH
PARISH OF GOL GOL COUNTY OF WENTWORTH
TITLE DIAGRAM DP1075225

FIRST SCHEDULE

BARRY COLIN HANCOCK (TZ AI418558)

SECOND SCHEDULE (5 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE MEMORANDUM S700000A
2 EXCEPTING ANY ROADS AND RESUMED LAND
3 LAND IS SUBJECT TO THE CONDITIONS CONTAINED IN MEMORANDUM S750000B
4 SUBJECT TO THE CONDITIONS CONTAINED IN THE GOVERNMENT GAZETTE DATED 3.5.1957
5 AQ22082 MORTGAGE TO BENDIGO AND ADELAIDE BANK LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 10/9/2021

PLAN FORM 2

Plan Drawing only to appear in this space

SIGNATURES, AND SEALS ONLY.

Signed at Sydney the 15th day of July 2004 For Commonwealth Bank of Australia ABN 48 123 123 124 by its duly appointed Attorney under Power of Attorney Book 4297 No 297

Witness NICK CEH

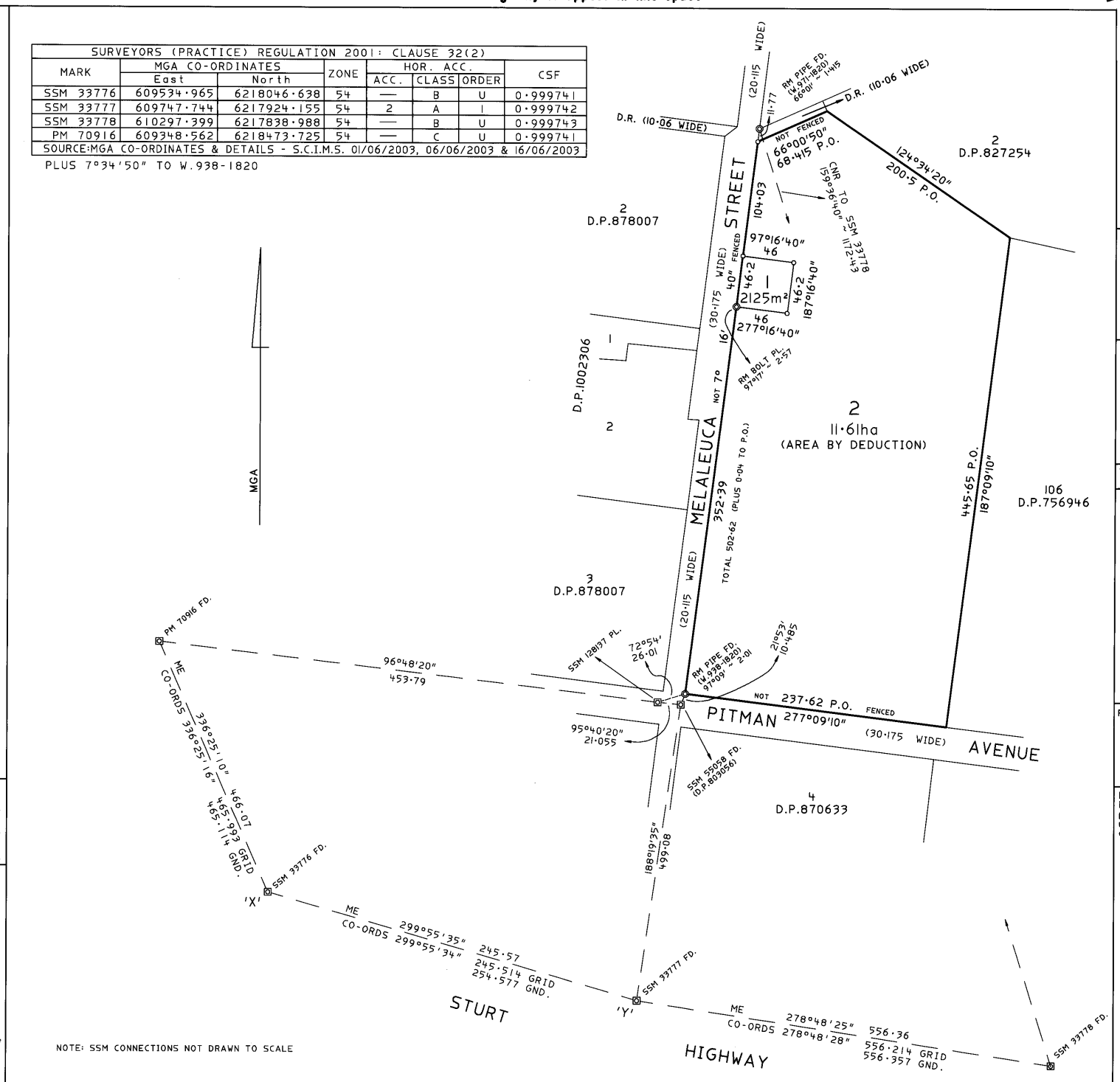
Lauren Smith

150 George St Parramatta

R. K. Hancock.
B. Hancock

SURVEYORS (PRACTICE) REGULATION 2001: CLAUSE 32(2)							
MARK	MGA CO-ORDINATES East	MGA CO-ORDINATES North	ZONE	HOR. ACC. ACC.	HOR. ACC. CLASS	HOR. ACC. ORDER	CSF
SSM 33776	609534·965	6218046·638	54	—	B	U	0·999741
SSM 33777	609747·744	6217924·155	54	2	A	1	0·999742
SSM 33778	610297·399	6217838·988	54	—	B	U	0·999743
PM 70916	609348·562	6218473·725	54	—	C	U	0·999741
SOURCE:MGA CO-ORDINATES & DETAILS - S.C.I.M.S. 01/06/2003, 06/06/2003 & 16/06/2003							

PLUS 7°34'50" TO W.938-1820



NOTE: SSM CONNECTIONS NOT DRAWN TO SCALE

Crown Lands Office Approval

PLAN APPROVED ..... Authorised Officer

Land District .....

Paper No. .....

Field Book ..... pages .....

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to the proposed Subdivision set out herein

* (insert 'subdivision' or 'new road')

* Authorised Person/General Manager/Accredited Certifier

Consent Authority : Wentworth Shire Council

Date of endorsement : 11 May 2004

Accreditation no :

Subdivision Certificate no : 05/04

File no : DA 80/03

Note:
When the plan is to be lodged electronically in the Land Titles Office it should include a signature in an electronic or digital format approved by the Registrar-General

* Delete if inapplicable.

DP1075225

Registered: NW 27.10.2004

C.A.: SEE CERTIFICATE

Title System: TORRENS

Purpose: SUBDIVISION

Ref.Map: BURONGA SH. 1

Last Plan: 938. 1820

PLAN OF SUBDIVISION OF LOT 105 IN D.P.756946

Lengths are in metres. Reduction Ratio 1:2500

LGA WENTWORTH SHIRE

Suburb/Locality: BURONGA

Parish: GOL GOL

County: WENTWORTH

This is sheet 1 of my plan in sheets. (Delete if inapplicable).

Surveyors (Practice) Regulation 2001

I, ROBERT BRUCE FREEMAN of 130 LANGTREE AVENUE, MILDURA, 3500. a surveyor registered under the Surveyor's Act 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveyors (Practice) Regulation 2001 and was completed on 25th AUGUST 2003

The survey relates to LOT 1

(here specify the land actually surveyed, or specify any land shown in the plan that is not the subject of the survey)

(Signature) .....

Datum Line : 'X'-'Y' Zone : ~~Urban~~/Rural

Surveyor registered under the Surveyor's Act 1929

Plans used in preparation of survey/compilation

D.P.803056
D.P.1002306
W.938-1820

PANEL FOR USE ONLY for statements of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 Table of mm 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390

SURVEYOR'S REFERENCE: 7481

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

FREEMAN & FREEMAN P.O. BOX 2135, MILDURA, 3502. PH (03) 50236239 FAX (03) 50221495 EMAIL ffsurvey@ncable.com.au

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/1/2024 3:28PM

FOLIO: 2/1075225

First Title(s): 105/756946
Prior Title(s): 105/756946

Recorded	Number	Type of Instrument	C.T. Issue
27/10/2004	DP1075225	DEPOSITED PLAN	FOLIO CREATED EDITION 1
11/8/2005	AB686637	DEPARTMENTAL DEALING	
23/4/2014	AI418556	DISCHARGE OF MORTGAGE	
23/4/2014	AI418557	WITHDRAWAL OF CAVEAT	
23/4/2014	AI418558	TRANSFER WITHOUT MONETARY CONSIDERATION	
23/4/2014	AI418560	MORTGAGE	EDITION 2
2/5/2017	AM344858	DEPARTMENTAL DEALING	
8/9/2018	AN695391	DEPARTMENTAL DEALING	EDITION 3 CORD ISSUED
8/4/2020	AQ22080	DISCHARGE OF MORTGAGE	
8/4/2020	AQ22082	MORTGAGE	EDITION 4 CORD ISSUED
17/9/2020	AQ400052	WITHDRAWN - CAVEAT	
21/2/2022	AR850899	APPLICATION FOR RECORDING OF ACTION AFFECTING CROWN HOLDING	EDITION 5
4/7/2022	AS277794	DISCHARGE OF MORTGAGE	
4/7/2022	AS277795	TRANSFER	
4/7/2022	AS277796	MORTGAGE	EDITION 6

*** END OF SEARCH ***

dda35701 PRINTED ON 23/1/2024

Property Report

133 PITMAN AVENUE BURONGA 2739

Property Details

Address:	133 PITMAN AVENUE BURONGA 2739		
Lot/Section /Plan No:	1/-/DP883678	106/-/DP756946	2/-/DP883678
Council:	WENTWORTH SHIRE COUNCIL		

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

Local Environmental Plans	Wentworth Local Environmental Plan 2011 (pub. 16-12-2011)
Land Zoning	RU4 - Primary Production Small Lots: (pub. 21-4-2023)
Height Of Building	NA
Floor Space Ratio	NA
Minimum Lot Size	10 ha
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

Detailed planning information

State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Excluded (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development: Land Application (pub. 26-7-2002)

Other matters affecting the property

Information held in the Planning Database about other matters affecting the property appears below. The property may also be affected by additional planning controls not outlined in this report. Please speak to your council for more information

Land near Electrical Infrastructure	This property may be located near electrical infrastructure and could be subject to requirements listed under ISEPP Clause 45. Please contact Essential Energy for more information.
Local Aboriginal Land Council	DARETON
Regional Plan Boundary	Far West

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/883678

SEARCH DATE	TIME	EDITION NO	DATE
23/1/2024	8:52 AM	12	24/10/2019

LAND

LOT 2 IN DEPOSITED PLAN 883678
AT BURONGA
LOCAL GOVERNMENT AREA WENTWORTH
PARISH OF GOL GOL COUNTY OF WENTWORTH
TITLE DIAGRAM DP883678

FIRST SCHEDULE

BELVERE PTY LTD (TP AP620774)

SECOND SCHEDULE (9 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS (S.171 CROWN LANDS ACT 1989)
2 SUBJECT TO THE CONDITIONS CONTAINED IN THE GOVERNMENT GAZETTE DATED 3.5.1957
3 SUBJECT TO PAYMENT OF RATES AND CHARGES FOR WATER UNDER THE IRRIGATION ACT, 1912
4 IRRIGATION FARM PURCHASE NO. 14 BURONGA IRRIGATION AREA
5 5310827 SUBJECT TO THE PROVISIONS OF THE CROWN LANDS ACT 1989 AND THE CROWN LANDS (CONTINUED TENURES) ACT 1989 PARTICULARLY AS REGARDS FORFEITURE PROVISIONS AND RESTRICTIONS ON LAND USE - SEE PART 2 OF SCHEDULE 7 OF THE LATTER ACT.
6 DP820163 EASEMENT FOR WATER SUPPLY 10.06 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
7 DP883678 RIGHT OF CARRIAGEWAY 7 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
8 DP883678 EASEMENT TO DRAIN WATER 4 & 10.06 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
9 DP883678 EASEMENT FOR SUPPLY OF WATER 7 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

dda35701 PRINTED ON 23/1/2024

PLAN FORM 2

Plan Drawing only to appear in this space

*OFFICE USE ONLY

SIGNATURE AND SEALS ONLY.

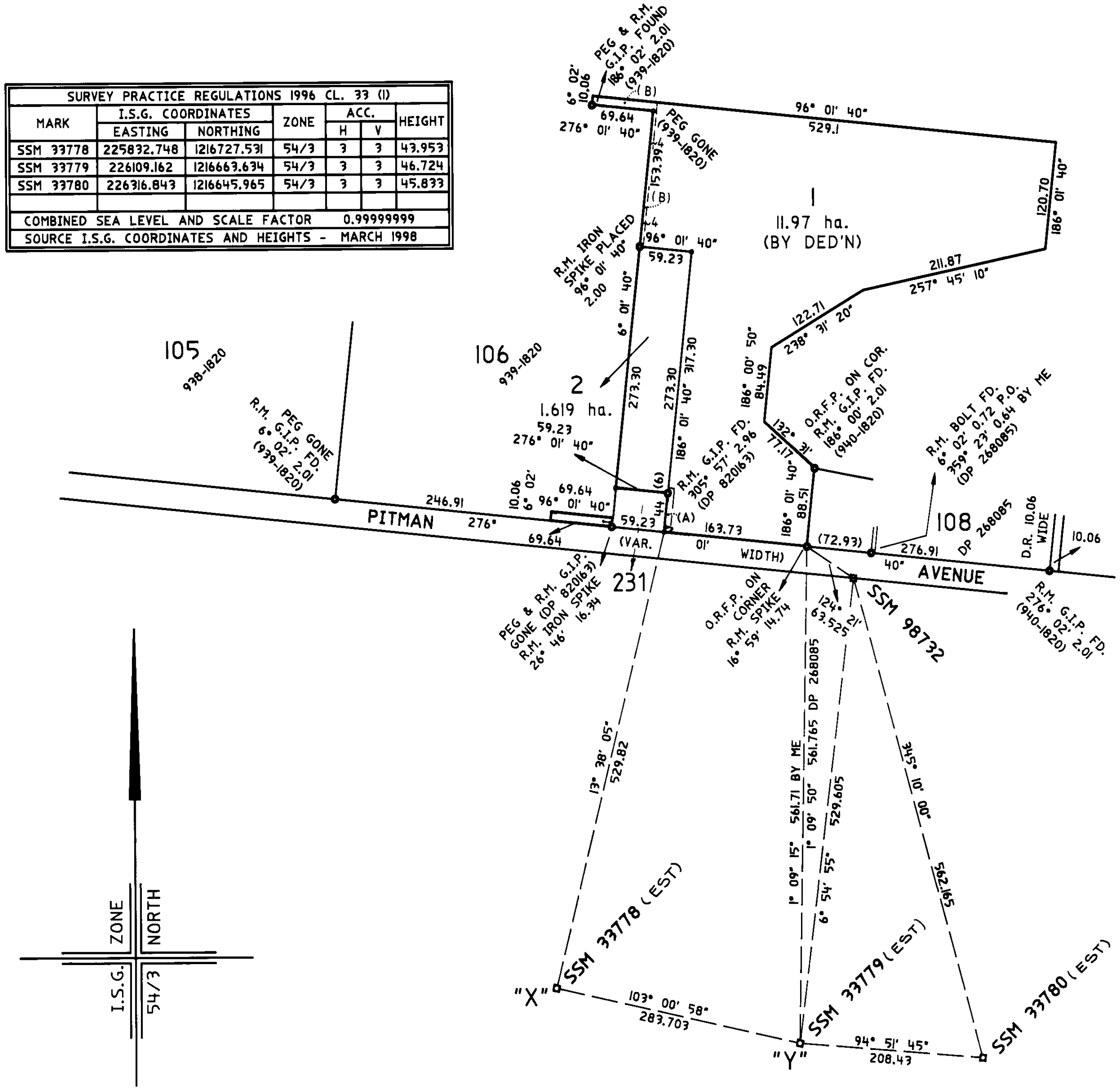
EXECUTED in Victoria by BENDIGO BANK LIMITED ACN ... by being signed by its Attorneys
[redacted]
who certify that they are the
[redacted]
respectively ... the Power of Attorney ... copy of which is filed in Permanent Order Book No. 277 Page ... in the presence of -

Witness ...

Attorney

Attorney

SURVEY PRACTICE REGULATIONS 1996 CL. 33 (I)						
MARK	I.S.G. COORDINATES EASTING	NORTHING	ZONE	ACC. H	V	HEIGHT
SSM 33778	225832.748	1216727.531	54/3	3	3	43.953
SSM 33779	226109.162	1216663.634	54/3	3	3	46.724
SSM 33780	226316.843	1216645.965	54/3	3	3	45.833
COMBINED SEA LEVEL AND SCALE FACTOR	0.99999999					
SOURCE I.S.G. COORDINATES AND HEIGHTS - MARCH 1998						



(A) EASEMENT FOR SUPPLY OF WATER 7 WIDE
(A) EASEMENT FOR RIGHT OF CARRIAGEWAY ~~AND WATER SUPPLY 7 WIDE~~
(B) EASEMENT FOR DRAINAGE 4 AND 10.06 WIDE

DP 883678

Registered: 23.2.1999

C.A. NO 14/98 OF 25.11.1998

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: BURONGA SHT I#

Last Plan: DP 820163

PLAN OF SUBDIVISION OF LOT 232 IN DP 820163

Lengths are in metres. Reduction Ratio 1: 4000

LGA: WENTWORTH

Locality: BURONGA

Parish: GOL GOL

County: WENTWORTH

This is ~~sheet 1 of my plan in~~ sheets.
~~(Delete if inapplicable)~~

I, PETER ROBERT DANSON of 177 WALNUT AVENUE MILDURA VIC. a surveyor registered under the Surveyors Act 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Survey Practice Regulation 1990 and was completed on 26TH JUNE 1998

(Signature) [signature]
Surveyor registered under the Surveyors Act 1929

Datum Line of Azimuth "X" - "Y"

ZONING: GENERAL RURAL IA

Plans used in preparation of survey/compilation.

938-1820	DP 268085
939-1820	DP 820163
940-1820	DP 823886

PANEL FOR USE ONLY for statements of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT, 1919, AS AMENDED,

IT IS INTENDED TO CREATE:

(1) EASEMENT FOR RIGHT OF CARRIAGEWAY 7 WIDE

(2) EASEMENT FOR DRAINAGE 4 AND 10.06 WIDE

(3) EASEMENT FOR ~~WATER SUPPLY 7 WIDE~~ SUPPLY OF WATER 7 WIDE

Crown Lands Office Approval

PLAN APPROVED ....
Authorised Officer

Land District ....

Paper No. ....

Field Book .... pages

Council's Certificate

I hereby certify that –

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

~~*(b) the requirements of † Part 3 Division 2 of the Water Board Act 1987, or † Part 5 Division 7 of the Hunter Water Board (Corporatisation) Act 1991.~~

have been complied with by the applicant in relation to the proposed SUBDIVISION
(Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. 11/148

Date NOVEMBER 23, 1998

(Signature) [signature]
General Manager/Authorised Person

Council File No. DA 43/98

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Water Board and the Hunter Water Corporation Ltd.

†Delete if inapplicable

Table of mm: 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 ... 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390

SURVEYOR'S REFERENCE: 1790 (CHECK LIST)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

AMENDMENT BY ME [signature] 3-12-'98

DP 883678

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/1/2024 5:07PM

FOLIO: 2/883678

First Title(s): 107/756946
Prior Title(s): 232/820163

Recorded	Number	Type of Instrument	C.T. Issue
23/2/1999	DP883678	DEPOSITED PLAN	FOLIO CREATED EDITION 1
16/3/1999	5680861	DEPARTMENTAL DEALING	EDITION 2
18/3/1999	5691396	DEPARTMENTAL DEALING	EDITION 3
29/3/1999	5712959	DEPARTMENTAL DEALING	EDITION 4
31/8/1999	6146258	DISCHARGE OF MORTGAGE	
31/8/1999	6146259	MORTGAGE	EDITION 5
16/3/2000	6647568	MORTGAGE	EDITION 6
23/5/2000	6801237	DISCHARGE OF MORTGAGE	EDITION 7
5/2/2002	8331828	DISCHARGE OF MORTGAGE	
5/2/2002	8331829	MORTGAGE	EDITION 8
9/5/2002	8580737	CAVEAT	
14/11/2003	AA158890	WITHDRAWAL OF CAVEAT	
27/11/2003	AA200670	CAVEAT	
5/1/2004	AA294884	WITHDRAWAL OF CAVEAT	
5/1/2004	AA294886	DISCHARGE OF MORTGAGE	
5/1/2004	AA294887	MORTGAGE	EDITION 9
21/3/2004	AA501351	DEPARTMENTAL DEALING	
2/3/2005	AB291901	DISCHARGE OF MORTGAGE	
2/3/2005	AB291902	TRANSFER	EDITION 10
24/1/2006	AC66189	MORTGAGE	EDITION 11
12/4/2017	AM304001	DEPARTMENTAL DEALING	
24/10/2019	AP620774	TRANSFER BY MORTGAGEE UNDER POWER OF SALE	EDITION 12

END OF PAGE 1 - CONTINUED OVER

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/1/2024 5:07PM

FOLIO: 2/883678 PAGE 2

Recorded	Number	Type of Instrument	C.T. Issue

*** END OF SEARCH ***

dda35701 PRINTED ON 23/1/2024

NSW Prior Titles

Title reference : 232/820163

Prior titles :
107/756946

This information is provided as a searching aid only. The Registrar General does not guarantee the information provided.

OBTAINED FROM LRS ON 24 January 2024 at 07:52 AM AEST

NSW Prior Titles

Title reference : 107/756946

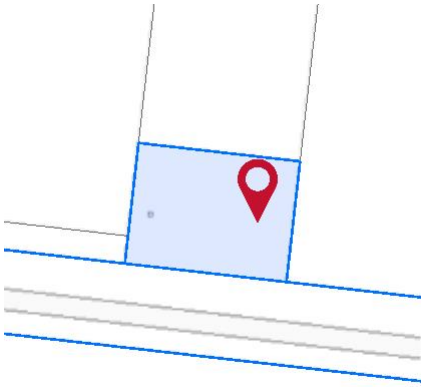
Prior titles :
CROWN LAND

This information is provided as a searching aid only. The Registrar General does not guarantee the information provided.

OBTAINED FROM LRS ON 24 January 2024 at 07:47 AM AEST

Property Report

165 PITMAN AVENUE BURONGA 2739



Property Details

Address:	165 PITMAN AVENUE BURONGA 2739
Lot/Section /Plan No:	231/-/DP820163
Council:	WENTWORTH SHIRE COUNCIL

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

Local Environmental Plans	Wentworth Local Environmental Plan 2011 (pub. 16-12-2011)
Land Zoning	RU4 - Primary Production Small Lots: (pub. 21-4-2023)
Height Of Building	NA
Floor Space Ratio	NA
Minimum Lot Size	10 ha
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA

Detailed planning information

State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Excluded (pub. 21-10-2022)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Sustainable Buildings) 2022: Land Application (pub. 29-8-2022)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development: Land Application (pub. 26-7-2002)

Other matters affecting the property

Information held in the Planning Database about other matters affecting the property appears below. The property may also be affected by additional planning controls not outlined in this report. Please speak to your council for more information

Land near Electrical Infrastructure	This property may be located near electrical infrastructure and could be subject to requirements listed under ISEPP Clause 45. Please contact Essential Energy for more information.
Local Aboriginal Land Council	DARETON
Regional Plan Boundary	Far West

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 231/820163

SEARCH DATE	TIME	EDITION NO	DATE
23/1/2024	8:55 AM	26	8/9/2023

LAND

LOT 231 IN DEPOSITED PLAN 820163
AT BURONGA
LOCAL GOVERNMENT AREA WENTWORTH
PARISH OF GOL GOL COUNTY OF WENTWORTH
TITLE DIAGRAM DP820163

FIRST SCHEDULE

JOSEPH DAVID SCOPELLITI (CN AC417507)

SECOND SCHEDULE (10 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS (S.171 CROWN LANDS ACT 1989)
2 SUBJECT TO THE CONDITIONS CONTAINED IN THE GOVERNMENT GAZETTE DATED 3.5.1957
3 SUBJECT TO PAYMENT OF RATES AND CHARGES FOR WATER UNDER THE IRRIGATION ACT, 1912
4 IRRIGATION FARM NO. 34 (BURONGA IRRIGATION AREA)
5 E79703 INCOMPLETE PURCHASE NO.186222
6 EASEMENT(S) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM CREATED BY:
DP820163 -EASEMENT FOR WATER SUPPLY 10.06 WIDE
7 SUBJECT TO THE PROVISIONS OF THE CROWN LANDS ACT 1989 AND THE CROWN LANDS (CONTINUED TENURES) ACT 1989 PARTICULARLY AS REGARDS FORFIETURE PROVISIONS AND RESTRICTIONS ON LAND USE-SEE PART 2 OF SCHEDULE 7 OF THE LATTER ACT
8 AE384501 MORTGAGE TO WESTPAC BANKING CORPORATION
9 AT382602 MORTGAGE TO EM SECURITIES PTY LTD
* 10 AT410293 CAVEAT BY BIZFUND PTY LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

dda35701 PRINTED ON 23/1/2024

PLAN FORM 2

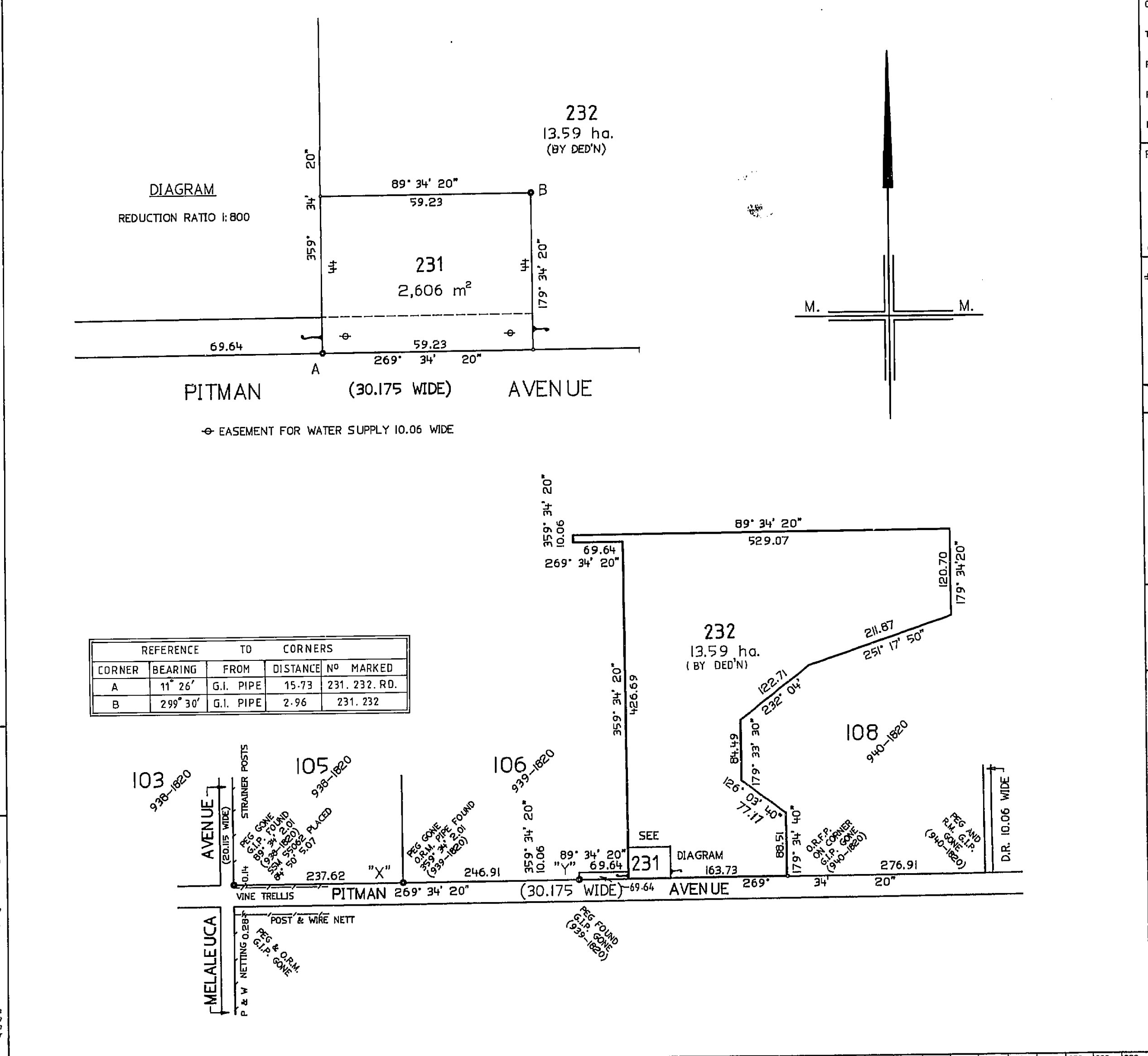
Plan Drawing only to appear in this space

*OFFICE USE ONLY

SIGNATURES, SEALS AND STATEMENTS of intention to dedicate public roads or to create reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

19th DAY OF ... ALIA DANK ... ATTORNEY ... No 306 XX 5504

JEFFREY ROBERT BAKER
MANAGER, STATE SECURITIES
KAYLE WITNESSEY



REFERENCE	TO	CORNERS		
CORNER	BEARING	FROM	DISTANCE	Nº MARKED
A	11° 26'	G.I. PIPE	15.73	231. 232. RD.
B	299° 30'	G.I. PIPE	2.96	231. 232

Crown Lands Office Approval

PLAN APPROVED ... 6.11.91
Authorised Officer
Land District ... Wentworth
Paper No. ... Hy 89H 917
Field Book ... 91.6 ... pages 1-4

Council Clerk's Certificate

I hereby certify that —
(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and
*(b) the requirements of Part 3 Division 2 of the † Water Board Act 1987 and † Water Supply Authorities Act 1987
have been complied with by the applicant in relation to the proposed Subdivision (insert "new road", "subdivision" or "consolidated lot") set out herein
Subdivision No. 19/90
Date 11-5-90
(Signature) Council Clerk
Council File No. D.A. 88/89

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.
† Delete if inapplicable.

SURVEYOR'S REFERENCE: 824

D.P. 820163

Registered: JH 17-12-1991
C.A: Nº 19/90 OF 11-5-1990
Title System: TORRENS
Purpose: SUBDIVISION
Ref. Map: BURONGA SH 1
Last Plan: ——

PLAN OF SUBDIVISION OF PORTION 107

Lengths are in metres. Reduction Ratio 1:4000

Mun./Shire/City: WENTWORTH
Locality: BURONGA
Parish: GOL GOL
County: WENTWORTH

This is sheet ~~1 of my plan in~~ sheets. (Delete if inapplicable)

I, PETER ROBERT DANSON of 183 WALNUT AVENUE, MILDURA a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan of subdivision as regards Lot 1 is accurate and has been made in accordance with the Survey Practice Regulations, 1933 and any special requirements of the Department of Lands, and was completed on 7 th JUNE 1990

Signature
Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth: X-Y
Insert date of survey.

Plans used in preparation of survey/compilation.
938-1820 939-1820
940-1820

PANEL FOR USE ONLY for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919, AS AMENDED, IT IS INTENDED TO CREATE:—

(I) AN EASEMENT FOR WATER SUPPLY 10.06 WIDE.

Y 0 0 2 A 1 A

7329-7429

10	20	30	40	50	60	70	Table of mm	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

10	20	30	40	50	60	70 Table of mm	110	120	130	140

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
24/1/2024 8:43AM

FOLIO: 231/820163

First Title(s): 107/756946
Prior Title(s): 107/756946

Recorded	Number	Type of Instrument	C.T. Issue
16/12/1991	DP820163	DEPOSITED PLAN	FOLIO CREATED EDITION 1
17/12/1991	E118270	APPLICATION FOR RECORDING OF ACTION AFFECTING CROWN HOLDING	EDITION 2
15/10/1992	E825995	DISCHARGE OF MORTGAGE	
15/10/1992	E825997	MORTGAGE	EDITION 3
9/3/1994	U90408	DISCHARGE OF MORTGAGE	
9/3/1994	U90409	MORTGAGE	EDITION 4
22/12/1994	U891313	MORTGAGE	EDITION 5
28/1/1997	2791307	CHANGE OF NAME	
28/1/1997	2791308	VARIATION OF MORTGAGE	EDITION 6
5/3/1998	3836996	DEPARTMENTAL DEALING	
5/3/1998	3823172	MORTGAGE	EDITION 7
12/3/1998	3850517	DEPARTMENTAL DEALING	
31/8/1999	6146258	DISCHARGE OF MORTGAGE	
31/8/1999	6146259	MORTGAGE	EDITION 8
14/7/2000	6945752	DISCHARGE OF MORTGAGE	
14/7/2000	6945753	MORTGAGE	EDITION 9
24/10/2000	7168807	MORTGAGE	EDITION 10
5/2/2002	8331826	DISCHARGE OF MORTGAGE	
5/2/2002	8331827	DISCHARGE OF MORTGAGE	
5/2/2002	8331829	MORTGAGE	EDITION 11
9/5/2002	8580737	CAVEAT	
14/11/2003	AA158890	WITHDRAWAL OF CAVEAT	
24/11/2003	AA190087	CAVEAT	

END OF PAGE 1 - CONTINUED OVER

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
24/1/2024 8:43AM

FOLIO: 231/820163 PAGE 2

Recorded	Number	Type of Instrument	C.T. Issue
5/1/2004	AA294885	WITHDRAWAL OF CAVEAT	
5/1/2004	AA294886	DISCHARGE OF MORTGAGE	
5/1/2004	AA294887	MORTGAGE	EDITION 12
21/3/2004	AA501351	DEPARTMENTAL DEALING	
25/1/2005	AB242475	DISCHARGE OF MORTGAGE	
25/1/2005	AB242476	MORTGAGE	EDITION 13
30/6/2006	AC417506	DISCHARGE OF MORTGAGE	
30/6/2006	AC417507	CHANGE OF NAME	
30/6/2006	AC417508	MORTGAGE	EDITION 14
13/11/2006	AC736386	TRANSFER OF MORTGAGE	EDITION 15
10/4/2007	AD39713	DISCHARGE OF MORTGAGE	
10/4/2007	AD39714	MORTGAGE	EDITION 16
5/7/2007	AD250736	DISCHARGE OF MORTGAGE	
5/7/2007	AD250737	MORTGAGE	EDITION 17
11/12/2008	AE384500	DISCHARGE OF MORTGAGE	
11/12/2008	AE384501	MORTGAGE	EDITION 18
5/6/2013	AH781398	DEPARTMENTAL DEALING	
8/9/2018	AN695391	DEPARTMENTAL DEALING	EDITION 19 CORD ISSUED
20/7/2022	AS263952	CAVEAT	EDITION 20
28/7/2022	AS343753	WITHDRAWAL OF CAVEAT	EDITION 21
30/9/2022	AS497621	MORTGAGE	EDITION 22
6/4/2023	AS955499	DISCHARGE OF MORTGAGE	
6/4/2023	AS955500	MORTGAGE	EDITION 23
22/8/2023	AT372310	PRIORITY NOTICE	EDITION 24
8/9/2023	AT382601	DISCHARGE OF MORTGAGE	
8/9/2023	AT382602	MORTGAGE	EDITION 25
8/9/2023	AT410293	CAVEAT	EDITION 26

END OF PAGE 2 - CONTINUED OVER

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
24/1/2024 8:43AM

FOLIO: 231/820163 PAGE 3

Recorded	Number	Type of Instrument	C.T. Issue

*** END OF SEARCH ***

dda35701 PRINTED ON 24/1/2024

Appendix E: Chain of custody

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐NEWCASTLE 5/585 Maitland Rd Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Green Edge Environmental	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☑ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: South Australia		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes No
PROJECT: ~~Buronga Rezoning~~ Melaleuka.	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No
ORDER NUMBER: 003		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Chris	**CONTACT PH:** 0438345109	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Chris	**SAMPLER MOBILE:** 0438345109	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		Richard Be
Email Reports to (will default to PM if no other addresses are listed): chris@geenvironmental.com.au		DATE/TIME: ~~7~~ December 2023 9am	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): Chris@geenvironmental.com.au			

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME: 11/12/23 - 11

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	P-7/3 long	S4							
1	1A	6/12/2023	S	Glass jar		✓	✓							
2	~~2A~~ 2A	6/12/2023	S	Glass jar		✓								
3	3A	6/12/2023	S	Glass jar		✓								
4	4A	6/12/2023	S	Glass jar		✓	✓							TPH.
		6/12/2023		Glass jar										
		6/12/2023		Glass jar										
		6/12/2023		Glass jar										
		6/12/2023		Glass jar										
		6/12/2023		Glass jar										
		6/12/2023		Glass jar										
		6/12/2023		Glass jar										
		6/12/2023		Glass jar										
				TOTAL	4									

Environmental Division
Melbourne
Work Order Reference
EM2322163

Telephone : +61-3-8549 9600

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Appendix F: Soil analytical results

Matrix:	SOIL			**Sample Type:**	**REG**	**REG**	**REG**	**REG**
Workgroup:	EM2322163			**ALS Sample Number:**	EM2322163001	EM2322163002	EM2322163003	EM2322163004
Project name/number:	Melalvekla			**Sample Date:**	06/12/2023	06/12/2023	06/12/2023	06/12/2023
				Client sample ID (1st):	1A	2A	3A	4A
				Client sample ID (2nd):				
				Depth Type:				
				Depth (m):				
				Site:				
				Purchase Order:	003	003	003	003

Analyte grouping/Analyte	**CAS Number**	**Unit**	**Limit of reporting**	**ASC NEMP 2013 HIL/HSL - Residential**	**ASC NEPM 2013 ESL - Residential**			
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content		%	1.0			**1.6**	**12.7**	**10.0**	<1.0
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	mg/kg	5	100		<5	<5	<5	<5
Beryllium	7440-41-7	mg/kg	1	70		<1	<1	<1	<1
Cadmium	7440-43-9	mg/kg	1	15		<1	<1	<1	<1
Lead	7439-92-1	mg/kg	5	300		<5	**10**	**12**	**6**
Molybdenum	7439-98-7	mg/kg	2			<2	<2	<2	<2
Nickel	7440-02-0	mg/kg	2	400		**4**	**6**	**11**	**5**
Selenium	7782-49-2	mg/kg	5	200		<5	<5	<5	<5
Silver	7440-22-4	mg/kg	2			<2	<2	<2	<2
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	mg/kg	0.1	40		<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	mg/kg	1	200		<1	<1	<1	**1**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide		mg/kg	1			<1	<1	<1	**1**
EK040T: Fluoride Total								
Fluoride	16984-48-8	mg/kg	40			<40	**60**	**110**	<40
EP066: Polychlorinated Biphenyls (PCB)								

Total Polychlorinated biphenyls		mg/kg	0.1	1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	mg/kg	0.05	10	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	mg/kg	0.05	6	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	mg/kg	0.05	6	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05
Total Chlordane (sum)		mg/kg	0.05	50	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	mg/kg	0.05	270	**0.12**	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	mg/kg	0.05	6	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	mg/kg	0.05	240	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	mg/kg	0.05	10	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	mg/kg	0.05		**0.72**	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	mg/kg	0.05	240	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	mg/kg	0.05		**0.52**	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	mg/kg	0.2	240	<0.2	<0.2	<0.2	<0.2
EP068B: Organophosphorus Pesticides (OP)								
Chlorpyrifos	2921-88-2	mg/kg	0.05	160	<0.05	<0.05	<0.05	<0.05
EP071 SG-S: Total Petroleum Hydrocarbons in Soil - Silica gel cleanup								
C10 - C14 Fraction		mg/kg	50		<50	<50	<50	<50
C15 - C28 Fraction		mg/kg	100		**740**	<100	<100	<100
C29 - C36 Fraction		mg/kg	100		<100	<100	<100	<100
C10 - C36 Fraction (sum)		mg/kg	50		**740**	<50	<50	<50
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup								
>C10 - C16 Fraction		mg/kg	50	800	120 <50	<50	<50	<50
>C16 - C34 Fraction		mg/kg	100	1000	300 **800**	<100	<100	<100
>C34 - C40 Fraction		mg/kg	100	10000	2800 <100	<100	<100	<100
>C10 - C40 Fraction (sum)		mg/kg	50		**800**	<50	<50	<50
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	mg/kg	0.2	100	50 <0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	mg/kg	0.5	14000	85 <0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	mg/kg	0.5	4500	70 <0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5

Styrene	100-42-5	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds								
2-Butanone (MEK)	78-93-3	mg/kg	5		<5	<5	<5	<5
EP074E: Halogenated Aliphatic Compounds								
Vinyl chloride	75-01-4	mg/kg	4		<4	<4	<4	<4
1.1-Dichloroethene	75-35-4	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Methylene chloride	75-09-2	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
EP075A: Phenolic Compounds								
Phenol	108-95-2	mg/kg	0.5	3000	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	mg/kg	1	100	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	mg/kg	0.5		<0.5	<0.5	<0.5	<0.5

Chrysene	218-01-9	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	mg/kg	1			<1	<1	<1	<1
Benzo(a)pyrene	50-32-8	mg/kg	0.5	3		<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
Sum of PAHs		mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
EP075C: Phthalate Esters									
bis(2-ethylhexyl) phthalate	117-81-7	mg/kg	5.0			<5.0	<5.0	<5.0	<5.0
EP075E: Nitroaromatics and Ketones									
Nitrobenzene	98-95-3	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
2.4-Dinitrotoluene	121-14-2	mg/kg	1.0			<1.0	<1.0	<1.0	<1.0
Pentachloronitrobenzene	82-68-8	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.4-Dichlorobenzene	106-46-7	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
Pentachlorobenzene	608-93-5	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
1.2.3.4-Tetrachlorobenzene	634-66-2	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
EP075K: Miscellaneous Compounds									
1.2.4.5-Tetrachlorobenzene	95-94-3	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
2.3.4.6-Tetrachlorophenol	58-90-2	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction		mg/kg	10			<10	<10	<10	<10
C10 - C14 Fraction		mg/kg	50			<50	----	----	<50
C15 - C28 Fraction		mg/kg	100			**980**	----	----	<100
C29 - C36 Fraction		mg/kg	100			**130**	----	----	<100
C10 - C36 Fraction (sum)		mg/kg	50			**1110**	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	mg/kg	10	700	180	<10	<10	<10	<10
C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	mg/kg	10			<10	----	----	<10
>C10 - C16 Fraction		mg/kg	50	800	120	<50	----	----	<50
>C16 - C34 Fraction		mg/kg	100	1000	300	**1060**	----	----	<100
>C34 - C40 Fraction		mg/kg	100	10000	2800	<100	----	----	<100
>C10 - C40 Fraction (sum)		mg/kg	50			**1060**	----	----	<50
>C10 - C16 Fraction minus Naphthalene (F2)		mg/kg	50		120	<50	----	----	<50
EP080: BTEXN									

Benzene	71-43-2	mg/kg	0.2	100	50	<0.2	----	----	<0.2
Toluene	108-88-3	mg/kg	0.5	14000	85	<0.5	----	----	<0.5
Ethylbenzene	100-41-4	mg/kg	0.5	4500	70	<0.5	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	mg/kg	0.5			<0.5	----	----	<0.5
ortho-Xylene	95-47-6	mg/kg	0.5			<0.5	----	----	<0.5
Total Xylenes		mg/kg	0.5	12000	105	<0.5	----	----	<0.5
Sum of BTEX		mg/kg	0.2			<0.2	----	----	<0.2
Naphthalene	91-20-3	mg/kg	1	1400		<1	----	----	<1
EP132A: Phenolic Compounds									
Hexachlorophene	70-30-4	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
2.4-D	94-75-7	mg/kg	0.02	900		<0.02	<0.04	<0.02	<0.04
Triclopyr	55335-06-3	mg/kg	0.02			<0.02	<0.04	<0.02	<0.04
2.4.5-TP (Silvex)	93-72-1	mg/kg	0.02			<0.02	<0.04	<0.02	<0.04
2.4.5-T	93-76-5	mg/kg	0.02	600		<0.02	<0.04	<0.02	<0.04
Picloram	1918-02-1	mg/kg	0.02	4500		<0.02	<0.04	<0.02	<0.04
Fluroxypyr	69377-81-7	mg/kg	0.02			<0.02	<0.04	<0.02	<0.04
NSW-CWG: Aggregate Organics for Guideline Evaluation									
Sum of Endosulfans (inc. sulfate)		mg/kg	0.05			**1.36**	<0.05	<0.05	<0.05
Sum of Scheduled Chemicals		mg/kg	0.05			<0.05	<0.05	<0.05	<0.05
Sum of plasticisers		mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	%	0.1			92.7	86.8	86.5	91.7
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	%	0.05			98.4	81.5	85.1	90.2
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	%	0.05			95.3	101	98.4	94.4
EP074S(SIM) : VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	%	0.1			86.1	78.2	73.9	84.5
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	%	0.5			94.3	89.0	87.5	91.4
Toluene-D8	2037-26-5	%	0.5			93.3	87.7	88.3	93.1
4-Bromofluorobenzene	460-00-4	%	0.5			98.7	91.9	91.4	93.8
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	%	0.5			79.5	103	106	99.2

Phenol-d6	13127-88-3	%	0.5	82.6	82.0	86.5	82.0
2-Chlorophenol-D4	93951-73-6	%	0.5	76.8	76.6	80.8	75.3
2.4.6-Tribromophenol	118-79-6	%	0.5	87.5	85.8	86.3	69.1
EP075T: Base/Neutral Extractable Surrogates							
Nitrobenzene-D5	4165-60-0	%	0.5	82.2	78.2	82.1	79.5
1.2-Dichlorobenzene-D4	2199-69-1	%	0.5	76.5	78.1	80.8	73.4
2-Fluorobiphenyl	321-60-8	%	0.5	88.8	85.7	88.0	87.9
Anthracene-d10	1719-06-8	%	0.5	88.5	91.2	92.0	87.4
4-Terphenyl-d14	1718-51-0	%	0.5	88.4	84.7	87.2	80.7
EP080S: TPH(V)/BTEX Surrogates							
1.2-Dichloroethane-D4	17060-07-0	%	0.2	84.6	79.1	78.2	81.8
Toluene-D8	2037-26-5	%	0.2	78.5	73.6	74.6	78.2
4-Bromofluorobenzene	460-00-4	%	0.2	91.6	84.4	85.0	86.7
EP132S: Acid Extractable Surrogates							
2-Fluorophenol	367-12-4	%	10	55.6	85.3	81.8	95.0
Phenol-d6	13127-88-3	%	10	60.8	85.8	86.0	95.7
2-Chlorophenol-D4	93951-73-6	%	10	71.6	93.0	88.7	84.4
2.4.6-Tribromophenol	118-79-6	%	10	71.7	106	107	87.1
EP132T: Base/Neutral Extractable Surrogates							
2-Fluorobiphenyl	321-60-8	%	10	67.8	114	107	98.3
Anthracene-d10	1719-06-8	%	10	95.4	106	106	52.9
4-Terphenyl-d14	1718-51-0	%	10	81.2	114	126	81.7
EP202S: Phenoxyacetic Acid Herbicide Surrogate							
2.4-Dichlorophenyl Acetic Acid	19719-28-9	%	0.02	83.6	75.0	69.4	77.5

Appendix G: Laboratory documents

CERTIFICATE OF ANALYSIS

Work Order	: **EM2322163**	Page	: 1 of 12
Client	: **GREENEDGE ENVIRONMENTAL**	Laboratory	: Environmental Division Melbourne
Contact	: CHRIS ALDERTON	Contact	: Kieren Burns
Address	: 178 JUTLAND ROAD SPRINGTON	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61881625130
Project	: Melalvekla	Date Samples Received	: 11-Dec-2023 00:27
Order number	: 003	Date Analysis Commenced	: 13-Dec-2023
C-O-C number	: ----	Issue Date	: 27-Dec-2023 15:00
Sampler	: Chris		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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
- Surrogate Control Limits

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
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, 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.

- EG048G: EM2321932 #8 poor matrix spike recovery for hexavalent chromium due to matrix effects. Confirmed by re-preparation and re-analysis.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- NSW-WCG: Where reported, Total Chlorinated Hydrocarbons is the sum of the reported concentrations of all Chlorinated Hydrocarbons at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EK040T: EM2322163 #001 Poor matrix spike recovery for Total Fluoride due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP132: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	1A	2A	3A	4A	----
			Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2322163-001	EM2322163-002	EM2322163-003	EM2322163-004	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**1.6**	**12.7**	**10.0**	<1.0	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	**----**
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	**----**
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	**----**
Lead	7439-92-1	5	mg/kg	<5	**10**	**12**	**6**	**----**
Molybdenum	7439-98-7	2	mg/kg	<2	<2	<2	<2	**----**
Nickel	7440-02-0	2	mg/kg	**4**	**6**	**11**	**5**	**----**
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	**----**
Silver	7440-22-4	2	mg/kg	<2	<2	<2	<2	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**----**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	<1	<1	**1**	**----**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	<1	**1**	**----**
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	<40	**60**	**110**	<40	**----**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**----**
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	**----**
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	**----**
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	**----**
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	1A	2A	3A	4A	----
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2322163-001	EM2322163-002	EM2322163-003	EM2322163-004	--------
					Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		**0.12**	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		**0.72**	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		**0.52**	<0.05	<0.05	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
EP068B: Organophosphorus Pesticides (OP)									
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup									
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg		**800**	<100	<100	<100	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**800**	<50	<50	<50	----
EP071 SG-S: Total Petroleum Hydrocarbons in Soil - Silica gel cleanup									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg		**740**	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	1A	2A	3A	4A	----
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2322163-001	EM2322163-002	EM2322163-003	EM2322163-004	--------
					Result	Result	Result	Result	----
EP071 SG-S: Total Petroleum Hydrocarbons in Soil - Silica gel cleanup - Continued									
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**740**	<50	<50	<50	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Styrene	100-42-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP074B: Oxygenated Compounds									
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	----
EP074E: Halogenated Aliphatic Compounds									
Vinyl chloride	75-01-4	4	mg/kg		<4	<4	<4	<4	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Methylene chloride	75-09-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP075A: Phenolic Compounds									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	1A	2A	3A	4A	----
			Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2322163-001	EM2322163-002	EM2322163-003	EM2322163-004	--------
				Result	Result	Result	Result	----
EP075A: Phenolic Compounds - Continued								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	<1	<1	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	<1	<1	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ **Sum of PAHs**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
EP075C: Phthalate Esters								
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	1A	2A	3A	4A	----
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2322163-001	EM2322163-002	EM2322163-003	EM2322163-004	--------
					Result	Result	Result	Result	----
EP075E: Nitroaromatics and Ketones									
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP075G: Chlorinated Hydrocarbons									
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2.3.4-Tetrachlorobenzene	634-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP075K: Miscellaneous Compounds									
1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg		**980**	----	----	<100	----
C29 - C36 Fraction	----	100	mg/kg		**130**	----	----	<100	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**1110**	----	----	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	<50	----
>C16 - C34 Fraction	----	100	mg/kg		**1060**	----	----	<100	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	<100	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**1060**	----	----	<50	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	<50	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	1A	2A	3A	4A	----
			Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2322163-001	EM2322163-002	EM2322163-003	EM2322163-004	--------
				Result	Result	Result	Result	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	----	----	<0.2	----
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	----	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	----	----	<1	----
EP132A: Phenolic Compounds								
Hexachlorophene	70-30-4	0.01	mg/kg	<0.01	<0.01	<0.01	<0.01	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.04	<0.02	<0.04	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.04	<0.02	<0.04	----
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.04	<0.02	<0.04	----
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.04	<0.02	<0.04	----
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.04	<0.02	<0.04	----
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.04	<0.02	<0.04	----
NSW-CWG: Aggregate Organics for Guideline Evaluation								
^ø **Sum of Endosulfans (inc. sulfate)**	----	0.05	mg/kg	**1.36**	<0.05	<0.05	<0.05	----
ø **Sum of Scheduled Chemicals**	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ø **Sum of plasticisers**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**92.7**	**86.8**	**86.5**	**91.7**	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**98.4**	**81.5**	**85.1**	**90.2**	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**95.3**	**101**	**98.4**	**94.4**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	1A	2A	3A	4A	----
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2322163-001	EM2322163-002	EM2322163-003	EM2322163-004	--------
					Result	Result	Result	Result	----
EP074S(SIM) : VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		86.1	78.2	73.9	84.5	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		94.3	89.0	87.5	91.4	----
Toluene-D8	2037-26-5	0.5	%		93.3	87.7	88.3	93.1	----
4-Bromofluorobenzene	460-00-4	0.5	%		98.7	91.9	91.4	93.8	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		79.5	103	106	99.2	----
Phenol-d6	13127-88-3	0.5	%		82.6	82.0	86.5	82.0	----
2-Chlorophenol-D4	93951-73-6	0.5	%		76.8	76.6	80.8	75.3	----
2.4.6-Tribromophenol	118-79-6	0.5	%		87.5	85.8	86.3	69.1	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		82.2	78.2	82.1	79.5	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		76.5	78.1	80.8	73.4	----
2-Fluorobiphenyl	321-60-8	0.5	%		88.8	85.7	88.0	87.9	----
Anthracene-d10	1719-06-8	0.5	%		88.5	91.2	92.0	87.4	----
4-Terphenyl-d14	1718-51-0	0.5	%		88.4	84.7	87.2	80.7	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		84.6	79.1	78.2	81.8	----
Toluene-D8	2037-26-5	0.2	%		78.5	73.6	74.6	78.2	----
4-Bromofluorobenzene	460-00-4	0.2	%		91.6	84.4	85.0	86.7	----
EP132S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	10	%		55.6	85.3	81.8	95.0	----
Phenol-d6	13127-88-3	10	%		60.8	85.8	86.0	95.7	----
2-Chlorophenol-D4	93951-73-6	10	%		71.6	93.0	88.7	84.4	----
2.4.6-Tribromophenol	118-79-6	10	%		71.7	106	107	87.1	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	10	%		67.8	114	107	98.3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	1A	2A	3A	4A	----
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2322163-001	EM2322163-002	EM2322163-003	EM2322163-004	--------
					Result	Result	Result	Result	----
EP132T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	10	%		**95.4**	**106**	**106**	**52.9**	**----**
4-Terphenyl-d14	1718-51-0	10	%		**81.2**	**114**	**126**	**81.7**	**----**
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		**83.6**	**75.0**	**69.4**	**77.5**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP074S(SIM) : VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	131
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	62	122
Toluene-D8	2037-26-5	64	120
4-Bromofluorobenzene	460-00-4	66	124
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	54	134
Phenol-d6	13127-88-3	62	122
2-Chlorophenol-D4	93951-73-6	52	127
2.4.6-Tribromophenol	118-79-6	38	133
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	67	128
1.2-Dichlorobenzene-D4	2199-69-1	63	108
2-Fluorobiphenyl	321-60-8	70	127
Anthracene-d10	1719-06-8	58	138
4-Terphenyl-d14	1718-51-0	50	138
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124
EP132S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	25	121
2-Chlorophenol-D4	93951-73-6	21	137
2.4.6-Tribromophenol	118-79-6	19	122
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	27	131
Anthracene-d10	1719-06-8	35	139
4-Terphenyl-d14	1718-51-0	30	164
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	45	139

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(SOIL) NSW-CWG: Aggregate Organics for Guideline Evaluation

(SOIL) EP074S(SIM) : VOC Surrogates

(SOIL) EP202A: Phenoxyacetic Acid Herbicides by LCMS

(SOIL) EP202S: Phenoxyacetic Acid Herbicide Surrogate

(SOIL) EP132A: Phenolic Compounds

(SOIL) EP132S: Acid Extractable Surrogates

(SOIL) EP132T: Base/Neutral Extractable Surrogates

QUALITY CONTROL REPORT

Work Order	: **EM2322163**	Page	: 1 of 13
Client	: **GREENEDGE ENVIRONMENTAL**	Laboratory	: Environmental Division Melbourne
Contact	: CHRIS ALDERTON	Contact	: Kieren Burns
Address	: 178 JUTLAND ROAD SPRINGTON	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61881625130
Project	: Melalvekla	Date Samples Received	: 11-Dec-2023
Order number	: 003	Date Analysis Commenced	: 13-Dec-2023
C-O-C number	: ----	Issue Date	: 27-Dec-2023
Sampler	: Chris		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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 Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

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
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, 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.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
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
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5491399)									
EM2322163-001	1A	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	4	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
EM2322178-004	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	2	2	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	82	88	7.0	0% - 20%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	25	22	13.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5489899)									
EM2322140-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	28.9	27.7	4.1	0% - 20%
EM2322141-009	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	30.8	30.2	2.1	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5491398)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5491398) - continued									
EM2322163-001	1A	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2322178-004	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 5490080)									
EM2321628-003	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2322096-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5493214)									
EM2322140-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EM2322087-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 5493216)									
EM2322087-001	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK040T: Fluoride Total (QC Lot: 5490070)									
EM2322143-001	Anonymous	EK040T: Fluoride	16984-48-8	40	mg/kg	40	<40	0.0	No Limit
EM2322178-002	Anonymous	EK040T: Fluoride	16984-48-8	40	mg/kg	210	200	6.2	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 5490012)									
EM2322163-001	1A	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5490011)									
EM2322163-001	1A	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	0.12	0.10	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	0.72	0.71	2.0	0% - 50%
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	0.52	0.42	19.5	0% - 50%
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 5490011)									
EM2322163-001	1A	EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup (QC Lot: 5490016)									
EM2322163-001	1A	EP071SG-S: C15 - C28 Fraction	----	100	mg/kg	740	740	0.0	No Limit
		EP071SG-S: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071SG-S: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup (QC Lot: 5490016)									
EM2322163-001	1A	EP071SG-S: >C16 - C34 Fraction	----	100	mg/kg	800	810	0.0	No Limit
		EP071SG-S: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071SG-S: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 5489841)									
EM2322163-001	1A	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 5489841)									
EM2322163-001	1A	EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 5489841)									
EM2322163-001	1A	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5 (4)*	mg/kg	<4	<4	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 5489841)									
EM2322163-001	1A	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 5489841)									
EM2322163-001	1A	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075A: Phenolic Compounds (QC Lot: 5490013)									
EM2322163-001	1A	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075A: Phenolic Compounds (QC Lot: 5490013) - continued									
EM2322163-001	1A	EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5490013)									
EM2322163-001	1A	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Sum of PAHs	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 5490013)									
EM2322163-001	1A	EP075: bis(2-ethylhexyl) phthalate	117-81-7	0.5 (5.0)*	mg/kg	<5.0	<5.0	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 5490013)									
EM2322163-001	1A	EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5 (1.0)*	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 5490013)									
EM2322163-001	1A	EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1.2.3.4-Tetrachlorobenzene	634-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075K: Miscellaneous Compounds (QC Lot: 5490013)									
EM2322163-001	1A	EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5489842)									
EM2322173-007	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2322163-001	1A	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5490017)									
EM2322163-001	1A	EP071: C15 - C28 Fraction	----	100	mg/kg	980	990	1.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	130	140	11.8	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5489842)									
EM2322173-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2322163-001	1A	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5490017)									
EM2322163-001	1A	EP071: >C16 - C34 Fraction	----	100	mg/kg	1060	1090	2.4	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5489842)									
EM2322173-007	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2322163-001	1A	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP132A: Phenolic Compounds (QC Lot: 5496667)									
EM2322163-001	1A	EP132: Hexachlorophene	70-30-4	10	µg/kg	<0.01 mg/kg	<10	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 5498939)									
EM2322163-004	4A	EP202: 2.4-D	94-75-7	0.02 (0.04)*	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Triclopyr	55335-06-3	0.02 (0.04)*	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02 (0.04)*	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: 2.4.5-T	93-76-5	0.02 (0.04)*	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Picloram	1918-02-1	0.02 (0.04)*	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02 (0.04)*	mg/kg	<0.04	<0.04	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5491399)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	100	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	103	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	65.4	50.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	92.4	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	94.2	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	101	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	87.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5491398)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	94.5	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 5490080)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	86.6	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5493214)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	114	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5493216)								
EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	20 mg/kg	100.0	70.0	130
EK040T: Fluoride Total (QCLot: 5490070)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	104	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5490012)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	107	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 5490011)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	66.0	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP068A: Organochlorine Pesticides (OC) (QCLot: 5490011) - continued								
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.8	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	92.6	55.4	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5490011)								
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.1	67.4	126
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup (QCLot: 5490016)								
EP071SG-S: C10 - C14 Fraction	----	50	mg/kg	<50	860 mg/kg	64.0	48.6	129
EP071SG-S: C15 - C28 Fraction	----	100	mg/kg	<100	2770 mg/kg	76.2	67.5	129
EP071SG-S: C29 - C36 Fraction	----	100	mg/kg	<100	1520 mg/kg	75.2	66.5	133
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup (QCLot: 5490016)								
EP071SG-S: >C10 - C16 Fraction	----	50	mg/kg	<50	1130 mg/kg	67.8	53.8	127
EP071SG-S: >C16 - C34 Fraction	----	100	mg/kg	<100	3730 mg/kg	76.5	64.0	134
EP071SG-S: >C34 - C40 Fraction	----	100	mg/kg	<100	260 mg/kg	82.9	52.2	128
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 5489841)								
EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.8	66.4	121
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	91.7	70.6	116
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	89.9	70.4	117
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.3	70.0	119
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	89.5	70.8	115
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	95.3	72.6	120
EP074B: Oxygenated Compounds (QCLot: 5489841)								
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	109	61.2	128
EP074E: Halogenated Aliphatic Compounds (QCLot: 5489841)								
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	78.2	46.0	138
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	78.6	55.2	122
EP074: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	1 mg/kg	99.0	74.6	144

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 5489841) - continued								
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	78.2	57.0	117
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	72.6	57.7	113
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	94.1	68.9	117
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	83.9	65.5	119
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	96.9	69.8	118
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	87.6	65.6	117
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	88.1	62.8	106
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	93.2	72.3	127
EP074F: Halogenated Aromatic Compounds (QCLot: 5489841)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	91.2	72.5	115
EP074G: Trihalomethanes (QCLot: 5489841)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	88.4	67.5	119
EP075A: Phenolic Compounds (QCLot: 5490013)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.0	75.1	127
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	98.0	72.1	127
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	1.5 mg/kg	84.2	73.1	127
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	68.9	124
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.9	65.5	123
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	80.3	61.0	123
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	1.5 mg/kg	80.8	43.1	131
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5490013)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.8	78.7	126
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	97.9	77.2	126
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	107	75.7	126
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	104	78.6	126
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	78.1	128
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	107	77.1	130
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	107	76.2	132
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	104	70.7	135
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	75.1	133
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	112	76.2	132
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	3 mg/kg	93.6	76.5	128
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	95.6	72.4	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5490013) - continued								
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	68.7	123
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	90.7	69.7	123
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	67.3	125
EP075: Sum of PAHs	----	0.5	mg/kg	<0.5	----	----	----	----
EP075C: Phthalate Esters (QCLot: 5490013)								
EP075: bis(2-ethylhexyl) phthalate	117-81-7	0.5	mg/kg	<0.5	1.5 mg/kg	93.6	74.1	122
EP075E: Nitroaromatics and Ketones (QCLot: 5490013)								
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	92.7	75.7	125
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.6	68.3	124
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	98.5	74.9	127
EP075G: Chlorinated Hydrocarbons (QCLot: 5490013)								
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	95.4	77.3	124
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	93.2	76.8	125
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	100	72.8	125
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	106	76.7	125
EP075: 1.2.3.4-Tetrachlorobenzene	634-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	99.6	76.2	126
EP075K: Miscellaneous Compounds (QCLot: 5490013)								
EP075: 1.2.4.5-Tetrachlorobenzene	95-94-3	0.5	mg/kg	<0.5	1.5 mg/kg	80.8	72.0	132
EP075: 2.3.4.6-Tetrachlorophenol	58-90-2	0.5	mg/kg	<0.5	1.5 mg/kg	82.2	59.6	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5489842)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	70.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5490017)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	860 mg/kg	102	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2770 mg/kg	102	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1520 mg/kg	102	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5489842)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	69.6	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5490017)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1130 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3730 mg/kg	102	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	260 mg/kg	96.4	73.3	137
EP080: BTEXN (QCLot: 5489842)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	74.1	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	76.0	65.8	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5489842) - continued								
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	74.6	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	76.8	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	82.2	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	90.8	61.8	123
EP132A: Phenolic Compounds (QCLot: 5496667)								
EP132: Hexachlorophene	70-30-4	10	µg/kg	<10	100 µg/kg	77.5	15.6	94.0
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 5498939)								
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	75.5	68.5	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	62.8	50.8	141
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	61.0	40.8	126
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	65.5	57.4	139
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	63.0	48.7	129
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	61.0	53.2	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5491399)							
EM2322163-002	2A	EG005T: Arsenic	7440-38-2	50 mg/kg	104	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	99.1	79.7	116
		EG005T: Lead	7439-92-1	250 mg/kg	99.2	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	100	78.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5491398)							
EM2322163-002	2A	EG035T: Mercury	7439-97-6	0.5 mg/kg	95.1	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 5490080)							
EM2321932-008	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 43.4	58.0	114
EM2321932-008	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 51.7	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5493214)							
EM2321932-008	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	109	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5493216)							
EM2322163-001	1A	EK028SF: Weak Acid Dissociable Cyanide	----	20 mg/kg	89.8	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK040T: Fluoride Total (QCLot: 5490070)							
EM2322163-001	1A	EK040T: Fluoride	16984-48-8	400 mg/kg	# 68.2	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5490012)							
EM2322163-003	3A	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	105	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 5490011)							
EM2322163-001	1A	EP068: gamma-BHC	58-89-9	0.5 mg/kg	82.3	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	112	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	92.9	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	120	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	101	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	105	20.0	133
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup (QCLot: 5490016)							
EM2322163-002	2A	EP071SG-S: C10 - C14 Fraction	----	860 mg/kg	62.7	45.8	126
		EP071SG-S: C15 - C28 Fraction	----	2770 mg/kg	75.1	64.7	122
		EP071SG-S: C29 - C36 Fraction	----	1520 mg/kg	74.5	62.8	126
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup (QCLot: 5490016)							
EM2322163-002	2A	EP071SG-S: >C10 - C16 Fraction	----	1130 mg/kg	65.5	49.8	122
		EP071SG-S: >C16 - C34 Fraction	----	3730 mg/kg	75.7	66.0	124
		EP071SG-S: >C34 - C40 Fraction	----	260 mg/kg	81.7	49.4	124
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 5489841)							
EM2322163-002	2A	EP074: Benzene	71-43-2	2 mg/kg	85.1	51.0	137
		EP074: Toluene	108-88-3	2 mg/kg	88.7	54.0	141
EP074E: Halogenated Aliphatic Compounds (QCLot: 5489841)							
EM2322163-002	2A	EP074: 1.1-Dichloroethene	75-35-4	2 mg/kg	80.2	29.0	141
		EP074: Trichloroethene	79-01-6	2 mg/kg	79.5	50.0	126
EP074F: Halogenated Aromatic Compounds (QCLot: 5489841)							
EM2322163-002	2A	EP074: Chlorobenzene	108-90-7	2 mg/kg	86.6	65.0	133
EP075A: Phenolic Compounds (QCLot: 5490013)							
EM2322163-002	2A	EP075: Phenol	108-95-2	3 mg/kg	80.0	64.9	129
		EP075: 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	72.4	47.5	130
		EP075: Pentachlorophenol	87-86-5	3 mg/kg	98.1	19.1	134
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5490013)							
EM2322163-002	2A	EP075: Acenaphthene	83-32-9	3 mg/kg	97.0	77.1	115
		EP075: Pyrene	129-00-0	3 mg/kg	83.2	54.4	136
EP075E: Nitroaromatics and Ketones (QCLot: 5490013)							
EM2322163-002	2A	EP075: 2.4-Dinitrotoluene	121-14-2	3 mg/kg	83.4	47.3	118

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP075G: Chlorinated Hydrocarbons (QCLot: 5490013)							
EM2322163-002	2A	EP075: 1.4-Dichlorobenzene	106-46-7	3 mg/kg	83.2	78.6	115
		EP075: 1.2.4-Trichlorobenzene	120-82-1	3 mg/kg	78.8	75.2	122
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5489842)							
EM2322163-002	2A	EP080: C6 - C9 Fraction	----	28 mg/kg	61.9	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5490017)							
EM2322163-004	4A	EP071: C10 - C14 Fraction	----	860 mg/kg	99.7	71.2	125
		EP071: C15 - C28 Fraction	----	2770 mg/kg	98.8	75.6	122
		EP071: C29 - C36 Fraction	----	1520 mg/kg	99.1	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5489842)							
EM2322163-002	2A	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	57.7	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5490017)							
EM2322163-004	4A	EP071: >C10 - C16 Fraction	----	1130 mg/kg	98.6	72.2	128
		EP071: >C16 - C34 Fraction	----	3730 mg/kg	97.8	76.5	119
		EP071: >C34 - C40 Fraction	----	260 mg/kg	106	66.8	138
EP080: BTEXN (QCLot: 5489842)							
EM2322163-002	2A	EP080: Benzene	71-43-2	2 mg/kg	79.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	79.9	57.1	131
EP132A: Phenolic Compounds (QCLot: 5496667)							
EM2322163-002	2A	EP132: Hexachlorophene	70-30-4	100 µg/kg	16.9	6.80	91.0
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 5498939)							
EM2322163-004	4A	EP202: 2.4-D	94-75-7	0.1 mg/kg	84.4	68.0	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	82.7	51.0	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	69.1	57.0	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	77.9	49.0	138

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2322163**	Page	: 1 of 10
Client	: **GREENEDGE ENVIRONMENTAL**	Laboratory	: Environmental Division Melbourne
Contact	: CHRIS ALDERTON	Telephone	: +61881625130
Project	: Melalvekla	Date Samples Received	: 11-Dec-2023
Site	: ----	Issue Date	: 27-Dec-2023
Sampler	: Chris	No. of samples received	: 4
Order number	: 003	No. of samples analysed	: 4

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.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, 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.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	EM2321932--008	Anonymous	**Hexavalent Chromium**	18540-29-9	43.4 %	58.0-114%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2321932--008	Anonymous	**Hexavalent Chromium**	18540-29-9	51.7 %	58.0-114%	**Recovery less than lower data quality objective**
EK040T: Fluoride Total	EM2322163--001	1A	**Fluoride**	16984-48-8	68.2 %	70.0-130%	**Recovery less than lower data quality objective**

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 / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**----**	----	----	**13-Dec-2023**	20-Dec-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	03-Jun-2024	✓	**14-Dec-2023**	03-Jun-2024	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	03-Jan-2024	✓	**14-Dec-2023**	03-Jan-2024	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	03-Jan-2024	✓	**15-Dec-2023**	21-Dec-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**18-Dec-2023**	28-Dec-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK028SF)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**18-Dec-2023**	28-Dec-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**13-Dec-2023**	03-Jan-2024	✓	**14-Dec-2023**	03-Jan-2024	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**15-Dec-2023**	23-Jan-2024	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup							
Soil Glass Jar - Unpreserved (EP071SG-S)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**15-Dec-2023**	23-Jan-2024	✓
EP071 SG-S: Total Petroleum Hydrocarbons in Soil - Silica gel cleanup							
Soil Glass Jar - Unpreserved (EP071SG-S)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**15-Dec-2023**	23-Jan-2024	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP074)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**13-Dec-2023**	13-Dec-2023	✓	**13-Dec-2023**	13-Dec-2023	✓
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved (EP074)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**13-Dec-2023**	13-Dec-2023	✓	**13-Dec-2023**	13-Dec-2023	✓
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved (EP074)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**13-Dec-2023**	13-Dec-2023	✓	**13-Dec-2023**	13-Dec-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved (EP074)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**13-Dec-2023**	13-Dec-2023	✓	**13-Dec-2023**	13-Dec-2023	✓
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved (EP074)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**13-Dec-2023**	13-Dec-2023	✓	**13-Dec-2023**	13-Dec-2023	✓
EP075A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved (EP075)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved (EP075)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP075K: Miscellaneous Compounds							
Soil Glass Jar - Unpreserved (EP075)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
1A, 2A, 3A, 4A	**06-Dec-2023**	**13-Dec-2023**	20-Dec-2023	✓	**13-Dec-2023**	20-Dec-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
1A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) 1A, 2A, 3A, 4A	**06-Dec-2023**	**13-Dec-2023**	20-Dec-2023	✓	**13-Dec-2023**	20-Dec-2023	✓
Soil Glass Jar - Unpreserved (EP071) 1A, 4A	**06-Dec-2023**	**14-Dec-2023**	20-Dec-2023	✓	**14-Dec-2023**	23-Jan-2024	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) 1A, 4A	**06-Dec-2023**	**13-Dec-2023**	20-Dec-2023	✓	**13-Dec-2023**	20-Dec-2023	✓
EP132A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP132) 1A	**06-Dec-2023**	**20-Dec-2023**	20-Dec-2023	✓	**20-Dec-2023**	29-Jan-2024	✓
Soil Glass Jar - Unpreserved (EP132) 2A, 3A, 4A	**06-Dec-2023**	**20-Dec-2023**	20-Dec-2023	✓	**21-Dec-2023**	29-Jan-2024	✓
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Soil Glass Jar - Unpreserved (EP202) 1A, 2A, 3A, 4A	**06-Dec-2023**	**18-Dec-2023**	20-Dec-2023	✓	**19-Dec-2023**	27-Jan-2024	✓

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)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Low level CHC (SIM)	EP074E(SIM)	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	2	13	**15.38**	**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
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction (Silica Gel Clean Up)	EP071SG-S	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Low level CHC (SIM)	EP074E(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
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
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction (Silica Gel Clean Up)	EP071SG-S	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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*	
Method Blanks (MB) - Continued							
Low level CHC (SIM)	EP074E(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
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
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction (Silica Gel Clean Up)	EP071SG-S	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Low level CHC (SIM)	EP074E(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
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
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction (Silica Gel Clean Up)	EP071SG-S	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	9	**11.11**	**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 (SnCl2) (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 SnCl2 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)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
WAD Cyanide by Segmented Flow Analyser	EK028SF	SOIL	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction (Silica Gel Clean Up)	EP071SG-S	SOIL	In house: Referenced to USEPA SW 846 - 8015. Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Low level CHC (SIM)	EP074E(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Semivolatile Organic Compounds	EP075	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	SOIL	In house: Referenced to USEPA 8270 GCMS Capiliary column, SIM mode.
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	SOIL	In house: LCMS (Electrospray in negative mode). Residues of acid herbicides are extracted from soil samples under the alkaline condition. An aliquot of the alkaline aqueous phase is taken and acidified before a SPE cleanup. After eluting off from the SPE cartridge, residues of acid herbicides are dissolved in HPLC mobile phase prior to instrument analysis.
NSW Waste Classification Guidelines - Aggregate Sums	* NSW-WCG	SOIL	In house: This method provides rounded sums for diverse trace organics to suit NSW Waste Classification Guidelines.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
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).
Extraction for Phenoxy Acid Herbicides in Soils.	EP202-PR	SOIL	In-House: Alkaline extract followed by SPE clean up of acidified portion of the sample extract.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids/ Acetylation	ORG17A-AC	SOIL	In house: Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to 1 mL with exchange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis.