

ENVIRONMENTAL SITE INVESTIGATION & WASTE CLASSIFICATION

Report No. ESA3426

PROPOSED BESS AND SWITCHYARD:
(Part) 438 LOBBS ROAD,
GLENBRAE, VICTORIA



PREPARED FOR

ACENERGY PTY LTD

GeoPollution Management Pty Ltd
5th December, 2022

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ENVIRONMENTAL
SITE INVESTIGATION
& WASTE SOIL CLASSIFICATION

of

PROPOSED BESS & SWITCHYARD:
438 LOBBS ROAD,
GLENBRAE, VICTORIA

For

ACEnergy PTY LTD

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This environmental site assessment report has been prepared by GeoPollution Management Pty Ltd for Ms Jane Bai on behalf of ACEnergy Pty Ltd.

This report relates to part of a rural property at 438 Lobbs Road, Glenbrae, Victoria, namely a 10 hectare trapezoidal-shaped portion at the corner Lobbs & Forest Roads.

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ABBREVIATIONS

ANZECC	Australian and New Zealand Environment and Conservation Council
bgl	below ground level (below base of concrete where surface sealed with concrete)
BESS	Battery Energy Storage System
BTEX	Benzene, toluene, ethyl benzene, xylenes
Cat C	Category C waste soil (above TC0 limits) in accordance with IWRG 2009
Cat B	Category B waste soil (above TC1 limits) in accordance with IWRG 2009
Cat A	Category A waste soil (above TC2 limits) in accordance with IWRG 2009
EIL	Ecological (Environmental) Investigation Level
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
HIL	Health Investigation Level
LOR	Level of Reporting
m	Metres
MAH's	Monocyclic Aromatic Hydrocarbons
NEPM	National Environment Protection Measure
OCP	Organochlorine Pesticides
OPP	Organophosphate Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PID	Photo-ionisation Detector
RPD	Relative Percentage Difference
SVCH	Semi-Volatile Chlorinated Hydrocarbons
TPH's	Total Petroleum Hydrocarbons
TRH's	Total Recoverable Hydrocarbons
VHH	Volatile Halogenated Hydrocarbons
VOC	Volatile Organic Compounds

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EXECUTIVE SUMMARY

GeoPollution Management was engaged by Jane Bai on behalf of ACEnergy Pty Ltd to conduct a preliminary environmental site assessment (contaminated land testing) in a specified area at the north west of Allotment 1, Section 21, PP2597, Parish of Ercildoun, corner Lobbs and Forest Roads, forming part of the property at 438 Lobbs Road, Glenbrae, Victoria.

It is understood that the contaminated land and waste soil classification testing were required prior to the planned construction of a Battery Energy Storage System (BESS) and associated infrastructure including a switching yard (according to client's email correspondence, 2022).

The current investigation followed Section 3 of the Australian Standard AS4482.1-2005 *Guide to the sampling and investigation of potentially contaminated soil* (2005) and NEPM (2013) Schedule B(2) Section 6. It also included a waste soil classification assessment according to EPA Publications IWRG702 and 1828.2 (2009 and 2021).

The objectives of the soil investigation included

- Determine the potential presence of contamination risks in the proposed works areas; and
- Categorization of the soil for excavation, transportation, and off-site disposal, in accordance with EPA 'Waste Disposal Categories – Characteristics and Thresholds' 1828.2 guidelines (2021).

SITE IDENTIFICATION

The subject parcel of land corresponds to part of Allotment 1, Section 21 in the Parish of Ercildoun, Parcel Identifier 1-21/PP2597 (part of Council property No. 407002800) in the Shire of Pyrenees (see also attached property report from the maps and spatial data website (www2.delwp.vic.gov.au, copy in Appendix A). The parcel boundaries and the location of the proposed works area are illustrated on the Google Earth aerial photo overlay, also in Appendix A (Figure A).

The property is located at the southern end of the Pyrenees region of central Victoria, on the south east corner of Lobbs and Forest Roads, some 4.3km south west of the Sunraysia Highway. The site is distanced approximately 42km north west from the rural city of Ballarat, and situated approximately half way between the rural townships of Clunes (29.8 km to the north east) and Beaufort (approximately 21.4 km to the south west). The distance (north west thereof) from the Melbourne GPO is approximately 149 km (all distances by road, www.whereis.com).

The entire property falls into an "Farming Zone" (FZ) under the Shire of Pyrenees Planning Scheme.

SITE DESCRIPTION

The proposed works area, equivalent to the investigation area ("the site"), was trapezoidal-shaped and situated at the north west corner of a larger rural property. The approximate site boundaries are highlighted on a Google Earth aerial photograph in Appendix A. The site was accessed via a farm gate off Forest Road to the north (see also cover photo).

The entire test area comprised approximately ten hectares, with three hectares on the west (up to the north west corner of the entire property), being the proposed future switchyard area, and seven hectares on the east (future BESS area).

At the time of field work, the land was undeveloped. An overhead Transmission line easement, ran north west to south east to the south of the test site (outside of site boundaries).

The entire site was unsealed and featured, at the time of the field work, a grassed paddock. Isolated trees were present along the north boundary (with Forest Road) only.

The overall land surface across the test area was approximately level.

SCOPE OF WORK

The field work, including soil boring, field testing and logging and soil sampling, was conducted on the 9th November 2022. All work was carried out in accordance with approved methods and quality assurance procedures as adopted by this company (refer to Appendix G).

Samples were collected from twenty grid spaced test locations, ten on the western switchyard area and another ten on the eastern BESS area. All boreholes were completed by hand auger.

Two near-surface (natural) soil samples were collected at each borehole. All twenty surface samples were analysed for EPA 1020.2 (Table 3) screens (2021); for waste categorization for off-site disposal of soils).

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SITE ASSESSMENT SUMMARY

The findings of this environmental site assessment for the proposed BESS and switchyard areas to be installed on the north west portion of the rural property at 438 Lobbs Road, in the rural locality of Glenbrae, in the Shire of Pyrenees, central Victoria, are summarized below.

Site History

- From the late 1950s onward the site was part of a larger farm which was used initially for sheep grazing, then, from the 1960s to late 1990s for cropping. It is understood that since 1999 (current ownership) the land has been used for stock (cattle) grazing).
- Historical farming use is unlikely to have caused any significant contamination of the land by pesticides and fertilizers.
- Neither the property itself nor any nearby properties have had Environmental Audits completed. No Audit overlays apply to any of these properties.

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Land-Use-Specific Assessment (to NEPM 2013)

Broad contaminant screen analysis (EPA 1828.2, Table 3 suite) of twenty surface soil (natural/indigenous) samples, showed the following for all samples:

- No exceedence of the health investigation levels (HIL) for the future commercial/industrial land use (NEPM 2013, "Commercial/Industrial D") by any of the analytes.

Off-Site Disposal Assessment (to EPA 1828.2)

The following key findings determine the waste soil classification for the surface (natural soil) horizon:

- All individual concentrations of the EPA 1828.2 (Table 3) screen analytes were *below* the respective EPA Fill Material threshold limits.
- The pH (soil reaction) in all samples was *within* the respective EPA Fill Material threshold range.

Based on the laboratory test results for twenty samples¹, near-surface natural soils in the proposed BESS and Switchyard works areas are classified as "FILL MATERIAL", for the purpose of transport and off-site disposal.

Comments:

¹ Twenty sets of results are sufficient to classify excavated soil volumes of up to 5,000m³ when classified based on the statistical (95% UCL) averages (Table 1 in EPA IWRG702, 2009).

As the data represent natural/in-situ soil, this classification may be extended to all, including deeper, natural soil across the subject site.

CONCLUSIONS

The following may be concluded from the available data:

- ◆ The data have shown that levels of potential contaminants are low or not detected. The likelihood of excavating contaminated material is, therefore, considered to be low to negligible.
- ◆ The data indicate that all concentrations of Vic EPA screen analytes meet the EPA guideline levels for disposal of excavated soil as clean fill (EPA "Fill Material"). Therefore, no restrictions apply to the reuse or off-site disposal of excavated soil. This means that the soil may, for example, be reused elsewhere on the property or be transported for use in earthworks at other properties or for roadworks, as suitable.
- ◆ The risk of harm from exposure to the soil by construction workers and future site occupiers is considered low.
- ◆ The soil pH of the near-surface soil (natural/indigenous soil) varies within strongly acidic and neutral.

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RECOMMENDATIONS

The findings of this investigation do not trigger additional investigation or requirements with respect to soil remaining on-site. No corrective action with respect to soil quality is required.

The data represent background/benchmark levels prior to the development of the site as an electrical utility infrastructure facility.

The waste classification for off-site disposal (“EPA Fill Material” according to Table 3, Publication 1828.2, 2021). No additional testing is required.

Regulations and Requirements

No restrictions, neither with respect to re-use on-site, nor with regard to off-site transport and disposal, apply to soil classified as Fill Material.

Occupational Health & Safety

The waste soil classification as “Fill Material” has no occupational health and safety implications for the site workers.

Standard health and safety measures shall be implemented during loading and transport, as required by the *Occupational Health and Safety Regulations* (2017) and Victoria State Government and *Worksafe Victoria* (2018).

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1. INTRODUCTION

GeoPollution Management was engaged by Jane Bai on behalf of ACEnergy Pty Ltd to conduct a preliminary environmental site assessment (contaminated land testing) in a specified area at the north west of Allotment 1, Section 21, PP2597, Parish of Ercildoun, corner Lobbs and Forest Roads, forming part of the property at 438 Lobbs Road, Glenbrae, Victoria.

It is understood that the contaminated land and waste soil classification testing were required prior to the planned construction of a Battery Energy Storage System (BESS) and associated infrastructure including a switching yard (according to client's email correspondence, 2022).

The current investigation followed Section 3 of the Australian Standard AS4482.1-2005 *Guide to the sampling and investigation of potentially contaminated soil* (2005) and NEPM (2013) Schedule B(2) Section 6. It also included a waste soil classification assessment according to EPA Publications IWRG702 and 1828.2 (2009 and 2021).

This investigation was conducted in accordance with the scope of work outlined in GeoPollution Management's quote No. Q3426-2 dated 26th October 2022.

1.1 Objectives

The purpose of the assessment was to assess the environmental quality of the site subterrain and the existence of any associated potential risks (environmental or health) at the site. Ultimately, the assessment aimed to establish background / benchmark data prior to the development of the BESS and associated infrastructure.

In addition, the aims of the testing were to classify the soil prior to excavation, transport and off-site disposal, in accordance with Vic EPA's '*Waste Disposal Categories & Thresholds*' Publication 1828.2 Table 3 (2021), and to determine the presence or absence of asbestos materials or fibres at the site.

The objectives of the soil investigation included

- Potential for contamination issues to be associated with the site subterrain, under consideration of the future land use for utility services;
- Categorization of the soil prior to excavation, transport and off-site disposal, in accordance with EPA '*Waste Disposal Categories – Characteristics and Thresholds*' 1828.2 guidelines (2021);

Specifically, the scope of works encompassed:

- a field assessment and collection of soil samples from a designated number of test locations in the proposed works area;
- Analysis of samples for potential soil contaminants according to EPA 1828.2 (2021);
- Reporting including conclusions, with reference to the NEPM (2013) and EPA (2009 and 2021) requirements
- Recommend further work and/or appropriate corrective action, if required.

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2. SITE IDENTIFICATION AND DESCRIPTION

2.1 Location, Title ID, Zoning and Surrounding Land Uses

The subject parcel of land corresponds to part of Allotment 1, Section 21 in the Parish of Ercildoun, Parcel Identifier 1-21/PP2597 (part of Council property No. 407002800) in the Shire of Pyrenees (see also attached property report from the maps and spatial data website (www2.delwp.vic.gov.au, copy in Appendix A). The parcel boundaries and the location of the proposed works area are illustrated on the Google Earth aerial photo overlay, also in Appendix A (Figure A).

The property is located at the southern end of the Pyrenees region of central Victoria, on the south east corner of Lobbs and Forest Roads, some 4.3km south west of the Sunraysia Highway. The site is distanced approximately 42km north west from the rural city of Ballarat, and situated approximately half way between the rural townships of Clunes (29.8 km to the north east) and Beaufort (approximately 21.4 km to the south west). The distance (north west thereof) from the Melbourne GPO is approximately 149 km (all distances by road, www.whereis.com).

The entire property falls into an “Farming Zone” (FZ) under the Shire of Pyrenees Planning Scheme.

At the time of this assessment, the site and property were surrounded by the following:

- A rural/farming property across Forest Road to the north;
- Farmland across Lobbs Road to the east and across Glenbrae School Road; and
- A continuation of the same farming property to the east and south.

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2.2 Site Description

The proposed works area, equivalent to the investigation area (“the site”), was trapezoidal-shaped and situated at the north west corner of a larger rural property. The approximate site boundaries are highlighted on a Google Earth aerial photograph in Appendix A. The site was accessed via a farm gate off Forest Road to the north (see also cover photo).

The entire test area comprised approximately ten hectares, with three hectares on the west (up to the north west corner of the entire property), being the proposed future switchyard area, and seven hectares on the east (future BESS area).

At the time of field work, the land was undeveloped. An overhead Transmission line easement, ran north west to south east to the south of the test site (outside of site boundaries).

The entire site was unsealed and featured, at the time of the field work, a grassed paddock. Isolated trees were present along the north boundary (with Forest Road) only.

Site overviews and features are illustrated in the panoramic photo sequences (Plates 1-3) on the following page.

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Plate 1: Panoramic view, looking east, south east and south from the corner of Forest Road (left) and Lobbs Road (right) towards the north west corner of the property.



Plate 2: Panoramic view from the northern boundary across the eastern portion of the site (proposed BESS area), with Forest Road on the right.

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Plate 3: View, looking east, across the central northern portions of the two test areas. Forest Road is in the left background (out of frame).



Plate 4: View, looking south west, from the south west of the proposed BESS area towards and beyond the southern portion of the proposed switchyard area. The transmission lines are visible in the background.

The overall land surface across the test area was approximately level.

3. SITE HISTORY

A brief review of the site history including past land uses has been undertaken. Information was sought from the following sources:

- [Ballarat Museum \(Historical Society\)](#)
- [Historical Land Titles – ownership information](#)
- [Google Earth Aerial Photographs](#)
- [EnergySafe \(cathodic protection systems registration\)](#)
- [Plans and Databases available online \(EPA Priority Sites Register, Victoria Unearthed, GeoVic Earthresources website\)](#)

3.1 Site Ownership (Certificates of Title)

The BESS site coincides with the property identified on Certificate of Title Volume 8180 Folio 130 and also as Crown Allotment 1, Section 21 in the Parish of Ercildoun. The current owner is David Robert Clark (since 17/06/1999).

The historical title ownership indicates that the property has, since 1958 (prior to which it was Crown Land), been in the possession of private persons, namely a succession of farmers and graziers.

Therefore, it is likely that the subject land has been part of a larger agricultural holding since the late 1950s.

3.2 Ballarat Historical Society

The following details were received, via email, from the Ballarat Historical Society (William Loader, email correspondence; attached in Appendix C):

- The block in question was initially owned by the Briody Family. They ran stock which they took to the Homestead for shearing etc.,
- The subsequent owners, the Baths, were also graziers. Their stock was also taken to the house yards for shearing, etc.
- Theo and son Christopher Harrison planted crops more than thirty years ago. They used a limited amount of super phosphate fertilizer.
- The present owner, David Clark, runs cattle; there are no cattle yards on the block, instead they are “driven to the house yards”.

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3.3 Historical Aerial Photography

Two selected historical aerial photographs available online from Google Earth, back to 2005 (earliest available Feb 2005) are shown below.



Image 1: Google Aerial Photo dated Feb 2005. The property is used as farmland. Trees to the east of the current test area were not yet planted.

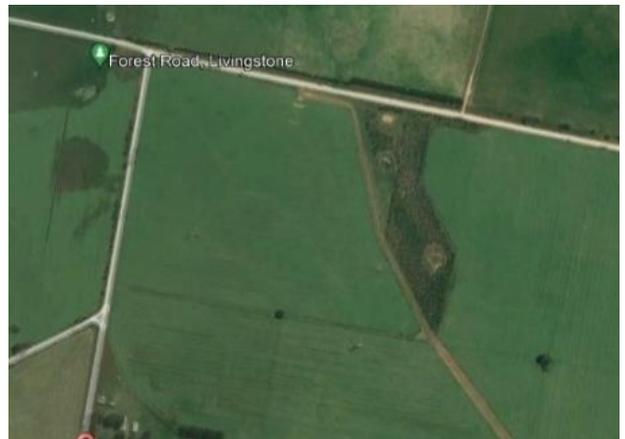


Image 2: Google Aerial Photo dated 13/11/2009. No significant changes have occurred at the site itself. The treed area to the east now appears (planted by 2007).



Image 3: Google Aerial Photo dated January 2013. No significant changes have occurred at the site.



Image 4: Google Aerial Photo dated Sep 2019. No significant changes have occurred at the site itself. A north-south running strip of bare ground appears right of centre of the test area.

3.4 Historical Mining Activity

As per the GeoVic Earthresources website (gsv.vic.gov.au - Historical Mining Activity layer), no mining has been undertaken at the site. No historical mine sites are recorded in its immediate surrounds.

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3.5 Database Searches

3.5.1 EPA Priority Sites Register

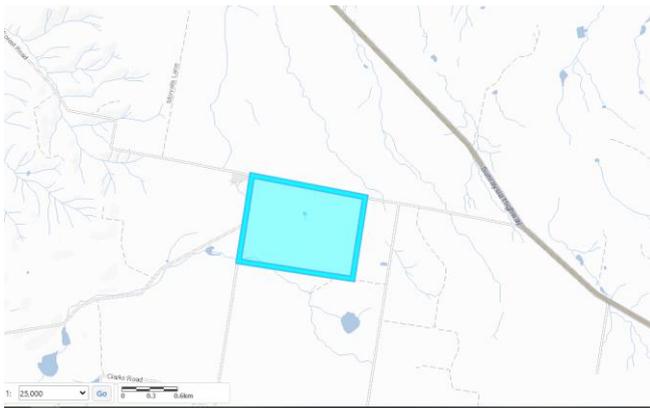
EPA's Priority Sites Register was searched (on-line database www.landata.vic.gov.au); a copy is included in Appendix B.

According to Landata information obtained for VicRoads Map 58 references A7 & B7 within the Municipality of Pyrenees, no sites are listed on the EPA's Register of Priority Sites within this map grid (extract included in Appendix B). Therefore, the subject site is not listed on the Register.

3.5.2 Victoria Unearthed

According to information from Vic Unearthed Maps database, no records of EPA Audit sites or other sites of concern exist for the site.

No Audit sites exist in the vicinity, as shown on the capture from Vic Unearthed below.



Vic Unearthed: The blue rectangle indicates the position of the subject property.

3.5.3 EnergySafe Victoria

EnergySafe's Cathodic Protection (CPS) database (esv.connect) revealed that no cathodic protection systems are registered at the property in question (copy of online extract attached in Appendix C).

3.6 Previous Investigations

No known previous environmental investigations have been undertaken at the site.

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4. POTENTIAL SOURCES OF CONTAMINATION

Based on the available information, an appraisal of the likelihood of site contamination was undertaken, with a summary of potential on-site and off-site source of contamination provided below.

4.1 Potential On-Site Sources of Contamination

There is a low risk of potential on-site (property) sources of contamination to be present at the site. Limited quantities of pesticides and fertilizers may have been used during possible historical farming use.

No point sources of potential release of contaminants are known to have existed or currently exist on the site.

The potential of soil contamination from on-site sources is, therefore, deemed to be low.

4.2 Potential Off-Site Sources of Contamination

No known potential point sources of contamination exist in the vicinity of the site. Pesticides, including herbicides and insecticides, may have been used and may still be in use on surrounding farming properties, however, their potential impact the subject site is deemed low risk.

The overall potential for soil contamination from off-site sources is, therefore, deemed to be low.

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5. SOIL SAMPLING AND CHEMICAL ANALYSIS

5.1 Soil Sampling

The field work, including soil boring, field testing and logging and soil sampling, was conducted on the 9th November 2022. All work was carried out in accordance with approved methods and quality assurance procedures as adopted by this company (refer to Appendix G).

Samples were collected from twenty grid-spaced test locations, ten on the western switchyard area and another ten on the eastern BESS area. All boreholes were completed by hand auger. A single surface soil sample plus one deeper sample were collected from each of the twenty test locations.

The positions of the twenty sample points are shown as an overlay onto an aerial photograph (Google Earth; refer to attached Figure 1 in Appendix B), with grid spacings and boundary set back also indicated.

5.2 Chemical Analysis Schedule

One sample per borehole (surface) was analysed for a full EPA 1828.2 (Table 3) screen (2021; for waste categorization with a view to off-site disposal of soils).

The samples, accompanied by a chain of custody documentation, were dispatched on the next possible working day to the NATA accredited laboratory of EnviroLab Services, Croydon South (copy of chain of custody form attached in Appendix D and NATA endorsed laboratory reports in Appendix F). Table 1 summarises the range and number of chemical analyses for the soil samples.

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TABLE 1: Range and Number of Chemical Analyses

ANALYTICAL PARAMETERS	No. INDIVIDUAL SAMPLES
Heavy Metals (12) ¹ : Total As, Cd, Cr / CrVI, Cu, Pb, Hg, Ni, Zn, Mo, Se, Sn, Ag	20
Soil Reaction (pH Value) ¹	
Total Petroleum Hydrocarbons (TRH) ¹	
Monocyclic Aromatic Hydrocarbons (incl. Benzene) ¹	
Polycyclic Aromatic Hydrocarbons ¹	
Phenols (halogenated and non-halogenated) ¹	
Organochlorine (OC) Pesticides ¹	
Polychlorinated Biphenyl's (PCB's) ¹	
Chlorinated Hydrocarbons ¹	
Cyanide (total) ¹	
Fluoride (total) ¹	

¹ Part of EPA 1828.2 (Table 3, 2021) screen.

6. RESULTS OF THE INVESTIGATION

6.1 Field Assessment

6.1.1 Visual and Olfactory Observations

- No visual evidence of potential contamination was noted in surface soils which typically consisted of natural clayey silts.
- No olfactory evidence of potential contamination was noted in natural soils at any of the test points.
- No signs of fibrous material, suggesting potential presence of asbestos-containing materials, were observed.
- No visual signs of potential acid-sulphate soils were identified.

6.1.2 Soil Profiles Intercepted

Natural soil was exposed at surface level at all test points. Summary profile information is contained in Table 2.

Table 2: Soil Profile Summary

Borehole No.	Fill		Natural Soil		Rock
	Type	Max. Depth	Type	Max. Depth	
SY1 – SY10, BS1 – BS10	None present	NA	Clayey SILT, trace Sand, brown	0.1 - 0.2m	Not intercepted
			Silty CLAY, brown/orange/red	0.3m+	

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6.2 Analytical Results

6.2.1 Assessment Criteria

The Victorian EPA waste soil classification thresholds as published in Table 3 of EPA 1828.2 (2021) are the adopted guideline levels for the current assessment. This set of threshold limits is, strictly, only applicable to waste soil that is being disposed off-site, not applicable to soil remaining on the site. However, as most chemical parameters are also covered in the NEPM 2013 (where a separate set of guidelines is specified), EPA 1828.2 screen data may also be used to provide an indication of the environmental quality of soils on-site in general.

6.2.2 Evaluation of Analysis Results Against Adopted Criteria

Analytical results for near-surface samples are presented in tabulated format as Tables D1a/D1b, D2a/D2b and D3 in Appendix D. The NATA endorsed laboratory reports (EnviroLab report No. 34495-R00 and 34495-DQAS) are included in Appendix F.

The analytical results were evaluated according to two sets of guideline criteria (a) the NEPM 2013 guidelines, designed to assess suitability of soils remaining on site for a specific land use, and (b) the EPA1828.2 guidelines, intended to assess the classification of soils for excavation and off-site disposal, as summarized below.

(a) Comparison with NEPM Guideline Levels

Heavy Metals (Table D1a)

- All heavy metals tested showed concentrations either below laboratory reporting limits (LOR) throughout or below the NEPM environmental investigation levels (EIL or ESL), in all samples.

Petroleum Hydrocarbons (TPH's) and Monocyclic Aromatic Hydrocarbons (MAH's) and Halogenated Volatiles (VOC's) (Table D2a)

- The Total Petroleum Hydrocarbons (TPH's/TRH) NEPM 2013 F1-F4 fractions were below laboratory detection limits or below screening criteria in all samples tested.
- Monocyclic Aromatic Hydrocarbons (MAH's) and other volatile organic compounds were below laboratory detection limits in all samples tested.

Other Analytes (Table D3)

- Polycyclic Aromatic Hydrocarbons (PAH) species were below laboratory detection limits in all samples tested.
- Phenolic compounds were below laboratory reporting limits in all samples analysed.
- Organochlorine (OC), Pesticides and PCBs were below laboratory reporting limits in all samples analysed.
- Cyanide (total) was below laboratory reporting limits in all samples analysed.
- Fluoride was detected in all natural soil samples, at concentrations between <50 mg/kg (not detected) and 140 mg/kg. No NEPM guideline level has been specified for Fluoride.

(b) Comparison with EPA 1828.2 Limits

For soil that is excess to site requirements during the forthcoming works, and, hence, requires off-site disposal, the EPA guideline levels for waste soil (“waste disposal categories and thresholds”) are applicable (EPA 1828.2, 2021).

A summary is provided below, with reference to EPA Waste Categories (refer also to Tables D1b, D2b and D3 in Appendix D).

Natural Soil

Data evaluation for off-site disposal of soil showed the following:

- Near-surface soils (0.0 to 0.1m depth), all consisting of in-situ/indigenous soil (natural soil) showed concentrations of all analytes below the “Fill Material” levels in Table 3 of EPA 1828.2 (2021).
- The pH values at all test points were within the range for Fill Material (>4 and <10, Table 1 in EPA 2021), ranging from 4.8 (very strongly acidic) to 6.8 (neutral).

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7. SITE ASSESSMENT SUMMARY

The findings of this environmental site assessment for the proposed BESS and switchyard areas to be installed on the north west portion of the rural property at 438 Lobbs Road, in the rural locality of Glenbrae, in the Shire of Pyrenees, central Victoria, are summarized below.

7.1 Site History

- From the late 1950s onward the site was part of a larger farm which was used initially for sheep grazing, then, from the 1960s to late 1990s for cropping. It is understood that since 1999 (current ownership) the land has been used for stock (cattle) grazing).
- Historical farming use is unlikely to have caused any significant contamination of the land by pesticides and fertilizers.
- Neither the property itself nor any nearby properties have had Environmental Audits completed. No Audit overlays apply to any of these properties.

7.2 Land-Use-Specific Assessment (to NEPM 2013)

Broad contaminant screen analysis (EPA 1828.2, Table 3 suite) of twenty surface soil (natural/indigenous) samples, showed the following for all samples:

- No exceedence of the health investigation levels (HIL) for the future commercial/industrial land use (NEPM 2013, "Commercial/Industrial D") by any of the analytes.

7.3 Off-Site Disposal Assessment (to EPA 1828.2)

The following key findings determine the waste soil classification for the surface (natural soil) horizon:

- All individual concentrations of the EPA 1828.2 (Table 3) screen analytes were *below* the respective EPA Fill Material threshold limits.
- The pH (soil reaction) in all samples was *within* the respective EPA Fill Material threshold range.

Based on the laboratory test results for twenty samples¹,
near-surface natural soils in the proposed BESS and Switchyard works areas
are classified as "**FILL MATERIAL**",
for the purpose of transport and off-site disposal.

Comments: ¹ Twenty sets of results are sufficient to classify excavated soil volumes of up to 5,000m³ when classified based on the statistical (95% UCL) averages (Table 1 in EPA IWRG702, 2009).

As the data represent natural/in-situ soil, this classification may be extended to all, including deeper, natural soil across the subject site.

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8. CONCLUSIONS

The following may be concluded from the available data:

- ◆ The data have shown that levels of potential contaminants are low or not detected. The likelihood of excavating contaminated material is, therefore, considered to be low to negligible.
- ◆ The data indicate that all concentrations of Vic EPA screen analytes meet the EPA guideline levels for disposal of excavated soil as clean fill (EPA “Fill Material”). Therefore, no restrictions apply to the reuse or off-site disposal of excavated soil. This means that the soil may, for example, be reused elsewhere on the property or be transported for use in earthworks at other properties or for roadworks, as suitable.
- ◆ The risk of harm from exposure to the soil by construction workers and future site occupiers is considered low.
- ◆ The soil pH of the near-surface soil (natural/indigenous soil) varies within strongly acidic and neutral.

9. RECOMMENDATIONS

The findings of this investigation do not trigger additional investigation or requirements with respect to soil remaining on-site. No corrective action with respect to soil quality is required.

The data represent background/benchmark levels prior to the development of the site as an electrical utility infrastructure facility.

The waste classification for off-site disposal (“EPA Fill Material” according to Table 3, Publication 1828.2, 2021). No additional testing is required.

Regulations and Requirements

No restrictions, neither with respect to re-use on-site, nor with regard to off-site transport and disposal, apply to soil classified as Fill Material.

Occupational Health & Safety

The waste soil classification as “Fill Material” has no occupational health and safety implications for the site workers.

Standard health and safety measures shall be implemented during loading and transport, as required by the *Occupational Health and Safety Regulations* (2017) and Victoria State Government and *Worksafe Victoria* (2018).

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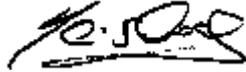
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Report Prepared By:Dr Karin Schwab.....(Principal Environmental Scientist)

Date Report Issued:5th December 2022...

Report Authorised By: ...Dr Karin Schwab.....

Signed on behalf of GeoPollution Management Pty Ltd:



.....
Dr. Karin B. Schwab

10. REFERENCES

- Environment Protection Authority (2009) Industrial Waste Resource Guidelines. Soil Sampling. Publication IWRG 702, June
- Environment Protection Authority (2021) Waste Disposal Categories & Thresholds. Publication 1828.2, March
- NEPC (1999) National Environmental Protection (Assessment of Site Contamination) Measure. National Environment Protection Council Service Corporation
- NEPM (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1). 11 April
- Standards Australia (1999) Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances. Australian Standard AS 4482.2-1999
- Standards Australia (2005) Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds. Australian Standard AS 4482.1-2005.

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LIMITATIONS OF THIS INVESTIGATION

This investigation included site reconnaissance and a limited number of soil samples collected from the surface soil horizon at selected bore locations for the purpose of a preliminary soil contamination and waste soil classification assessment.

This investigation has been designed to provide an indication of the presence of potential soil contamination.

The data reported in this site assessment report have been derived from visual inspection, on-site testing and laboratory analysis of a limited number of soil samples.

The bore logs represent subsurface conditions at the specific test locations only. Further, boundaries between zones on bore logs are often not distinct but transitional and have been interpreted.

The precision with which subsurface conditions are indicated depends largely on the frequency and method of sampling as well as the degree of uniformity of subsurface material. Conclusions drawn have been extrapolated from point data using professional judgement.

While quality assurance procedures were followed during field sampling and standard laboratory QA/QC methods were employed, no separate duplicate or blank samples were collected for quality control checks.

Please note: This site assessment is valid for the current site subsurface condition; i.e. it refers to the soil profile as encountered at the time of this investigation.

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APPENDICES

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APPENDIX A

SITE IDENTIFICATION: Property Report & Aerial Photograph Overlay

PROPERTY DETAILS

Address: **438 LOBBS ROAD GLENBRAE 3352**
 Crown Description: **Allot. 1 Sec. 21 PARISH OF ERCILDOUN**
 Standard Parcel Identifier (SPI): **1-21\PP2597**
 Local Government Area (Council): **PYRENEES**
 Council Property Number: **407002800**
 Directory Reference: **Vicroads 58 A7**

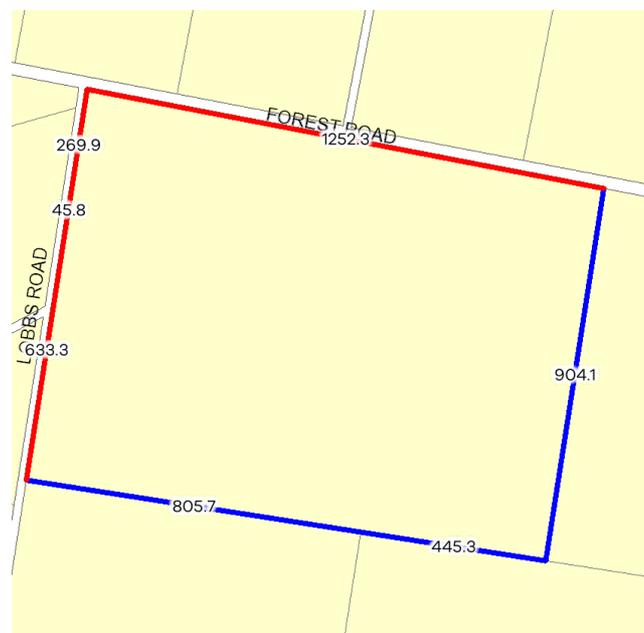
www.pyrenees.vic.gov.au

**This property is in a designated bushfire prone area.
 Special bushfire construction requirements apply. Planning provisions may apply.**

Further information about the building control system and building in bushfire prone areas can be found on the Victorian Building Authority website <https://www.vba.vic.gov.au>

SITE DIMENSIONS

All dimensions and areas are approximate. They may not agree with those shown on a title or plan.



Area: 1159232 sq. m (115.92 ha)

Perimeter: 4356 m

For this property:

— Site boundaries

— Road frontages

Dimensions for individual parcels require a separate search, but dimensions for individual units are generally not available.

Calculating the area from the dimensions shown may give a different value to the area shown above

For more accurate dimensions get copy of plan at [Title and Property Certificates](#)

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UTILITIES

Rural Water Corporation: **Southern Rural Water**
 Urban Water Corporation: **Central Highlands Water**
 Melbourne Water: **Outside drainage boundary**
 Power Distributor: **POWERCOR**

STATE ELECTORATES

Legislative Council: **WESTERN VICTORIA**
 Legislative Assembly: **RIPON**

PLANNING INFORMATION

Planning Zone [FARMING ZONE \(FZ\)](#)
[SCHEDULE TO THE FARMING ZONE \(FZ\)](#)
Planning Overlay [ENVIRONMENTAL SIGNIFICANCE OVERLAY \(ESO\)](#)
[ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 \(ESO1\)](#)

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Planning scheme data last updated on 19 October 2022.

A **planning scheme** sets out policies and requirements for the use, development and protection of land. This report provides information about the zone and overlay provisions that apply to the selected land. Information about the State and local policy, particular, general and operational provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council or by visiting <https://www.planning.vic.gov.au>

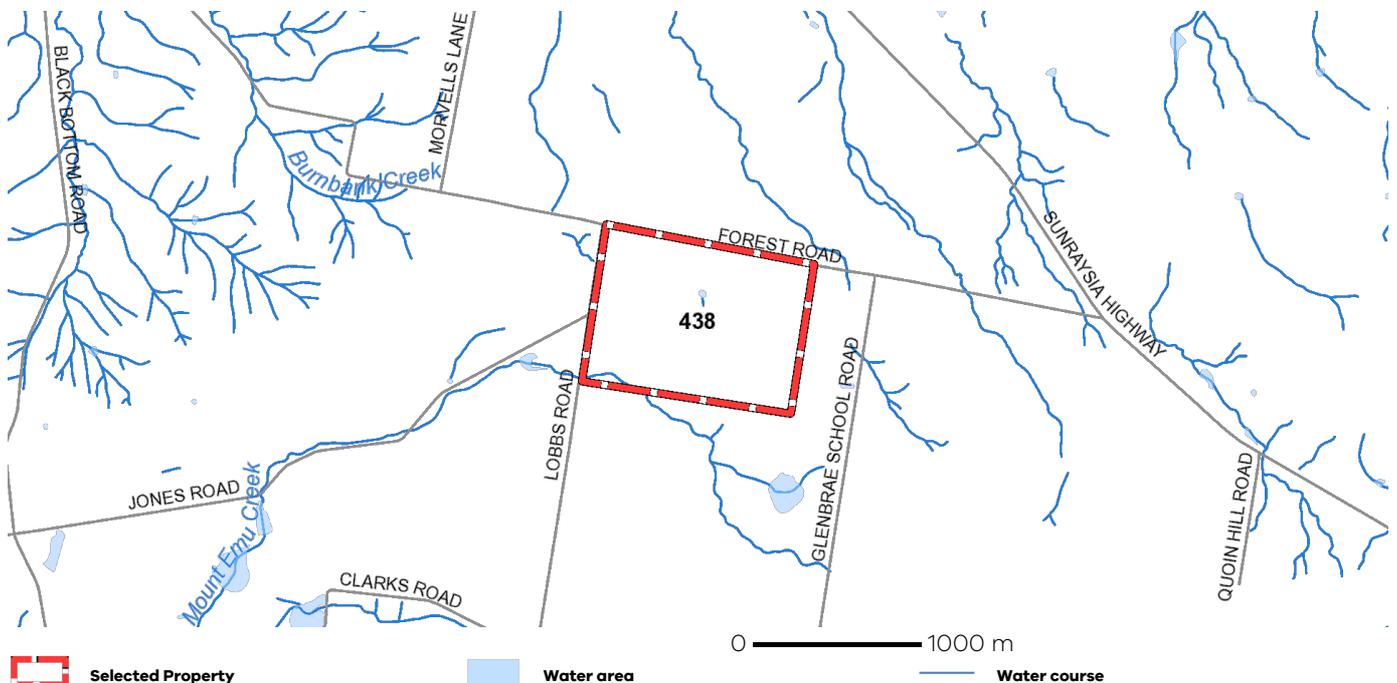
This report is NOT a **Planning Certificate** issued pursuant to Section 199 of the **Planning and Environment Act 1987**. It does not include information about exhibited planning scheme amendments, or zonings that may affect the land. To obtain a Planning Certificate go to Titles and Property Certificates at Landata - <https://www.landata.vic.gov.au>

For details of surrounding properties, use this service to get the Reports for properties of interest.

To view planning zones, overlay and heritage information in an interactive format visit <https://mapshare.vic.gov.au/vicplan>

For other information about planning in Victoria visit <https://www.planning.vic.gov.au>

Area Map



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Proposed Switchyard Area
Proposed BESS Area
Approximate Test Areas

Approximate Property Boundaries

Proposed BESS & Switchyard on Farm Land:
438 Lobbs Road, Glenbrae, Victoria

Dashed Yellow Outline: Approximate Property Boundaries
Dashed Orange & Green Lines: Approximate Works Areas

Source: Google Earth, 16 March 2021

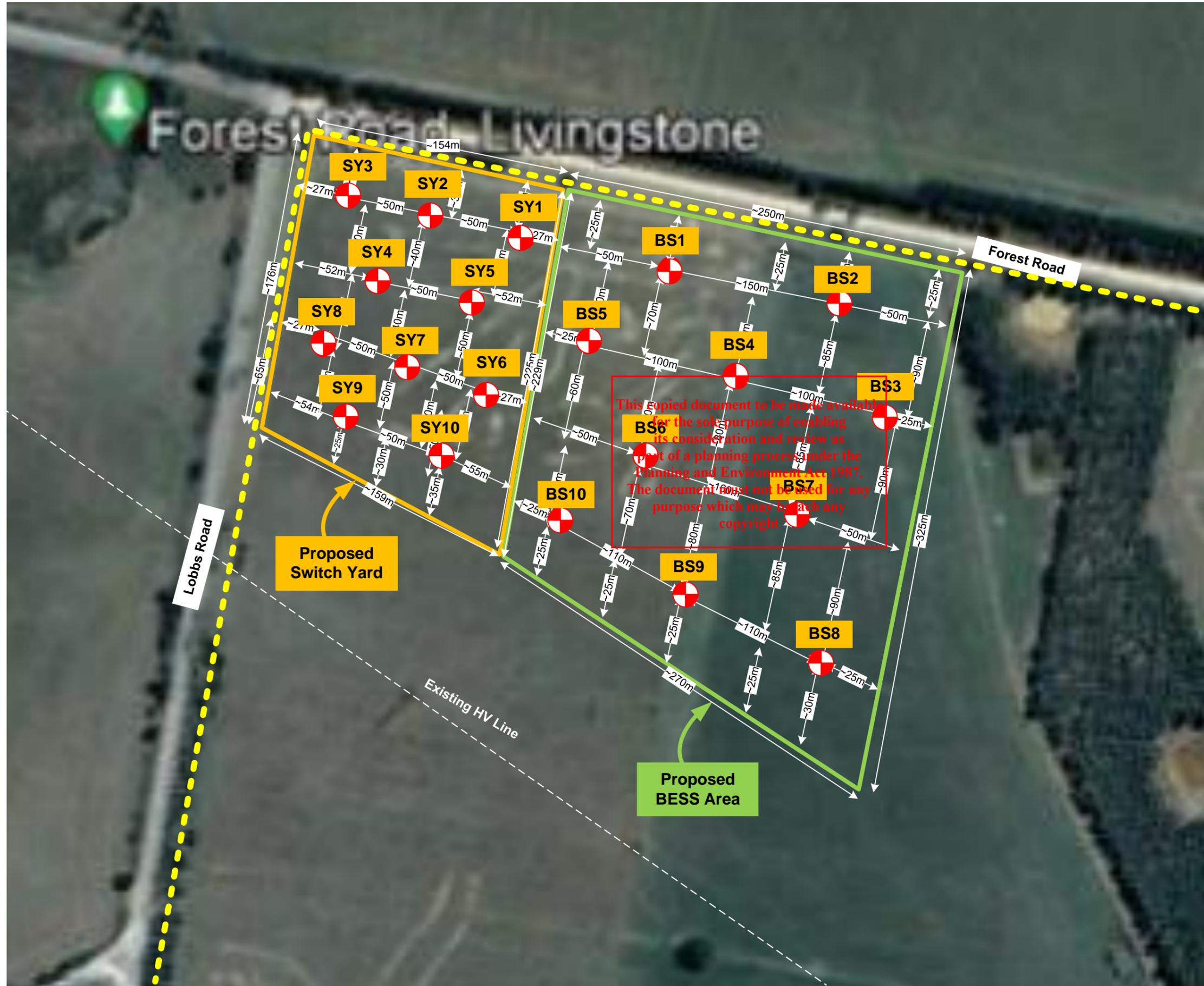


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APPENDIX B

SITE & SAMPLE LOCATION PLAN



LOCATION OF SOIL BORES
- Overlay over Google Aerial Photo*

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* Google Earth, 16 March 2021

KEY:



PROJECT/SITE ADDRESS:

Proposed Glenbrae BESS & Switchyard
- 438 Lobbs Road, Glenbrae, Victoria



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APPENDIX C

SITE HISTORY DOCUMENTATION

Historical Search

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The Victorian Government acknowledges the Traditional Owners of Victoria and pays respects to their ongoing connection to their Country, History and Culture. The Victorian Government extends this respect to their Elders, past, present and emerging.

HISTORICAL SEARCH STATEMENT Land Use Victoria

Produced 16/11/2022 12:04 PM

Volume 8180 Folio 130

Folio Creation: Created as paper folio continued as computer folio

THE IMAGE OF THE FOLIO CEASED TO BE THE DIAGRAM LOCATION ON 13/05/2003 05:22:12 AM

RECORD OF HISTORICAL DEALINGS

Date Lodged for Registration Date Recorded on Register Dealing Imaged Dealing Type and Details

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RECORD OF VOTS DEALINGS

Date Lodged for Registration Date Recorded on Register Dealing Imaged

02/08/2004 02/08/2004 AD021346W Y

DISCHARGE OF MORTGAGE
MORTGAGE(S) REMOVED
W106289B

02/08/2004 02/08/2004 AD021347U Y

MORTGAGE OF LAND
MORTGAGE AD021347U 02/08/2004
RABOBANK AUSTRALIA LIMITED

STATEMENT END

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CROWN GRANT

LAND DESCRIPTION

Crown Allotment 1 Section 21 Parish of Ercildoun.

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor

DAVID ROBERT CLARK of RMB 245 WAUBRA 3352
W106288E 17/06/1999

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE W106289B 17/06/1999
NATIONAL AUSTRALIA BANK LIMITED

Any crown grant reservations exceptions conditions limitations and powers
noted on the plan or imaged folio set out under DIAGRAM LOCATION below.
For details of any other encumbrances see the plan or imaged folio set out
under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP271844R FOR FURTHER DETAILS AND BOUNDARIES

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8180 130

Vol.

J. J. Mackinnon
Assistant Registrar of Titles

Elizabeth the Second,

by the Grace of God of the United Kingdom, Australia, and Her other Realms and Territories
Queen, Head of the Commonwealth, Defender of the Faith

On all to whom these presents shall come GREETING Whereas pursuant to the law relating to the sale and occupation of Crown lands in Our State of Victoria the grantee hereinafter named has duly paid the sum of One thousand nine hundred and sixty-two pounds one shilling and ten pence and become entitled to this Grant Now know ye that in consideration of the said sum and in pursuance of the said law WE DO HEREBY GRANT unto HUGH FRANCIS BRIDY of 6 Errard Street South, Ballarat —
Farmer

5-9-68

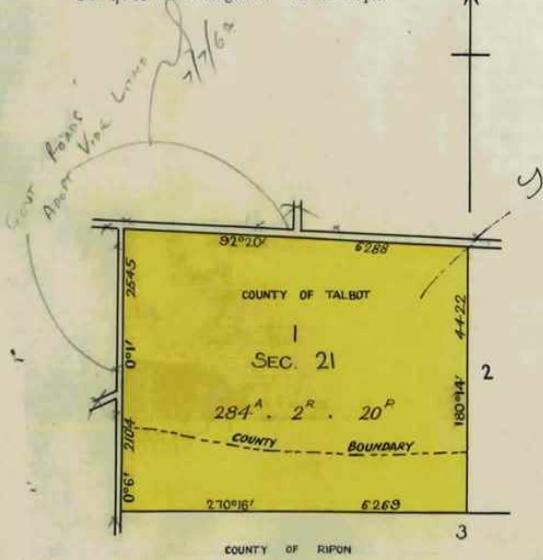
(hereinafter called "the grantee") the surface and down to the depth of **FIFTY** feet below the surface of **All** THAT piece of land in the said State containing two hundred and eighty-four acres two roods and twenty perches more or less being Allotment one of Section — twenty-one in the Parish of Eccildoun Counties of Ripon and Talbot

delineated and colored yellow in the map in the margin hereof TOGETHER with the right to sink wells for water and to the use for all purposes of any wells and springs now or hereafter upon the said land as though this Grant had been made without any limitation as to depth PROVIDED that this Grant is made subject to—

- (a) the reservation to Us Our heirs and successors of—
 - (i) all gold silver petroleum uranium thorium and minerals within the meaning of the Mines Acts (hereinafter called "the reserved minerals");
 - (ii) rights of access for the purpose of searching for and obtaining the reserved minerals in any part of the said land;
 - (iii) rights for access and for pipe-lines works and other purposes necessary for obtaining and conveying on and from the said land any of the reserved minerals which is obtained in any part of the said land;
- (b) the right to resume the said land for mining purposes pursuant to section 163 of the Land Act 1928;
- (c) the right of any person being on the said land and to mine for gold or minerals within the meaning of that Act and to erect and occupy mining plant or machinery thereon in the same manner and to the same extent as those under which such a person has now the right to mine for gold and silver in and upon Crown lands provided that compensation as prescribed by Part II. of that Act is paid for surface damage to be done to the said land by the holder of a miner's right or of a mining lease or mineral lease under the Mines Act 1928 or any corresponding previous enactment to enter the said land for the purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987.

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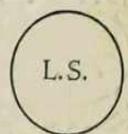
To hold unto the grantee in fee simple.



Dated the eighth _____ day of July _____
One thousand nine hundred and fifty-eight _____ being the date on which the grantee became entitled to this Grant.

In witness whereof His Excellency General SIR REGINALD ALEXANDER DALLAS BROOKS, Knight Commander of the Most Honourable Order of the Bath, Knight Commander of the Most Distinguished Order of Saint Michael and Saint George, Knight Commander of the Royal Victorian Order, Companion of the Distinguished Service Order, Governor of the State of Victoria and its Dependencies by and with the advice of the Executive Council thereof has caused this Grant to be sealed at Melbourne with the Seal of the said State.

Dallas Brooks



E63 (4) NOTE.—The bearings and measurements are approximately given in this plan. The measurements are in links.
1802/74

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CAVEAT No. 1851746 LODGED 10 NOV 1959

CAVEAT LAPSED - 5 JUN 1963

NORMAN EDWIN BATH Grazier and JESSIE McCLELLAN BATH Married Woman both of Glenbrae via Waubra are now JOINT PROPRIETORS Registered 23rd May 1963 No. B664057



PROPRIETOR
DAVID ROBERT CLARK
RMB 245 WAUBRA 3352

W106288E 17/06/99



THEODORE LEWIS HARRISON of Waubra Farmer is now the proprietor Registered 23rd May 1963 No. B664058



MORTGAGE

NATIONAL AUSTRALIA BANK LIMITED

MORTGAGE to THE NATIONAL BANK OF AUSTRALASIA LIMITED Registered 29th May 1963 No. B667559

DISCHARGED 27 FEB 1974



W106289B 17/06/99



STATE ELECTRICITY COMMISSION has pursuant to Section 57 of Transfer of Land Act served a Notification relating to the creation of an easement on 5 land herein. Dated 10 JUL 1968 Entered 10 JUL 1968 No. 123242

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CREATION OF EASEMENT

Registered 23rd May 1969 No. D399184



PROPRIETOR
CHRISTOPHER JOHN HARRISON
RMB 250 WAUBRA 3352



V716308J 28/10/98

DISCHARGED
W106287H
MORTGAGE
77 JUN 1999
NATIONAL AUSTRALIA BANK LIMITED



V716309F 28/10/98



T08180-130-1-7

V.8180 F.130

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T08180-130-2-5

Dr. Karin Schwab

From: William Loader <w.j.loader32@gmail.com>
Sent: Friday, 2 December 2022 9:32 PM
To: Dr. Karin Schwab
Subject: Re: 438 Lobbs Road, Glenbrae

Hi Karen.

The block in question was Owned by the Briody Family And stock run here would have been taken to the Homestead for shearing etc, I believe that no pollution would be on the block in question whilst in the position of the Briody Family.

Likewise the Baths were grazers and stock run by them would be taken to the house yards for shearing etc.

Theo and son Christopher Harrison did crop the block in question some thirty years ago using a limited amount of super phosphate I dont believe there would any chemical pollution in the soil at this stage.

The owner at present David Clark runs cattle, there being no yards on the block they are driven to the house yards with no pollution to the block in question..

Could you let me know if you received my brief report.

Kind Regards

Bill Loader.

On Fri, 25 Nov 2022 at 16:52, Dr. Karin Schwab <k.schwab@geopollution.com.au> wrote:

Hi Bill,

Can you give me an idea when you can come back to me please? I have a deadline on finishing my report.

Thanks & Regards

Karin Schwab

Dr Karin Schwab

Principal Environmental Scientist

GeoPollution Management Pty Ltd

17-20 Summer Lane, Ringwood Vic 3134

Email: k.schwab@geopollution.com.au

Phone: 613 9879 6618 Fax: 613 9879 6226 Mobile: 0418 582 690

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CATHODIC PROTECTION SYSTEM DATABASE SEARCH



Primary Search criteria: Address contains "438 Lobbs Road, Glenbrae"
Secondary Search criteria: None

CPS Reg Number	Address	Suburb	Structure Protected	Owner	Approved current output	Status	Type of system
----------------	---------	--------	---------------------	-------	-------------------------	--------	----------------

No record found

Disclaimer

Energy Safe Victoria provides Cathodic Protection system information in good faith, but cannot guarantee the completeness or accuracy of or validate the information provided. The Cathodic Protection (CP) database is a register of currently operating Cathodic Protection systems in Victoria and was established in 1970. The CP database is administered under the Electricity Safety Act 1998 and the Electricity Safety (Cathodic Protection) Regulations 2019. Some underground fuel tanks may not be listed in the CP database including: if the tank is not metallic (therefore not requiring CP); the tank is metallic but CP was not installed; the CP system was not registered, the CP was installed after 26 November 2019 after which galvanic anodes under 250mA were no longer required to be registered; or the CP system has been de-commissioned. If you believe underground tanks may be present and not shown on ESV's CP database you should conduct your own tests and investigations. ESV accepts no responsibility or liability for or arising from your use of, or reliance on, information obtained from the CPS database.

**** If a drawing of the CPS system is required, please contact the CPS Owner**

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ADVERTISED PLAN



Extract of EPA Priority Site Register

Page 1 of 2

**** Delivered by the LANDATA® System, Department of Environment, Land, Water & Planning ****

PROPERTY INQUIRY DETAILS:

STREET ADDRESS: 438 LOBBS ROAD

SUBURB: GLENBRAE

MUNICIPALITY: PYRENEES

MAP REFERENCES: Vicroads Eighth Edition, State Directory, Map 58 Reference A7
Vicroads Eighth Edition, State Directory, Map 58 Reference B7

DATE OF SEARCH: 29th November 2022

PRIORITY SITES REGISTER REPORT:

A search of the Priority Sites Register for the above map references, corresponding to the address given above, has indicated that this site is not listed on, and is not in the vicinity of a site listed on the Priority Sites Register at the above date.

IMPORTANT INFORMATION ABOUT THE PRIORITY SITES REGISTER:

You should be aware that the Priority Sites Register only lists those sites for which:

Priority Sites are sites for which EPA has issued a:

- Clean Up Notice pursuant to Section 122 of the Environment Protection Act 1970
- Pollution Abatement Notice pursuant to Section 31A or 31B (relevant to land and/or groundwater) of the Environment Protection Act 1970
- Environment Action Notice pursuant to Section 274 of the Environment Protection Act 2017
- Site Management Order (related to land and groundwater) pursuant to Section 275 of the Environment Protection Act 2017
- Improvement Notice (related to land and groundwater) pursuant to Section 271 of the Environment Protection Act 2017
- Prohibition Notices (related to land and groundwater) pursuant to Section 272 of the Environment Protection Act 2017 on the occupier or controller of the site to require active management of these sites, or where EPA believes it is in the community interest to be notified of a potential contaminated site and this cannot be communicated by any other legislative means. Sites are removed from the Priority Sites Register once all conditions of a Notice have been complied with.

The Priority Sites Register does not list all sites known to be contaminated in Victoria. A site should not be presumed to be free of contamination just because it does not appear on the Priority Sites Register. Persons intending to enter into property transactions should be aware that many properties may have been contaminated by past land uses and EPA may not be aware of the presence of contamination. EPA has published information advising of potential contaminating land uses. Council and other planning authorities hold information about previous land uses, and it is advisable that such sources of information should also be consulted.

[Extract of Priority Sites Register] # 67130419 - 67130419140828
'3426'



Extract of EPA Priority Site Register

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Environment Protection Authority Victoria
200 Victoria Street
Carlton VIC 3053
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APPENDIX D

TABULATED ANALYTICAL RESULTS

TABLE D1a: SOIL ANALYSIS RESULTS - Heavy Metals [mg/kg dry weight of soil] - against NEPM 2013 Guidelines

SAMPLE No.	DEPTH [m]	CONCENTRATION OF CONTAMINANTS												
		TOTAL HEAVY METALS												
		As	Cd	Cr	CrVI	Cu	Pb	Mo	Hg	Ni	Se	Sn	Ag	Zn

Guideline (Screening) Criteria

NEPM ESL Levels	20	3	ns	ns	100	600	3	1	60	1	50	ns	200
NEPM HIL A Levels	100	20	ns	ns	6,000	300	ns	40	400	200	ns	ns	7,400

Green Background: Concentration exceeds the adopted NEPM EIL level.

Light Orange Background: Concentration exceeds the adopted NEPM HIL A level.

Bold Font and Light Orange Background: Concentration exceeds the ESL and HIL Levels.

Proposed BESS Area

BS1-1	0.0-0.1	<4	<0.4	70	<1	4	6	<1	<0.1	5	<2	<1	<1	4
BS2-1	0.0-0.1	<4	<0.4	61	<1	3	6	<1	<0.1	4	<2	<1	<1	5
BS3-1	0.0-0.1	<4	<0.4	110	<1	4	4	<1	<0.1	7	<2	<1	<1	7
BS4-1	0.0-0.1	<4	<0.4	100	<1	4	4	<1	<0.1	8	<2	<1	<1	7
BS5-1	0.0-0.1	<4	<0.4	93	<1	6	5	<1	<0.1	9	<2	<1	<1	9
BS6-1	0.0-0.1	<4	<0.4	120	<1	6	6	<1	<0.1	8	<2	<1	<1	6
BS7-1	0.0-0.1	<4	<0.4	150	<1	6	6	<1	<0.1	13	<2	<1	<1	6
BS8-1	0.0-0.1	<4	<0.4	52	<1	3	10	<1	<0.1	5	<2	<1	<1	6
BS9-1	0.0-0.1	<4	<0.4	87	<1	6	14	<1	<0.1	9	<2	<1	<1	9
BS10-1	0.0-0.1	<4	<0.4	81	<1	5	9	<1	<0.1	8	<2	<1	<1	10

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Proposed Switchyard Area

SY1-1	0.0-0.1	<4	<0.4	120	<1	5	10	<1	<0.1	9	<2	<1	<1	6
SY2-1	0.0-0.1	<4	<0.4	96	<1	9	13	<1	<0.1	15	<2	<1	<1	13
SY3-1	0.0-0.1	<4	<0.4	85	<1	9	13	<1	<0.1	14	<2	<1	<1	11
SY4-1	0.0-0.1	<4	<0.4	91	<1	13	13	<1	<0.1	20	<2	<1	<1	14
SY5-1	0.0-0.1	<4	<0.4	110	<1	8	13	<1	<0.1	14	<2	<1	<1	13
SY6-1	0.0-0.1	<4	<0.4	83	<1	9	12	<1	<0.1	13	<2	<1	<1	10
SY7-1	0.0-0.1	<4	<0.4	95	<1	12	13	<1	<0.1	17	<2	<1	<1	14
SY8-1	0.0-0.1	<4	<0.4	110	<1	18	15	<1	<0.1	23	<2	<1	<1	14
SY9-1	0.0-0.1	<4	<0.4	93	<1	16	13	<1	<0.1	20	<2	<1	<1	16
SY10-1	0.0-0.1	<4	<0.4	75	<1	10	11	<1	<0.1	12	<2	<1	<1	10

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TABLE D1b: SOIL ANALYSIS RESULTS - Heavy Metals [mg/kg dry weight of soil] & pH - against EPA 1828.2 (2021) Waste Disposal Category Thresholds

SAMPLE No.	DEPTH [m]	pH	CONCENTRATION OF CONTAMINANTS										
			TOTAL HEAVY METALS										
			As	Cd	CrVI	Cu	Pb	Mo	Hg	Ni	Se	Sn	Ag

EPA Waste Categorization Threshold Limits

EPAV Fill Material Limits	>4 -<10	20	3	1	100	300	40	1	60	10	50	10	200
EPAV Category C Limits	<4, >10	500	100	500	5,000	1,500	1,000	75	3,000	50	500	180	35,000
EPAV Category B Limits	<2, >12.5	2,000	400	2,000	20,000	6,000	4,000	300	12,000	200	ns	720	140,000

Light Green Background: Concentration below the EPA Fill limit.

Orange Background: Concentration within the EPA Category B Waste Limit.

Light Yellow Background: Concentration within the EPA Category C waste limit.

Proposed BESS Area

BS1-1	0.0-0.1	6.0	<4	<0.4	<1	4	6	<1	<0.1	5	<2	<1	<1	4
BS2-1	0.0-0.1	5.4	<4	<0.4	<1	3	6	<1	<0.1	4	<2	<1	<1	5
BS3-1	0.0-0.1	6.8	<4	<0.4	<1	3	4	<1	<0.1	7	<2	<1	<1	7
BS4-1	0.0-0.1	6.6	<4	<0.4	<1	4	4	<1	<0.1	8	<2	<1	<1	7
BS5-1	0.0-0.1	6.1	<4	<0.4	<1	6	5	<1	<0.1	9	<2	<1	<1	9
BS6-1	0.0-0.1	4.8	<4	<0.4	<1	5	6	<1	<0.1	8	<2	<1	<1	6
BS7-1	0.0-0.1	5.1	<4	<0.4	<1	6	6	<1	<0.1	13	<2	<1	<1	6
BS8-1	0.0-0.1	6.5	<4	<0.4	<1	6	10	<1	<0.1	5	<2	<1	<1	6
BS9-1	0.0-0.1	6.7	<4	<0.4	<1	6	4	<1	<0.1	9	<2	<1	<1	9
BS10-1	0.0-0.1	6.5	<4	<0.4	<1	5	9	<1	<0.1	8	<2	<1	<1	10

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Proposed Switchyard Area

SY1-1	0.0-0.1	6.1	<4	<0.4	<1	5	10	<1	<0.1	9	<2	<1	<1	6
SY2-1	0.0-0.1	6.4	<4	<0.4	<1	9	13	<1	<0.1	15	<2	<1	<1	13
SY3-1	0.0-0.1	6.1	<4	<0.4	<1	9	13	<1	<0.1	14	<2	<1	<1	11
SY4-1	0.0-0.1	6.4	<4	<0.4	<1	13	13	<1	<0.1	20	<2	<1	<1	14
SY5-1	0.0-0.1	5.4	<4	<0.4	<1	8	13	<1	<0.1	14	<2	<1	<1	13
SY6-1	0.0-0.1	6.3	<4	<0.4	<1	9	12	<1	<0.1	13	<2	<1	<1	10
SY7-1	0.0-0.1	6.5	<4	<0.4	<1	12	13	<1	<0.1	17	<2	<1	<1	14
SY8-1	0.0-0.1	5.5	<4	<0.4	<1	18	15	<1	<0.1	23	<2	<1	<1	14
SY9-1	0.0-0.1	6.3	<4	<0.4	<1	16	13	<1	<0.1	20	<2	<1	<1	16
SY10-1	0.0-0.1	6.3	<4	<0.4	<1	10	11	<1	<0.1	12	<2	<1	<1	10

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TABLE D2a: SOIL ANALYSIS RESULTS (cont'd) - TRH's (TPH's) and MAH's [mg/kg dry weight of soil] - against NEPM 2013 Guidelines

Sample No.	Depth [m]	TOTAL RECOVERABLE HYDROCARBONS				Naphthalene	VOLATILE AROMATIC HYDROCARBONS				
		F1 C ₆ -C ₁₀	F2 >C ₁₀ -C ₁₆	F3 >C ₁₆ -C ₃₄	F4 >C ₃₄ -C ₄₀		Benzene	Toluene	Ethyl Benzene	Xylenes	Total MAH's

ASSESSMENT CRITERIA - Commercial/Industrial Land Use

Ecological Screening Levels	Coarse	215	170	1,700	3,300	ns	75	135	165	180	ns
	Fine	215	170	2,500	6,600	ns	95	135	185	95	ns

Health Investigation Levels (Vapour Intrusion) - Commercial/Industrial Land

Soil Type Sand	0 to <1m	260	NL	ns	ns	NL	3	NL	NL	230	ns
Soil Type Silt	0 to <1m	250	NL	ns	ns	NL	4	NL	NL	NL	ns
Soil Type Clay	0 to <1m	310	NL	ns	ns	NL	4	NL	NL	NL	ns

Proposed BESS Area

BS1-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS2-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS3-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS4-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS5-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS6-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS7-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS8-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS9-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
BS10-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5

Proposed Switchyard Area

SY1-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY2-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY3-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY4-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY5-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY6-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY7-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY8-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY9-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5
SY10-1	0.0-0.1	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3	<0.5

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TABLE D2b: TABULATED ANALYSIS RESULTS - TPH's & VOC (incl. MAH's/BTEX & Chlorinated Hydrocarbons) [mg/kg dry weight of soil]
 - against EPA 1828.2 (2021) Limits

SAMPLE No.	TOTAL PETROLEUM HYDROCARBONS					VOLATILE ORGANIC COMPOUNDS					
	C ₆ -C ₉	C ₁₀ -C ₁₄	C ₁₅ -C ₂₈	C ₂₉ -C ₃₆	Total >C ₉	Benzene	Toluene	Ethyl Benzene	Xylenes	Total MAH/BTEX [^]	Chlorinated Hydrocarbons

EPA Waste Classification Limits (Table 3 in 1828.2, 2021)

EPA Fill Limits	100	ns	ns	ns	1,000	1	ns	ns	ns	7	1
EPA Category C Limits	650	ns	ns	ns	10,000	4	3,200	1,200	2,400	ns	refer Guidelines
EPA Category B Limits	2,600	ns	ns	ns	40,000	16	12,800	4,800	9.6	ns	

Light Green Background: Concentration within EPA Fill Range.

Yellow Background: Concentration within Category C waste range.

Orange Background: Concentration within Category B waste range.

ns: not specified
 ND: not detected

Proposed BESS Area

BS1-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS2-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS3-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS4-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS5-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS6-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS7-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS8-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS9-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
BS10-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5

Proposed Switchyard Area

SY1-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY2-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY3-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY4-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY5-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY6-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY7-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY8-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY9-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5
SY10-1	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5

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TABLE D3: SOIL ANALYSIS RESULTS (cont'd) - Phenols, PAH's, OC Pesticides, PCB's, Cyanide & Fluoride [mg/kg dry weight of soil]

SAMPLE No.	Depth Interval Range [m]	Phenols		PAH's			OC Pesticides			PCB's		Cyanide (total)	Fluoride (total)
		Total Halogenated	Total Non-Halogenated	B(a)P	B(a)P TEQ ₃	Total	4,4'-DDD	4,4'-DDE	Total	Indiv.	Total		
NEPM Investigation Levels	EIL	ns	ns	0.7	ns	ns	ns	ns	1 ¹	ns	ns	ns	ns
	HIL A	3000	ns	1 ⁴	3	300	240 ⁵		ns	ns	1	250 ¹	ns

EPA Waste Classification Limits (EPA 1828.2, 2021)

EPAV Fill Material Limits	1	60	1	ns	20	ns	ns	1	ns	ns	50	450
EPAV Cat C Limits	refer Guideline	560	5	ns	100	2 ⁵		10	ns	ns	2500	10,000

Unshaded: Concentrations below NEMP (2020) Guideline Levels and EPA Fill Material Limits.

¹ Guideline level specified for Free Cyanide.

Proposed BESS Area

BS1-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<50
BS2-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<50
BS3-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	60
BS4-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	60
BS5-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	80
BS6-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	60
BS7-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	140
BS8-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	60
BS9-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	70
BS10-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	60

Proposed Switchyard Area

SY1-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	60
SY2-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	80
SY3-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	80
SY4-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	120
SY5-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	100
SY6-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	80
SY7-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	50
SY8-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	100
SY9-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	90
SY10-1	0.0-0.1	<1	<50	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	80

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APPENDIX E

CHAIN OF CUSTODY DOCUMENTATION



Job No:

34495

Date Received: 11/11/22
Time Received: 10:40am
Received By: AP
Temp: City Ambient
Cooling: Icepack
Security: Instruct Broken None

Hand delivered



CHAIN OF CUSTODY AND ANALYSIS REQUEST

Job No.:	ESA3426	Project:	Glenbrae	Laboratory:	EnviroLab
Request No.:	EL452	Date:	10/11/2022	Prepared by:	Dr K. Schwab
Turnaround:	STANDARD	Sample Collection Date:	09/11/2022		
Dispatch Date:	10/11/2022	Method:	Courier	Quote No.:	22M112
Requested by:	Dr K. Schwab	Date:	10/11/2022	Signature:	
Received by:	AP	Date:	11/11/22	Signature:	AP

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SAMPLE No.	Borehole ID	DEPTH (m)	Soil Jar / Bag	PARAMETERS REQUESTED
BS1-1	BS1	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS1-2		0.2-0.3	Soil Jar	please hold
BS2-1	BS2	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS2-2		0.1-0.2	Soil Jar	please hold
BS3-1	BS5	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS3-2		0.2-0.3	Soil Jar	please hold
BS4-1	BS4	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS4-2		0.2-0.3	Soil Jar	please hold
BS5-1	BS5	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS5-2		0.1-0.2	Soil Jar	please hold
BS6-1	BS6	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS6-2		0.1-0.2	Soil Jar	please hold
BS7-1	BS7	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS7-2		0.2-0.3	Soil Jar	please hold
BS8-1	BS8	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS8-2		0.2-0.3	Soil Jar	please hold
BS9-1	BS9	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS9-2		0.2-0.3	Soil Jar	please hold
BS10-1	BS10	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
BS10-2		0.1-0.2	Soil Jar	please hold

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CHAIN OF CUSTODY AND ANALYSIS REQUEST

Job No.:	ESA3426	Project:	Glenbrae	Laboratory:	EnviroLab
Request No.:	EL452	Date:	10/11/2022	Prepared by:	Dr K. Schwab
Turnaround:	STANDARD	Sample Collection Date:	09/11/2022		
Dispatch Date:	10/11/2022	Method:	Courier	Quote No.:	22M112
Requested by:	Dr K. Schwab	Date:	10/11/2022	Signature:	
Received by:	Wolsew	Date:	11/11/22	Signature:	W

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SAMPLE No.	Borehole ID	DEPTH (m)	Soil Jar / Bag	PARAMETERS REQUESTED
SY1-1	SY1	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY1-2		0.2-0.3	Soil Jar	please hold
SY2-1	SY2	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY2-2		0.1-0.2	Soil Jar	please hold
SY3-1	SY3	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY3-2		0.2-0.3	Soil Jar	please hold
SY4-1	SY4	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY4-2		0.1-0.2	Soil Jar	please hold
SY5-1	SY5	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY5-2		0.2-0.3	Soil Jar	please hold
SY6-1	SY6	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY6-2		0.1-0.2	Soil Jar	please hold
SY7-1	SY7	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY7-2		0.2-0.3	Soil Jar	please hold
SY8-1	SY8	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY8-2		0.1-0.2	Soil Jar	please hold
SY9-1	SY9	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY9-2		0.2-0.3	Soil Jar	please hold
SY10-1	SY10	0.0-0.1	Soil Jar	EPA1828.2 (Table 3) Screen
SY10-2		0.1-0.2	Soil Jar	please hold

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APPENDIX F

NATA ENDORSED ANALYTICAL REPORTS



CERTIFICATE OF ANALYSIS 34495

Client Details

Client	GeoPollution Management
Attention	Karin Schwab
Address	17-20 Summer Lane, Ringwood, VIC, 3134

Sample Details

Your Reference	<u>ESA3426 Glenbrae</u>
Number of Samples	40 Soil
Date samples received	11/11/2022
Date completed instructions received	11/11/2022

Analysis Details

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

Report Details

Date results requested by	18/11/2022
Date of Issue	18/11/2022

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Results Approved By

Chaminda Gunasekara, Inorganics Supervisor
Chris De Luca, Operations Manager
Tianna Milburn, Chemist

Authorised By

P. Adams

Pamela Adams, Laboratory Manager

VOCs in soil						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Vinyl Chloride	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-Dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
methylene chloride	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,2-dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
chloroform	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
carbon tetrachloride	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
trichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
tetrachloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
chlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
m+p-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
o-Xylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
styrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
hexachlorobutadiene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve MAHs	mg/kg	<7	<7	<7	<7	<7
Total +ve Chlorinated Hydrocarbons	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve Other Chlorinated Hydrocarbons	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate aaa-Trifluorotoluene	%	116	114	110	105	108
Surrogate Dibromofluoromethane	%	97	99	97	96	98
Surrogate Toluene-d8	%	97	100	98	99	99
Surrogate 4-Bromofluorobenzene	%	90	93	91	92	93

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VOCs in soil						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Vinyl Chloride	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-Dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
methylene chloride	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,2-dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
chloroform	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
carbon tetrachloride	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
trichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
tetrachloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
chlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
m+p-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
o-Xylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
styrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
hexachlorobutadiene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve MAHs	mg/kg	<7	<7	<7	<7	<7
Total +ve Chlorinated Hydrocarbons	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve Other Chlorinated Hydrocarbons	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate aaa-Trifluorotoluene	%	117	114	112	113	112
Surrogate Dibromofluoromethane	%	98	98	96	96	98
Surrogate Toluene-d8	%	100	100	98	100	100
Surrogate 4-Bromofluorobenzene	%	92	90	92	93	91

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VOCs in soil						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Vinyl Chloride	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-Dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
methylene chloride	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,2-dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
chloroform	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
carbon tetrachloride	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
trichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
tetrachloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
chlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
m+p-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
o-Xylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
styrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
hexachlorobutadiene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve MAHs	mg/kg	<7	<7	<7	<7	<7
Total +ve Chlorinated Hydrocarbons	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve Other Chlorinated Hydrocarbons	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate aaa-Trifluorotoluene	%	112	102	112	109	110
Surrogate Dibromofluoromethane	%	96	96	97	97	97
Surrogate Toluene-d8	%	99	98	99	99	99
Surrogate 4-Bromofluorobenzene	%	92	89	90	90	90

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VOCs in soil						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Vinyl Chloride	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-Dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
methylene chloride	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,2-dichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
chloroform	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
carbon tetrachloride	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
trichloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
tetrachloroethene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
chlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
m+p-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
o-Xylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
styrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
hexachlorobutadiene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve MAHs	mg/kg	<7	<7	<7	<7	<7
Total +ve Chlorinated Hydrocarbons	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve Other Chlorinated Hydrocarbons	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate aaa-Trifluorotoluene	%	110	113	112	110	114
Surrogate Dibromofluoromethane	%	96	98	97	99	97
Surrogate Toluene-d8	%	98	101	100	100	99
Surrogate 4-Bromofluorobenzene	%	89	91	89	90	91

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vTRH(C6-C10)/BTEXN in Soil						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
vTRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
vTRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total BTEX	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	111	110	105	101	104

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vTRH(C6-C10)/BTEXN in Soil						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
vTRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
vTRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total BTEX	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	113	110	107	108	108

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vTRH(C6-C10)/BTEXN in Soil						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
vTRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
vTRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total BTEX	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	107	98	107	105	105

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vTRH(C6-C10)/BTEXN in Soil						
Our Reference		34495-21	34495-23	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
vTRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
vTRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total BTEX	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	106	108	108	105	110

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TRH Soil C10-C40 NEPM						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	78	78	81	78	79

TRH Soil C10-C40 NEPM						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	15/11/2022	15/11/2022	15/11/2022
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	79	76	79	77	79

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TRH Soil C10-C40 NEPM						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	77	81	80	80	81

TRH Soil C10-C40 NEPM						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	81	81	80	80	81

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PAHs in Soil						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j&k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d ₁₄	%	86	86	88	84	88

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PAHs in Soil						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j&k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d ₁₄	%	88	86	84	88	86

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PAHs in Soil						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j&k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d ₁₄	%	86	86	86	86	84

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PAHs in Soil						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j&k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d ₁₄	%	84	86	86	86	84

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Speciated Phenols in Soil						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,6-Dichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,5-Trichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methyl-4,6-Dinitrophenol	mg/kg	<2	<2	<2	<2	<2
Pentachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,3,4,5-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2,3,5,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<20	<20	<20	<20	<20
Dinoseb	mg/kg	<5	<5	<5	<5	<5
Total +ve Phenols Halogenated	mg/kg	<1	<1	<1	<1	<1
Total +ve Phenols non-Halogenated	mg/kg	<50	<50	<50	<50	<50
Surrogate Phenol-d ₆	%	84	86	86	86	82
Surrogate 2-fluorophenol	%	82	82	84	82	82

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Speciated Phenols in Soil						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,6-Dichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,5-Trichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methyl-4,6-Dinitrophenol	mg/kg	<2	<2	<2	<2	<2
Pentachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,3,4,5-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2,3,5,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<20	<20	<20	<20	<20
Dinoseb	mg/kg	<5	<5	<5	<5	<5
Total +ve Phenols Halogenated	mg/kg	<1	<1	<1	<1	<1
Total +ve Phenols non-Halogenated	mg/kg	<50	<50	<50	<50	<50
Surrogate Phenol-d ₆	%	84	84	82	86	82
Surrogate 2-fluorophenol	%	82	82	80	84	80

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Speciated Phenols in Soil						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,6-Dichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,5-Trichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methyl-4,6-Dinitrophenol	mg/kg	<2	<2	<2	<2	<2
Pentachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,3,4,5-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2,3,5,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<20	<20	<20	<20	<20
Dinoseb	mg/kg	<5	<5	<5	<5	<5
Total +ve Phenols Halogenated	mg/kg	<1	<1	<1	<1	<1
Total +ve Phenols non-Halogenated	mg/kg	<50	<50	<50	<50	<50
Surrogate Phenol-d ₆	%	82	84	84	82	84
Surrogate 2-fluorophenol	%	80	82	80	80	80

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Speciated Phenols in Soil						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,6-Dichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,5-Trichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methyl-4,6-Dinitrophenol	mg/kg	<2	<2	<2	<2	<2
Pentachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,3,4,5-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2,3,5,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<20	<20	<20	<20	<20
Dinoseb	mg/kg	<5	<5	<5	<5	<5
Total +ve Phenols Halogenated	mg/kg	<1	<1	<1	<1	<1
Total +ve Phenols non-Halogenated	mg/kg	<50	<50	<50	<50	<50
Surrogate Phenol-d ₆	%	84	82	82	84	82
Surrogate 2-fluorophenol	%	82	76	78	78	80

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Organochlorine Pesticides in soil						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve Organochlorine Pesticides	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve report other OC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Tot +ve report Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve reported Aldrin + Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve reported DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-chlorophenol-d4	%	88	88	88	88	86

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Organochlorine Pesticides in soil						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve Organochlorine Pesticides	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve report other OC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Tot +ve report Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve reported Aldrin + Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve reported DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-chlorophenol-d4	%	88	88	86	90	86

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Organochlorine Pesticides in soil						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve Organochlorine Pesticides	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve report other OC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Tot +ve report Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve reported Aldrin + Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve reported DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-chlorophenol-d4	%	88	88	88	86	86

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Organochlorine Pesticides in soil						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve Organochlorine Pesticides	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve report other OC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Tot +ve report Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve reported Aldrin + Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve reported DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-chlorophenol-d4	%	88	84	86	86	86

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PCBs in Soil						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-fluorobiphenyl	%	86	86	84	84	82

PCBs in Soil						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-fluorobiphenyl	%	84	84	82	86	82

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PCBs in Soil						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-fluorobiphenyl	%	82	84	86	84	84

PCBs in Soil						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-fluorobiphenyl	%	84	82	84	84	84

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Metals in soil						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	70	61	110	100	93
Copper	mg/kg	4	3	3	4	6
Lead	mg/kg	6	6	4	4	5
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	<1	<1	<1	<1	<1
Nickel	mg/kg	5	4	7	8	9
Tin	mg/kg	<1	<1	<1	<1	<1
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Zinc	mg/kg	4	5	7	7	9

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Metals in soil						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	120	150	52	87	81
Copper	mg/kg	5	6	3	6	5
Lead	mg/kg	6	6	10	14	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	<1	<1	<1	<1	<1
Nickel	mg/kg	8	13	5	9	8
Tin	mg/kg	<1	<1	<1	<1	<1
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Zinc	mg/kg	6	6	6	9	10

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Metals in soil						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	120	96	85	91	110
Copper	mg/kg	5	9	9	13	8
Lead	mg/kg	10	13	13	13	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	<1	<1	<1	<1	<1
Nickel	mg/kg	9	15	14	20	14
Tin	mg/kg	<1	<1	<1	<1	<1
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Zinc	mg/kg	6	13	11	14	13

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Metals in soil						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	83	95	110	93	75
Copper	mg/kg	9	12	18	16	10
Lead	mg/kg	12	13	15	13	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	<1	<1	<1	<1	<1
Nickel	mg/kg	13	17	23	20	12
Tin	mg/kg	<1	<1	<1	<1	<1
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Zinc	mg/kg	10	14	14	16	10

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Miscellaneous Inorg - soil						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Total Cyanide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexavalent Chromium, Cr ⁶⁺	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	<50	<50	60	60	80
pH 1:5 soil:water	pH Units	6.0	5.4	6.8	6.6	6.1

Miscellaneous Inorg - soil						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Total Cyanide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexavalent Chromium, Cr ⁶⁺	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	60	140	60	70	60
pH 1:5 soil:water	pH Units	4.8	5.1	6.5	6.7	6.5

Miscellaneous Inorg - soil						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Total Cyanide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexavalent Chromium, Cr ⁶⁺	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	60	80	80	120	100
pH 1:5 soil:water	pH Units	6.1	6.4	6.1	6.4	5.4

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Miscellaneous Inorg - soil						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Total Cyanide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexavalent Chromium, Cr ⁶⁺	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	80	50	100	90	80
pH 1:5 soil:water	pH Units	6.3	6.5	5.5	6.3	6.3

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Moisture						
Our Reference		34495-1	34495-3	34495-5	34495-7	34495-9
Your Reference	UNITS	BS1-1	BS2-1	BS3-1	BS4-1	BS5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Moisture	%	16	17	21	34	22

Moisture						
Our Reference		34495-11	34495-13	34495-15	34495-17	34495-19
Your Reference	UNITS	BS6-1	BS7-1	BS8-1	BS9-1	BS10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Moisture	%	16	18	19	21	17

Moisture						
Our Reference		34495-21	34495-23	34495-25	34495-27	34495-29
Your Reference	UNITS	SY1-1	SY2-1	SY3-1	SY4-1	SY5-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Moisture	%	21	38	18	21	27

Moisture						
Our Reference		34495-31	34495-33	34495-35	34495-37	34495-39
Your Reference	UNITS	SY6-1	SY7-1	SY8-1	SY9-1	SY10-1
Depth		0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1
Date Sampled		09/11/2022	09/11/2022	09/11/2022	09/11/2022	09/11/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Date analysed	-	15/11/2022	15/11/2022	15/11/2022	15/11/2022	15/11/2022
Moisture	%	21	18	20	21	19

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Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105°C for a minimum of 12 hours.
Inorg-014	Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish). Solids/Filters and sorbents are extracted in a caustic media prior to analysis. Impingers are pH adjusted as required prior to analysis. Cyanides amenable to Chlorination - samples are analysed untreated and treated with hypochlorite to assess the potential for chlorination of cyanide forms. Based on APHA latest edition, 4500-CN_G,H. Please note:- i) The amenable to Chlorination test is only carried out for solids where the Total Cyanide result is >50mg/kg. The Category D/industrial waste upper limit for Total Concentrations of Cyanide (amenable) is 300mg/kg (Table 2, VIC EPA 1828.2 March 2021), the lower limit used (250mg/kg) is to accommodate analytical uncertainty. ii) The amenable to Chlorination test is only carried out for leachates where the Total Cyanide result is >1mg/L. The Category D/industrial waste upper limit for Leachable Concentrations of Cyanide (amenable) is 1.75mg/L (Table 2, VIC EPA 1828.2 March 2021), the lower limit used (1mg/L) is to accommodate analytical uncertainty
INORG-118	Hexavalent Chromium by Ion Chromatographic separation and colourimetric determination.
Inorg-138 or 026/53	Determination of Total Fluoride in solid samples by Combustion Ion Chromatography. Alternatively, Fluoride by caustic fusion and determined by ion selective electrode (ISE) analysis.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).

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Method ID	Methodology Summary
Org-021/022	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD or GC-MS. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Note, For OCs the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Note, the Total +ve Cresols or Phenols PQL is reflective of the lowest individual PQL and is therefore "Total +ve Cresols or Phenols" is simply a sum of the positive individual Cresols or Phenols.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

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QUALITY CONTROL: VOCs in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-1
Date extracted	-			14/11/2022	1	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Date analysed	-			14/11/2022	1	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Vinyl Chloride	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
methylene chloride	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
chloroform	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	79	80
1,1,1-trichloroethane	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	85	84
carbon tetrachloride	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	70	71
trichloroethene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	98	98
Toluene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
tetrachloroethene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	108	109
chlorobenzene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethylbenzene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
m+p-xylene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
o-Xylene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
styrene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	0.1	Org-023	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	123	1	116	113	3	117	111
Surrogate Dibromofluoromethane	%		Org-023	97	1	97	96	1	97	97
Surrogate Toluene-d ₈	%		Org-023	98	1	97	98	1	94	97
Surrogate 4-Bromofluorobenzene	%		Org-023	92	1	90	92	2	88	92

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QUALITY CONTROL: VOCs in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	14/11/2022	14/11/2022		[NT]	[NT]
Date analysed	-			[NT]	21	14/11/2022	14/11/2022		[NT]	[NT]
Vinyl Chloride	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
methylene chloride	mg/kg	0.5	Org-023	[NT]	21	<0.5	<0.5	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
chloroform	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,1,1-trichloroethane	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Benzene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
trichloroethene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Toluene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
tetrachloroethene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
chlorobenzene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Ethylbenzene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
m+p-xylene	mg/kg	0.2	Org-023	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
o-Xylene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
styrene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	0.1	Org-023	[NT]	21	<0.1	<0.1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	21	112	114	2	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	[NT]	21	96	97	1	[NT]	[NT]
Surrogate Toluene-d ₈	%		Org-023	[NT]	21	99	100	1	[NT]	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	[NT]	21	92	91	1	[NT]	[NT]

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QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-1
Date extracted	-			14/11/2022	1	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Date analysed	-			14/11/2022	1	14/11/2022	14/11/2022		14/11/2022	14/11/2022
vTRH C ₆ - C ₉	mg/kg	25	Org-023	<25	1	<25	<25	0	86	79
vTRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	1	<25	<25	0	86	79
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	78	71
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	96	88
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	85	80
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	85	79
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	84	78
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	118	1	111	109	2	118	107

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	21	14/11/2022	14/11/2022		[NT]	[NT]
Date analysed	-			[NT]	21	14/11/2022	14/11/2022		[NT]	[NT]
vTRH C ₆ - C ₉	mg/kg	25	Org-023	[NT]	21	<25	<25	0	[NT]	[NT]
vTRH C ₆ - C ₁₀	mg/kg	25	Org-023	[NT]	21	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	21	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	21	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	21	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	21	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	21	107	109	2	[NT]	[NT]

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QUALITY CONTROL: TRH Soil C10-C40 NEPM					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-3
Date extracted	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Date analysed	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	3	<50	<50	0	88	85
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	3	<100	<100	0	98	99
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	3	<100	<100	0	107	93
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	3	<50	<50	0	88	85
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	3	<100	<100	0	98	99
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	3	<100	<100	0	107	93
Surrogate o-Terphenyl	%		Org-020	82	3	78	78	0	71	73

QUALITY CONTROL: TRH Soil C10-C40 NEPM					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	23	14/11/2022	14/11/2022		[NT]	[NT]
Date analysed	-			[NT]	23	15/11/2022	15/11/2022		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	[NT]	23	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	[NT]	23	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	[NT]	23	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	[NT]	23	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	[NT]	23	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	[NT]	23	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	23	81	80	1	[NT]	[NT]

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QUALITY CONTROL: PAHs in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-3
Date extracted	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Date analysed	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Naphthalene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	94	96
Acenaphthylene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	98	102
Fluorene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	92	97
Phenanthrene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	108	114
Anthracene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	100	103
Pyrene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	102	107
Benzo(a)anthracene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	96	97
Benzo(b,j&k)fluoranthene	mg/kg	0.2	Org-022	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022	<0.05	3	<0.05	<0.05	0	106	107
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d ₁₄	%		Org-022	86	3	86	86	0	86	90

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QUALITY CONTROL: PAHs in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			14/11/2022	23	14/11/2022	14/11/2022		[NT]	[NT]
Date analysed	-			14/11/2022	23	14/11/2022	14/11/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j&k)fluoranthene	mg/kg	0.2	Org-022	[NT]	23	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022	[NT]	23	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d ₁₄	%		Org-022	[NT]	23	86	86	0	[NT]	[NT]

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QUALITY CONTROL: Speciated Phenols in Soil				Duplicate			Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-3
Date extracted	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Date analysed	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Phenol	mg/kg	0.2	Org-022	<0.2	3	<0.2	<0.2	0	88	96
2-Chlorophenol	mg/kg	0.2	Org-022	<0.2	3	<0.2	<0.2	0	84	90
2-Methylphenol	mg/kg	0.2	Org-022	<0.2	3	<0.2	<0.2	0	82	96
3/4-Methylphenol	mg/kg	0.4	Org-022	<0.4	3	<0.4	<0.4	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.05	Org-022	<0.05	3	<0.05	<0.05	0	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.05	Org-022	<0.05	3	<0.05	<0.05	0	92	97
2,4,5-Trichlorophenol	mg/kg	0.05	Org-022	<0.05	3	<0.05	<0.05	0	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.05	Org-022	<0.05	3	<0.05	<0.05	0	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022	<4	3	<4	<4	0	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022	<4	3	<4	<4	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
2-Methyl-4,6-Dinitrophenol	mg/kg	2	Org-022	<2	3	<2	<2	0	[NT]	[NT]
Pentachlorophenol	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	86	117
4-Chloro-3-Methylphenol	mg/kg	0.2	Org-022	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
2,3,4,5-Tetrachlorophenol	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
2,3,5,6-Tetrachlorophenol	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	20	Org-022	<20	3	<20	<20	0	[NT]	[NT]
Dinoseb	mg/kg	5	Org-022	<5	3	<5	<5	0	[NT]	[NT]
Surrogate Phenol-d ₆	%		Org-022	76	3	86	84	2	80	86
Surrogate 2-fluorophenol	%		Org-022	80	3	82	82	0	80	84

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QUALITY CONTROL: Speciated Phenols in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	23	14/11/2022	14/11/2022		[NT]	[NT]
Date analysed	-			[NT]	23	14/11/2022	14/11/2022		[NT]	[NT]
Phenol	mg/kg	0.2	Org-022	[NT]	23	<0.2	<0.2	0	[NT]	[NT]
2-Chlorophenol	mg/kg	0.2	Org-022	[NT]	23	<0.2	<0.2	0	[NT]	[NT]
2-Methylphenol	mg/kg	0.2	Org-022	[NT]	23	<0.2	<0.2	0	[NT]	[NT]
3/4-Methylphenol	mg/kg	0.4	Org-022	[NT]	23	<0.4	<0.4	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022	[NT]	23	<0.2	<0.2	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022	[NT]	23	<0.2	<0.2	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.05	Org-022	[NT]	23	<0.05	<0.05	0	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.05	Org-022	[NT]	23	<0.05	<0.05	0	[NT]	[NT]
2,4,5-Trichlorophenol	mg/kg	0.05	Org-022	[NT]	23	<0.05	<0.05	0	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.05	Org-022	[NT]	23	<0.05	<0.05	0	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022	[NT]	23	<4	<4	0	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022	[NT]	23	<4	<4	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
2-Methyl-4,6-Dinitrophenol	mg/kg	2	Org-022	[NT]	23	<2	<2	0	[NT]	[NT]
Pentachlorophenol	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
4-Chloro-3-Methylphenol	mg/kg	0.2	Org-022	[NT]	23	<0.2	<0.2	0	[NT]	[NT]
2,3,4,5-Tetrachlorophenol	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
2,3,5,6-Tetrachlorophenol	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	20	Org-022	[NT]	23	<20	<20	0	[NT]	[NT]
Dinoseb	mg/kg	5	Org-022	[NT]	23	<5	<5	0	[NT]	[NT]
Surrogate Phenol-d ₆	%		Org-022	[NT]	23	84	84	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022	[NT]	23	82	82	0	[NT]	[NT]

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QUALITY CONTROL: Organochlorine Pesticides in soil							Duplicate		Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-3
Date extracted	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Date analysed	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
alpha-BHC	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	106	112
Hexachlorobenzene	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	106	107
gamma-BHC	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	96	102
delta-BHC	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	100	102
Heptachlor Epoxide	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	114	117
gamma-Chlordane	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	100	103
alpha-chlordane	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	106	110
Dieldrin	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	100	106
Endrin	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	112	117
Endrin Aldehyde	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	102	110
Methoxychlor	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022	82	3	88	88	0	86	90

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QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	23	14/11/2022	14/11/2022		[NT]	[NT]
Date analysed	-			[NT]	23	14/11/2022	14/11/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Hexachlorobenzene	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022	[NT]	23	88	88	0	[NT]	[NT]

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QUALITY CONTROL: PCBs in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-3
Date extracted	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Date analysed	-			14/11/2022	3	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Aroclor 1016	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	116	116
Aroclor 1260	mg/kg	0.1	Org-022	<0.1	3	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022	82	3	86	86	0	86	86

QUALITY CONTROL: PCBs in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	23	14/11/2022	14/11/2022		[NT]	[NT]
Date analysed	-			[NT]	23	14/11/2022	14/11/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022	[NT]	23	84	84	0	[NT]	[NT]

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QUALITY CONTROL: Metals in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-5
Date digested	-			14/11/2022	5	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Date analysed	-			14/11/2022	5	14/11/2022	14/11/2022		14/11/2022	14/11/2022
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	5	<4	<4	0	95	70
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	5	<0.4	<0.4	0	93	74
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	5	110	110	0	96	74
Copper	mg/kg	1	Metals-020 ICP-AES	<1	5	3	3	0	89	83
Lead	mg/kg	1	Metals-020 ICP-AES	<1	5	4	4	0	94	70
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	5	<0.1	<0.1	0	88	112
Molybdenum	mg/kg	1	Metals-020 ICP-AES	<1	5	<1	<1	0	91	#
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	5	7	7	0	92	80
Tin	mg/kg	1	Metals-020 ICP-AES	<1	5	<1	<1	0	92	73
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	5	<2	<2	0	89	#
Silver	mg/kg	1	Metals-020 ICP-AES	<1	5	<1	<1	0	113	101
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	5	7	7	0	96	74

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QUALITY CONTROL: Metals in soil				Duplicate			Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date digested	-			[NT]	25	14/11/2022	14/11/2022		14/11/2022	[NT]
Date analysed	-			[NT]	25	14/11/2022	14/11/2022		14/11/2022	[NT]
Arsenic	mg/kg	4	Metals-020 ICP-AES	[NT]	25	<4	<4	0	100	[NT]
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	[NT]	25	<0.4	<0.4	0	94	[NT]
Chromium	mg/kg	1	Metals-020 ICP-AES	[NT]	25	85	110	26	97	[NT]
Copper	mg/kg	1	Metals-020 ICP-AES	[NT]	25	9	9	0	100	[NT]
Lead	mg/kg	1	Metals-020 ICP-AES	[NT]	25	13	14	7	98	[NT]
Mercury	mg/kg	0.1	Metals-021 CV-AAS	[NT]	25	<0.1	<0.1	0	112	[NT]
Molybdenum	mg/kg	1	Metals-020 ICP-AES	[NT]	25	<1	<1	0	95	[NT]
Nickel	mg/kg	1	Metals-020 ICP-AES	[NT]	25	14	13	7	96	[NT]
Tin	mg/kg	1	Metals-020 ICP-AES	[NT]	25	<1	<1	0	93	[NT]
Selenium	mg/kg	2	Metals-020 ICP-AES	[NT]	25	<2	<2	0	95	[NT]
Silver	mg/kg	1	Metals-020 ICP-AES	[NT]	25	<1	<1	0	106	[NT]
Zinc	mg/kg	1	Metals-020 ICP-AES	[NT]	25	11	11	0	97	[NT]

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QUALITY CONTROL: Miscellaneous Inorg - soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	34495-5
Date prepared	-			15/11/2022	5	15/11/2022	15/11/2022		15/11/2022	15/11/2022
Date analysed	-			15/11/2022	5	15/11/2022	15/11/2022		15/11/2022	15/11/2022
Total Cyanide	mg/kg	0.5	Inorg-014	<0.5	5	<0.5	<0.5	0	93	97
Hexavalent Chromium, Cr ⁶⁺	mg/kg	1	INORG-118	<1	5	<1	<1	0	101	#
Total Fluoride	mg/kg	50	Inorg-138 or 026/53	<50	5	60	70	15	96	#
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	5	6.8	6.8	0	99	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	27	15/11/2022	15/11/2022		[NT]	[NT]
Date analysed	-			[NT]	27	15/11/2022	15/11/2022		[NT]	[NT]
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	27	<0.5	<0.5	0	[NT]	[NT]
Hexavalent Chromium, Cr ⁶⁺	mg/kg	1	INORG-118	[NT]	27	<1	<1	0	[NT]	[NT]
Total Fluoride	mg/kg	50	Inorg-138 or 026/53	[NT]	27	120	100	18	[NT]	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	27	6.4	6.3	2	[NT]	[NT]

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Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

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Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

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

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

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Report Comments

METALS: # Low spike recovery was obtained for Molybdenum and Selenium for this sample. This is due to matrix interferences. However, an acceptable recovery was obtained for the LCS.

INORGS: # Low spike recovery was obtained for Hexavalent Chromium & Total Fluoride due to matrix interferences from the sample. However, an acceptable recovery was obtained for LCS both analytes.

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DATA QUALITY ASSESSMENT SUMMARY

Report Details	
EnviroLab Report Reference	34495
Client ID	GeoPollution Management
Project Reference	ESA3426 Glenbrae
Date Issued	18/11/2022

QC DATA

All laboratory QC data was within the EnviroLab Group's specifications except:

QC Specification Exceptions			
QC Type	Reference	Analysis	Comments
Spike Recovery %	34495-5	Hexavalent Chromium, Cr ⁶⁺	Fails internal acceptance criteria
Spike Recovery %	34495-5	Molybdenum	Fails internal acceptance criteria
Spike Recovery %	34495-5	Selenium	Fails internal acceptance criteria
Spike Recovery %	34495-5	Total Fluoride	Fails internal acceptance criteria

QC Comments	
METALS: # Low spike recovery was obtained for Molybdenum and Selenium for this sample. However, an acceptable recovery was obtained for the LCS.	This is due to matrix interferences.
INORGS: # Low spike recovery was obtained for Hexavalent Chromium & Total Fluoride due to matrix interferences from the sample. However, an acceptable recovery was obtained for LCS low analytes.	
See Report 34495-[R00] for QA/QC details	

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HOLDING TIME COMPLIANCE EVALUATION

All preservation / holding times (based on AS/ASPHA/ISO/NEPM/USEPA reference documents and standards) are compliant.

Certain analyses have had their recommended technical holding times elongated by filtering and/or freezing on receipt at the laboratory (e.g. BOD, chlorophyll/Pheophytin, nutrients and acid sulphate soil tests).

COMPLIANCE TO QC FREQUENCY (NEPM)

Internal laboratory QC rate complies with NEPM requirements (LCS/MB/MS 1 in 20, Duplicates 1 in 10 samples). Note, samples are batched together with other sample consignments in order to assign QC sample frequency.

QC Evaluation	
Duplicate(s) was performed as per NEPM frequency	✓
Laboratory Control Sample(s) were analysed with the samples received	✓
A Method Blank was performed with the samples received	✓
Matrix spike(s) was performed as per NEPM frequency (Not Applicable for Air samples)	✓

Refer to Certificate of Analysis for all Quality Control data.

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APPENDIX G

FIELD METHODS AND QUALITY ASSURANCE / QUALITY CONTROL

FIELD METHODS AND QUALITY ASSURANCE / QUALITY CONTROL

1. Drilling of Boreholes and Soil Sampling

Boreholes at the site were advanced using a hand auger. Samples were collected directly from the hand auger and immediately transferred into laboratory-precleaned glass sample jars.

No pavements were penetrated at any of the twenty soil bores. Upon termination of testing and sampling, each borehole was backfilled with spoil to surrounding surface levels.

All samples were collected as 'zero-headspace samples', i.e. the jars were filled to capacity leaving no or minimal air gaps (subject to soil consistency). They were sealed with a teflon-lined plastic screw cap in order to minimise oxidation, loss through evaporation and potential interference from plastic additives. Soil samples were labelled as shown below.

Sample Identification

Sample Number	Identification
<i>Proposed BESS Area</i>	
BS1-1 – BS10-1	BESS Area Boreholes No. 1 to No. 10 – Sampled on the 9 th November, 2022 - First Sample Collected
<i>Proposed Switchyard Area</i>	
SY1-1 – SY10-1	Switchyard Area Boreholes No. 1 to No. 10 – Sampled on the 9 th November, 2022 - First Sample Collected

2. Sample Dispatch and NATA Laboratory

Samples were cooled on ice following collection and during transport to our Ringwood office where they were refrigerated at 4 °C until dispatch on the next possible working day after completion of the sampling program. Sample dispatch followed chain of custody procedures. A copy of the combined chain of custody and analysis request form is attached as Appendix E. Samples not chosen for individual analysis were placed in storage by the laboratory for possible future analysis.

Chemical analysis was carried out on a standard turnaround by the NATA accredited analytical laboratory of EnviroLab Services, Croydon South (refer to Appendix F). Laboratory-internal quality control data (duplicates, blanks and spike, recovery, analyses) are included in the EnviroLab report. Further details on laboratory QA/QC are provided below.

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3. Internal Laboratory Quality Control

Internal laboratory quality control testing was performed as follows:

Duplicates	- 10% of all samples
Blanks	- 1 per batch of samples analysed
Spikes	- Duplicates with known spikes. Metals: Spike added to acid digest. Organic compounds: Spike added to soil prior to extraction.
Standards	- Instrument calibration standards as required by NATA.

Collection of field duplicate samples for external quality control checks was not required for the purpose of this initial investigation.

QA/QC procedures were adopted out to ensure that the data, as far as possible, were accurate, precise (repeatable and reproducible) and representative. The methods employed were in compliance with the National Environment Protection (*Assessment of Site Contamination*) Measure 2013 Schedule B (3) *Guideline on Laboratory Analysis of Potentially Contaminated Soils* (NEPC 2013). Surrogate recoveries are not considered in the following evaluation.

EnviroLab Report No. 34495-R00 and 34495-DQAS

Most matrix spike assays performed on laboratory control samples (LCS) yielded acceptable recoveries, i.e. most were within the laboratory's acceptance limits appropriate for the respective analytes (70 to 130% for inorganics/metals and pH, and 60-140% for organics and 30-160% for phenolics).

- Four recoveries (of molybdenum, selenium, hexavalent chromium and total Fluoride) fell short of the recommended minimum. The laboratory commented that acceptable recoveries were obtained for the laboratory control samples (LCS), indicating the likely cause to be matrix interferences.

All duplicate RPD's tests conducted showed variations below 30%,

None of the blank samples showed any detections.

4. Conclusions

Most spike recoveries, all duplicate variations and all blank analyses were in compliance with the QA/QC guidelines.

- The recovery shortfalls for four analytes are not considered to be of concern.

Subsequently, the soil data quality results are considered to adequately validate the routine results as being representative of true sample concentrations, the reported QA/QC non-compliance was not considered to be of concern for the data set. The data quality is deemed acceptable.

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