Appendix 14

Additional Site Investigation

eiaustralia

Contamination | Remediation | Geotechnical

CONCRETE RECYCLERS PTY LTD

Additional Site Investigation

7 Montore Road, Minto NSW

E24373.E03_Rev1
24 March, 2020

Document Control

Report Title: Additional Site Investigation

Report No: E24373.E03_Rev1

Copies	Recipient
1 Soft Copy (PDF – Secured, issued by email)	Anthony Males Concrete Recyclers Pty Ltd 14 Thackeray Street, CAMELLIA NSW 2142
2 Original (Saved to Digital Archives)	EI Australia Pty Ltd Suite 6.01, 55 Miller Street, PYRMONT NSW 2009

Author	Technical Reviewer
	
JOEL HEININGER **Environmental Engineer**	**WARWICK HAYES** **Environmental Scientist**

Revision	Details	Date	Amended By
0	Original	8 January, 2020	-
1	Minor amendments	24 March, 2020	JH

EXECUTIVE SUMMARY

Concrete Recyclers Pty Ltd engaged EI Australia Pty Ltd (EI) to conduct an Additional Site Investigation (ASI) of 7 Montore Road, Minto NSW ('the site'), in order to further characterise existing contamination.

The site is located within the Local Government Area of Campbelltown City Council. The land parcel is also identified as Lot 52 in Deposited Plan (DP) 618900, covering a total area of approximately 23,000m^2.

Objectives

This ASI was conducted in support of a State Significant Development Application, to allow redevelopment of the site into a resource recovery facility. The primary objectives were to:

- To delineate the contamination identified by previous site investigations, by means of additional intrusive sampling and laboratory analysis for relevant contaminants of concern; and
- Make recommendations for the appropriate management of any contaminated soils.

Findings

- The previous EIS (2018) site assessment identified friable asbestos-containing material (ACM) within fill at test pit TP14 in the southern portion of the site, while bonded ACM fragments were observed in surface soils at location SS01, as well as within two stockpiles identified as 'Northern Stockpile' and 'Central Stockpile' (both no longer present by the time of this ASI).
  - Information received from the client identified that the 'Central Stockpile' was removed from the site to an EPA licensed facility.
  - Areas where the 'Northern Stockpile' was previously identified were inaccessible during the investigation. EI assumed the majority of this stockpile had been flattened out across the site.
- Based on the soil sampling and analysis completed by EI for this ASI:
  - The sub-surface was comprised of a layer of anthropogenic filling (up to 1m below ground level (BGL)), overlying residual clays (and shale at depth).
  - Individual sample concentrations of heavy metals, polycyclic aromatic hydrocarbons, total recoverable hydrocarbons, the monocyclic aromatic hydrocarbons benzene, toluene, ethyl benzene and xylenes, pesticides and polychlorinated biphenyls all complied with the adopted soil investigation levels (SILs) applicable to commercial / industrial land use.
  - Asbestos was identified in (fill) samples from eight of the test pit locations, all of which were within the southern half of the site (TP107, TP114, TP115, TP118, TP123, TP125, TP305 and TP306). Except in the case of TP305_0.2-0.6, the concentrations of asbestos in these samples all exceeded the corresponding SIL.
  - The absence of ACM in stockpiles SP1 and SP2 indicated that these materials were *General Solid Waste* in accordance with the EPA (2014) *Waste Classification Guidelines*.
  - The asbestos contamination appeared to be limited to the southern half of the site. Areas of recommended remediation are delineated in **Figures A.3** and **A.4**.

Conclusions

Based on the findings of this ASI and with consideration of the Statement of Limitations (**Section 12**), EI concluded the ACM at the site posed a moderate to high risk to (future) human receptors. Remediation of the land was therefore necessary, in order for it to be suitable for the proposed (resource recovery facility) development.

Recommendations

The following recommendations are to be implemented, in order for the site to be made suitable for the proposed land use:

- Preparation of a Remedial Action Plan (RAP), the works for which could be integrated into the initial stages of the development. The scope of the RAP is to include:
  - Procedures for effective site clean-up;
  - A Sampling, Analytical and Quality Plan (SAQP) for the validation activities to be performed on-site;
  - Waste classification assessment of materials designated for off-site disposal (including stockpiles SP1 and SP2), in accordance with the EPA (2014) *Waste Classification Guidelines;*
  - Work health and safety matters, as well as environmental protection measures, and
  - A contingency plan to address unexpected finds.
- Preparation of an Asbestos Management Plan (AMP) for the site, to be implemented during site remediation and construction works; and
- Preparation of a final site validation report by a suitably qualified environmental consultant, certifying the suitability of site soils for the proposed (resource recovery facility) development.

TABLE OF CONTENTS

Schedule of Tables

Appendices

1. INTRODUCTION

1.1 Background and Purpose

Mr Anthony Males of Concrete Recyclers Pty Ltd engaged EI Australia Pty Ltd (EI) to conduct an Additional Site Investigation (ASI) of 7 Montore Road, Minto NSW ('the site'), in order to further characterise existing contamination.

As shown in **Figure A.1**, the site is located within the Local Government Area of Campbelltown City Council. The land parcel is also identified as Lot 52 in Deposited Plan (DP) 618900, covering a total area of approximately 23,000m^2, as depicted in **Figure A.2**.

This investigation was conducted in support of a State Significant Development Application to allow for redevelopment of the site. The purpose was to delineate the contamination identified by previous assessments and enable the developer to meet the requirements of *State Environmental Planning Policy 55 - Remediation of Land* (SEPP 55) and other obligations under the *Contaminated Land Management Act 1997* (CLM Act).

1.2 Proposed Development

The following development and survey plans were provided to assist in the writing of this report:

- Proposed Plans, prepared by Martens & Associates Pty Ltd, Project No: 1203464, Release No: R12, dated 2 March 2020; and
- Survey Plan, prepared by William L. Backhouse Pty Ltd, Project Ref: CH5241.001, dated 8 June, 2019.

It was understood that the proposed development involved the construction of a resource recovery facility, with an intended capacity of 450,000 tonnes of bricks, concrete and sand processed per annum. It included site offices, weighbridge and wheel wash facilities, feed concrete and stockpiles, concrete crushing plant, sand washing plant, pug mill, repair workshop, rain and stormwater tanks, an employee carpark and driveway and hardstand areas. Copies of the proposed development and site survey plans are presented in **Appendix C**.

1.3 Regulatory Framework

The following regulatory framework and guidelines were considered during the preparation of this report:

- *Contaminated Land Management Act 1997*;
- *Campbelltown Local Environmental Plan 2015*;
- *Campbelltown Development Control Plan 2015;*
- *State Environment Protection Policy 55 - Remediation of Land* (SEPP 55);
- EPA (1995) *Sampling Design Guidelines*;
- NEPC (2013) *Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater*;
- NEPC (2013) *Schedule B(2) Guideline on Site Characterisation*;
- OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites*; and
- WADOH (2009) *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*.

1.4 Project Objectives

The primary objectives of this investigation were to:

- To delineate the contamination identified by previous site investigations, by means of additional intrusive sampling and laboratory analysis for relevant contaminants of concern; and
- Make recommendations for the appropriate management of any contaminated soils.

1.5 Scope of Works

To achieve the above objectives, the following scope of works was completed:

1.5.1 Desktop Study

- Review of relevant topographical, geological, hydrogeological and soil landscape maps for the project area;
- Review all previous environmental reports relating to the site;
- Present a conceptual site model, based on the available information;
- Preparation of a Work, Health, Safety and Environmental Plan;
- Preparation of a fieldwork plan, including proposed test pit / bore (sampling) locations; and
- Review of *Dial-Before-You-Dig* (DBYD) and client-supplied plans, to predict the location of existing buried / underground services on-site.

1.5.2 Fieldwork and Laboratory Analysis

- A detailed site walkover inspection, performed in collaboration with a licensed services locator, whom utilised electro-magnetic equipment to search for buried services;
- Construction of test pits / boreholes at sixty (60) locations, distributed in a triangular grid pattern across the site;
- Soil sampling within fill soils at each of the locations; and
- Laboratory analysis of selected soil samples for the contaminants of potential concern (COPC).

1.6 Data Analysis and Reporting

This report documents the desk study findings of the ASI, including summaries of the previous assessments, the conceptual site model and data quality objectives. The report also provides a record of the observations made during the walkover inspection, sampling methodologies, borehole construction logs and a discussion of laboratory analytical results in regards to potential risks to human health, the environment and the aesthetic uses of the land.

2. SITE DESCRIPTION

2.1 Property Identification, Location and Physical Setting

The site identification details and associated information are presented in **Table 2-1**, while the site locality is shown in **Figure A.1**.

Table 2-1 Site Identification, Location and Zoning

Attribute	Description
Street Address	7 Montore Road, Minto NSW
Location Description	The site is located within the Minto Industrial Area. It was bound by existing industrial warehouses to the north, east and south, and a drainage easement containing Bow Bowing Creek (canal) to the west. The site itself was comprised of a storage facility in the northern half, leased by Coates Hire, with the southern half of the site unoccupied (and mostly vacant, with the exception of a dilapidated site shed and unused machinery). An access road ran down the eastern boundary of the site.
Site Coordinates	Northeast corner of site (GDA2020-MGA56) Easting: 300092.964 Northing: 6232263.541 (Source: http://maps.six.nsw.gov.au)
Site Area	Approximately 23,000m^2 (Source: http://maps.six.nsw.gov.au)
Lot and Deposited Plan (DP)	Lot 52 in DP 618900
State Survey Marks	Two State Survey (SS) marks are situated in proximity to the site: ▪ SS76002: 4m north of the site, in between the boundaries of the site and the neighbouring property; and ▪ PM33564: 40m south of the site, within the cul-de-sac of Pembury Road. (Source: http://maps.six.nsw.gov.au).
Local Government Authority	Campbelltown City Council
Parish	Minto
County	Cumberland
Current Zoning	IN1: General Industrial (*Campbelltown Local Environment Plan 2015*)

2.2 Surrounding Land Use

The site is situated within an area of industrial land use, as described in **Table 2-2**. The local sensitive receptors within close proximity to the site are also identified.

Table 2-2 Surrounding Land Uses

Direction	Land Use Description	Sensitive Receptors
North	Commercial / Industrial	Commercial / industrial buildings located to the north of the site.
South	Commercial / Industrial	Commercial / industrial buildings located to the south of the site.
East	Commercial / Industrial	Commercial / industrial buildings located to the east of the site.
West	Infrastructure (drainage easement) then commercial / industrial	Bow Bowing Creek, located within an easement approximately 30m west of the site boundary.

2.3 Regional Setting

Local topography, geology, soil landscape and hydrogeological information are summarised in **Table 2-3**.

Table 2-3 Regional Setting Information

Attribute	Description
Topography	The local topography is generally flat; however, strips of land along the northern, western and southern boundaries stepped down at approximately 0.5-1m. Area directly to the west of the site slopped downwards to Bow Bowing Creek, within the easement canal (being a bout 5m lower in elevation).
Site Drainage	Rainwater is expected to infiltrate directly into exposed soils. Surface runoff is expected to flow westerly, downslope towards Bow Bowing Creek.
Regional Geology	With reference to the 1:100 000 scale *Wollongong-Port Hacking Geological Series Sheet 9029-9129* (DMR, 1985), the site is underlain by two lithologies: ▪ Holocene and Pleistocene elements of fine-grained sands, silts and clays (*Qal*), potentially influenced from historical tributary lines of Bow Bowing Creek; and ▪ Laminite and dark grey siltstone comprised of Ashfield Shales from the Wianamatta Group (*Rwa*).
Soil Landscape	The Soil Conservation Service of NSW *Soil Landscapes of Penrith 1:100,000 Sheet* (Chapman and Murphy, 2002) indicates that the site overlies an interface between residual Blacktown (*bt*) and alluvial South Creek (sc) landscapes. The Blacktown landscape includes gently undulating rises on Wianamatta Group shales. Local relief up to 30 m, with slopes usually broad rounded crests and ridges, with gently inclined slopes. Soils are shallow to moderately deep, hard setting, mottled texture contrast soils, including red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and in drainage lines. The South Creek landscape includes floodplains, valley flats and drainage depressions of the channels on the Cumberland Plain. Usually flat with incised channels and mainly cleared. Soils are often very deep layered sediments over bedrock or relict soils. Where pedogenesis has occurred, structured plastic clays or structured loams occur in and immediately adjacent to drainage lines, red and yellow podzolic soils are most common terraces, with structured grey clays, leached clays and yellow solodic soils.

Attribute	Description
Acid Sulfate Soil (ASS) Risk	There was no ASS risk map pertaining to the site available through the Department of Land and Water Conservation. There was no ASS class map pertaining to the site available on the Campbelltown Local Environmental Plan 2015. it was concluded that the presence of ASSs on the site was low and that further related assessment was unwarranted.
Likelihood and Depth of Filling	Based on observations during previous intrusive investigations (EIS, 2018), fill materials were present on the site, the maximum depth being to 1.0m below ground level (BGL). The average depth was 0.4m BGL.
Typical Soil Profile	Anthropogenic fill, overlying alluvial and residual clays. Shale bedrock is inferred at depth.
Depth to Groundwater	Groundwater was not encountered during the previous investigations. Local groundwater was assumed to be reflective of the Bow Bowing Creek channel invert (approximately 5m BGL, or 39.3m AHD).
Nearest Surface Water Feature	Bow Bowing Creek, located approximately 30m west of the site. Bow Bowing Creek is a major tributary of Bunbury Curran Creek, which joins the Georges River approximately 10km north-east of the site.
Anticipated Groundwater Flow Direction	Groundwater is anticipated to flow west, towards Bow Bowing Creek.

2.4 Site Walkover Inspections

Site observations were recorded during walkover inspections on 18 September and 4 October, 2019. A summary of these observations is detailed below (see also **Figure A.2**). Photographs taken during the inspections are presented in **Appendix D**.

- The site was comprised of two distinct sections (halves). The northern half was a storage and maintenance yard, leased by Coates Hire (**Photographs 1**, **2** and **3**). The southern half was vacant land, with overgrown grasses (**Photographs 4** and **5**).
- An unsealed road ran along the eastern site boundary, linking the two portions of the property (**Photograph 6**).
- A shelter station for forklifts was present within the Coates Hire yard (**Photograph 7**).
- Medium-sized aggregate was present across large parts of the site surface, including the unsealed driveway (**Photographs 8** and **18**).
- Two soil stockpiles were present in the southern half of the site, with overgrown vegetation extruding from each:
  - Stockpile 1 (SP1; approximately 125m^3; **Photograph 9**); and
  - Stockpile 2 (SP2; approximately 250m^3; **Photograph 10**.
- A dilapidated shed was located in the southern half of the site (**Photograph 11**).
- An accumulation of old mattresses, gas canisters and general rubbish was present next to the shed in the southern half of the site (**Photograph 12**).
- Machinery, storage containers and truck tyres were present in the vicinity of the southern and south-eastern site boundaries (**Photographs 13** and **14**).

- The site appeared to have been raised for levelling purposes (i.e. filled, at least in part). This was most notable along the northern, western and southern boundaries, where a step down of 0.5-1m was evident (**Photographs 16** and **17**).
- Bow Bowing Creek was located approximately 30m west of the site, within a stormwater easement (**Photograph 19**). A stormwater pipe was inferred to run between the exterior northern boundary of the site through the alley (**Photograph 20**).
- No part of the site displayed any visual evidence of the presence of an underground petroleum storage system (UPSS). No underground storage tank (UST) was expected to be present.
- No chemical container of environmental significance was observed on the site during either of the inspections. No above-ground storage tank (AGST) was present.
- No suspicious (petroleum hydrocarbon, chlorinated solvent or hydrogen sulphide) odour was detected on the site during either of the inspections.

3. PREVIOUS INVESTIGATIONS

3.1 Available Documents

This ASI follows on from a previous site investigation, recorded under the following report:

- EIS (2018) *Stage 1 / Stage 2 Environmental Site Assessment; 7 Montore Road, Minto NSW 2566* (Environmental Investigation Services, Report Reference: E29448KrptRev1; dated 10 January 2018).

A summary of this investigation is provided in **Table 3-1**.

Table 3-1 Summary of Previous Investigation Works and Findings

Component	Project Tasks / Findings
Objectives	▪ To assess the potential for contamination at the site; and ▪ To provide recommendations on the need for further works, as necessary, to make the site suitable for the proposed development.
Scope of Works	▪ Undertake site history searches (title deeds, aerial photographs, NSW WorkCover/Dangerous Goods, council records review); ▪ Review available information relating to local geology and groundwater bores; ▪ A site inspection, to identify areas of environmental concern; ▪ Preparation of a Preliminary Conceptual Site Model; ▪ Design and implementation of a sampling, analysis and quality plan (SAQP); ▪ Interpretation of the analytical results against the adopted criteria; and ▪ Provide a preliminary waste classification for the off-site disposal of soil.
Key Findings	▪ The history review suggested the site had been used for a mixture of residential and commercial purposes from 1899 to the present day. Council records established that consent was granted for the erection of a waste recycling depot in 1989 and for the storage, processing, cutting and selling of railway sleepers, timber and firewood in 1998. ▪ A review of SafeWork NSW records did not identify any licences relating to the storage of dangerous goods. NSW EPA records indicated that the site was formerly regulated under the *POEO Act 1997* for waste storage, transfer, separating or processing. ▪ Laboratory analytical results for soil samples obtained from 33 test pits all complied with the adopted investigation levels applicable to commercial / industrial land use settings, except for benzo(a)pyrene in samples collected along the northern and eastern boundaries, which exceeded the corresponding ecological criterion. These exceedances were not considered to pose a significant risk in relation to the proposed (resource recovery facility) development, however. ▪ Matted (friable) asbestos material was identified within fill at test pit TP14. Bonded asbestos fragments were identified in surface soils from the southern portion of the site (SS01), as well as within the 'Northern Stockpile' and 'Central Stockpile'.
Conclusions and Recommendations	EIS considered the site could be made suitable for future industrial use, provided the following recommendations were implemented: ▪ Undertake a detailed soil investigation for asbestos; ▪ Prepare an Asbestos Management Plan (AMP) for future excavation works; and ▪ Prepare an Environmental Management Plan (EMP) for the ongoing management of the site during construction works.

3.2 Waste Disposal Information

EI was informed from the client that the 'Central Stockpile' identified in previous investigations (EIS, 2018), was removed from the site to an EPA licenced facility.

4. CONCEPTUAL SITE MODEL

In accordance with NEPC (2013*) Schedule B2 - Guideline on Site Characterisation* and to aid in the assessment of data collected for the site, EI developed a conceptual site model (CSM) as part of this investigation. The CSM assessed plausible linkages between potential contamination sources, migration pathways and receptors and identified data gaps in the existing site characterisation.

4.1 Per and Poly-Fluoroalkyl Substances (PFAS)

The EPA (2017) *Guidelines for the NSW Site Auditor Scheme* requires that PFAS are considered when assessing land contamination. EI used the following decision tree (**Table 4-1** below), which is based on EnRisk (2016) and the list of activities outlined in Appendix B of HEPA (2018), to determine the potential for PFAS being present on the site.

Table 4-1 PFAS Decision Tree

Preliminary Screening	Decision
Did fire training occur on-site?	No
Did fire training occur, or is an airport or fire station up-gradient of or adjacent to the site? [1]	No
Have "fuel" fires ever occurred on-site? (e.g. ignition of fuel (solvent, petrol, diesel, kerosene) tanks?)[2]	No
Have PFAS been used in manufacturing or stored on-site?[3]	No
If Yes to any questions, has site analytical suite been optimised to include preliminary sampling and testing for PFAS in soil (ASLP Testing) and water?	No

Note 1 Runoff from fire training areas may impact surface water, sediment and groundwater
Note 2 Unless specific fuel fires have been documented in historical information, it has been assumed that no fuel fires have occurred
Note 3 PFAS is used wide range of industrial processes and consumer products, including in the manufacture of non-stick cookware, specialised garments and textiles, Scotchguard™ and similar products (used to protect fabric, furniture, leather and carpets from oils and stains), metal plating and in some types of fire-fighting foam (https://www.nicnas.gov.au/chemical-information/factsheets/chemical-name/perfluorinated-chemicals-pfas)

4.2 Emerging Chemicals

The NSW EPA uses chemical control orders (CCOs) as a primary legislative tool under the *Environmentally Hazardous Chemicals Act 1985* to manage chemicals of concern and limit their potential impact on the environment. CCOs provide the EPA a rapid and flexible mechanism for responding to emerging chemical issues. As with PFAS compounds, EI considered chemicals controlled by CCOs for this ASI, as well as other potential emerging chemicals, as outlined in **Table 4-2** below.

Table 4-2 Emerging or Controlled Chemicals

Chemicals of Concern (CCO or emerging)	Decision
Were aluminium smelter wastes used or stored on-site (CCO, 1986)?	No
Do dioxin contaminated wastes (CCO, 1986) have the potential to impact the site?[1]	No
Were organotin products (CCO, 1989) used or stored on-site?[2]	No
Were polychlorinated biphenyls (PCBs) used or PCB wastes (CCO, 1997) stored on-site?[3]	Possible *(e.g. fill and fluorescent lights)*

Chemicals of Concern (CCO or emerging)	Decision
Were scheduled chemical or wastes (CCO, 2004) used or storedon-site?[4]	Possible *(e.g. organochlorine pesticides)*
Are other emerging chemicals suspected?[5]	No
If Yes to any questions, has site sampling suite been optimised to include specific sampling for other chemicals of concern in soil, air, and water	Yes

Note 1 From burning of certain chemicals, smelting or chemical manufacturing or fire on or near the site
Note 2 From anti-fouling paints used or removed at boat and ship yards and marinas
Note 3 From older transformer oils and electrical capacitors
Note 4 Twenty-four mostly organochlorine pesticides and industrial by-products
Note 5 Other chemicals considered as emerging (e.g. 1,4 dioxane, associated with some cVOCs)

4.3 Potential Contamination Sources

On the basis of the findings from the former (EIS, 2018) investigation, potential sources of site contamination were as follows:

- The importation of anthropogenic filling materials of unknown origin(s) for levelling or other purpose (including stockpiling);
- Impacts from uncontrolled demolition of historic site structures containing hazardous materials (e.g. asbestos-containing materials (ACM)); and
- Spills and leaks from parked vehicles and machinery.

4.4 Potential Sources, Exposure Pathways and Receptors

Potential contamination sources, exposure pathways and human and environmental receptors that were considered relevant for this CSM are summarised in **Table 4-3**, along with a qualitative assessment of the potential risks posed by complete exposure pathways.

4.5 Data Gaps

Based on the current CSM, the following data gaps were identified:

- Delineation of asbestos impacted fill at the site;
- Impact on soils from filling activities and spills / leaks from parked vehicles and machinery; and
- Quality of stockpiled fill soils (SP1 and SP2).

Note: The stockpiles identified in the EIS (2018) site assessment report as the 'Northern Stockpile' and 'Central Stockpile' (**Table 3-1**) were no longer present at the time of this ASI. The 'Central Stockpile' was removed from the site to an EPA licenced facility. The area where the 'Northern Stockpile' was previously noted was inaccessible during the investigation, and was assumed to have been partially flattened out across the site surface.

4.6 Summary of Potential Contamination

EI considered there was a high risk for contamination to be present on-site. The imported anthropogenic / heterogeneous fill was likely to have contained fragments of ACM in portions, and had been spread across the site during levelling. The use of the site as a storage and maintenance facility by Coates Hire also posed a potential risk for spills and leaks from parked vehicles and/or machinery to impact surface soils.

Table 4-3 Conceptual Site Model

Potential Sources	Impacted Media	Chemicals of Potential Concern	Transport mechanism	Exposure pathway	Potential receptor
Fill soils of unknown origin, including stockpiles Impacts from uncontrolled demolition of historic site structures Spills and leaks from parked vehicles	Soil	HM, TRH, BTEXN, PAH, OCP, OPP, PCB and asbestos	Disturbance of surface and subsurface soils during site redevelopment, future site maintenance and future use of the site post redevelopment	Ingestion Dermal contact Inhalation of dust particulates	Construction and maintenance workers End users of the site post redevelopment
			Atmospheric dispersion from soil to outdoor and indoor air spaces	Inhalation of dust particulates	
		F1 and F2 TRH and BTEXN	Volatilisation of contamination from soil and diffusion to indoor air spaces	Inhalation of vapours from impacted soil	

Note: HM = heavy metals, TRH = total recoverable hydrocarbons, BTEXN = benzene, toluene, ethylbenzene, xylenes and naphthalene, PAH = polycyclic aromatic hydrocarbons, OCP = organochlorine pesticides, OPP = organophosphate pesticides, PCB = polychlorinated biphenyls

5. SAMPLING, ANALYTICAL AND QUALITY PLAN (SAQP)

The SAQP ensures that the analytical data collected as part of the ASI are representative and provide a robust basis for site assessment decisions. This SAQP included the following:

- Data quality objectives, including a summary of the objectives of the ASI;
- Investigation methodology, including a description of intended sampling points, the media to be sampled and details of the parameters to be measured;
- Sampling procedures;
- Sample handling, preservation and storage;
- Field screening methods;
- Analysis methods; and
- Analytical quality assurance / quality control (QA/QC).

5.1 Data Quality Objectives (DQO)

In accordance with the USEPA (2006) *Data Quality Assessment* and the EPA (2017) *Guidelines for the NSW Site Auditor Scheme*, Data Quality Objectives (DQO) were established by the EI assessment team to determine the appropriate level of data quality needed for the specific requirements of the project. The DQO process that was applied for this ASI is documented in **Table 5-1**.

Table 5-1 Summary of Project Data Quality Objectives

DQO Steps	Details	Comments (changes during investigation)
1. State the Problem Summarise the contamination problem that will require new environmental data, and identify the resources available to resolve the problem; develop a conceptual site model.	The site located at 7 Montore Road, Minto NSW (approximately 23,000m^2) was comprised of a storage/maintenance facility in the northern half (leased by Coates Hire), while the southern half was vacant, except for a dilapidated site shed and unused machinery. An access road ran down the eastern boundary. The property was part of the Minto Industrial Area, bound by existing industrial warehouses to the north, east and south, with a drainage easement containing Bow Bowing Creek (canal) to the west. Review of the previous EIS (2018) environmental report identified asbestos (and benzo(α)pyrene) contamination in site fill soils, potentially contributed by the various sources listed in **Section 4.3**. This investigation was required to delineate the asbestos contamination, thereby enabling the developer to meet the obligations under the *Contaminated Land Management Act 1997*, in particular *State Environmental Planning Policy 55* (SEPP-55). The proposed redevelopment (**Section 1.2**) involved the construction of a resource recovery facility.	-
2. Identify the Goal of the Study (Identify the decisions) Identify the decisions that need to be made on the contamination problem and the new environmental data required to make them.	Based on the objectives outlined in **Section 1.4**, the decisions that needed to be made were: ▪ Has the nature, extent and source of any soil impacts on-site been defined? ▪ What impact do the site specific, geologic and hydrogeological conditions have on the fate and transport of any impacts that may be identified? ▪ Does the level of impact coupled with the fate and transport of identified contaminants represent an unacceptable risk to identified human and/or environmental receptors on- or off-site? ▪ Does the collected data provide sufficient information to allow the suitability of the site to be determined, or selection and design of an appropriate remedial strategy, if necessary? ▪ If the data does not provide sufficient information, what data gaps require closure to enable the suitability of the site to be determined, or selection and design of an appropriate remedial strategy?	-
3. Identify Information Inputs (Identify inputs to decision) Identify the information needed to support any decision and specify which inputs require new environmental measurements.	Inputs to the decision making process included: ▪ Proposed development plans and land use; ▪ Review of the previous environmental report; and ▪ Field observations and analysis of representative soil samples obtained from locations, and to depths, deemed appropriate to delineate onsite contamination and to evaluate the potential risks to sensitive receptors. At the end of the ASI, a decision had to be made regarding whether the environmental conditions were suitable for the proposed redevelopment, or if further investigations / remedial works were required to confirm site suitability.	-

DQO Steps	Details	Comments (changes during investigation)
4. Define the Boundaries of the Study Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision.	Lateral – The cadastral boundaries of the site. Vertical – From the existing ground level and locally deeper for footings and service trenches. Temporal – The results were valid on the day samples were collected and remain so as long as no changes occur in regards to site use, and contamination (if present) did not migrate onto the site from off-site sources.	-
5. Develop the Analytic Approach (Develop a decision rule) To define the parameter of interest, specify the action level, and integrate previous DQO outputs into a single statement that describes a logical basis for choosing from alternative actions.	Test results were accepted if: ▪ All contracted laboratories were accredited by NATA for the analyses undertaken; ▪ All laboratory analytical data were within pre-determined acceptance criteria, in accordance with laboratory QA/QC policies and DQIs; ▪ QC results demonstrated acceptable reliability, representativeness, precision and accuracy; and ▪ Laboratory practical quantitation limits (PQL) were below the adopted assessment criteria for the tested analytes. The decision rules for the investigation were: ▪ If the concentrations of contaminants in the soil exceed the health-based and/or ecological investigation / screening criteria applicable to the intended land use, then assess the need to further investigate the extent of impacts onsite; ▪ If the concentrations of contaminants in the soil are below the health-based and/or ecological investigation / screening criteria applicable to the intended land use, then the site will be deemed suitable for the proposed development. Decision criteria for QA/QC measures are defined by the Data Quality Indicators (DQI) in **Table 5-2.**	-
6. Specify Performance or Acceptance Criteria (Specify limits on decision errors) Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data.	Specific limits for this project were in accordance with National and NSW EPA guidance, as well as appropriate indicators of data quality and standard procedures for field sampling and handling. The null hypothesis for the investigation was that the 95% Upper Confidence Limit (UCL) of the mean for each contaminant of concern exceeded relevant commercial / industrial land use criteria across the site. The acceptance of the site as being suitable for the proposed development was based on the probability that: ‣ The 95% UCL of the mean of the data satisfied the given site criterion (and therefore, a limit on the decision error was 5% that a conclusive statement was incorrect); ‣ The standard deviation of the results was less than 50% of the corresponding assessment criterion; and ‣ No single result exceeded the corresponding assessment criterion by 250% or more. Soil concentrations for chemicals of concern that were below assessment criteria made or approved by the NSW EPA were treated as acceptable and indicative of suitability for the proposed land use(s). If contaminant concentrations in soil exceeded the adopted assessment criteria, further investigation was considered prudent. If no contamination was detected, no further action was required.	-

DQO Steps	Details	Comments (changes during investigation)
7. Develop the Detailed Plan for Obtaining Data (Optimise the design for obtaining data) Identify the most resource-effective sampling and analysis design for general data that are expected to satisfy the DQOs.	The most resource-effective sampling and analysis design for general data was as follows: ▪ Sixty (60) sampling locations were proposed, using a triangular grid pattern across accessible areas of the site. ▪ One fill sample from each location was to be analysed for asbestos quantification (%w/w). ▪ An upper soil profile sample was to be collected at each location, with twenty (20) discrete soils samples tested for chemicals of concern, to further assess the conditions of the fill layer across the site, and impacts from commercial activities at ground level. Samples were selected based on field observations (including visual and olfactory evidence, as well as soil vapour screening in headspace samples), whilst giving consideration to characterise the subsurface soil stratigraphy. ▪ Written instructions were issued to guide field personnel in the required fieldwork activities. ▪ Field screening for VOC contamination was carried out on soil headspace samples using a portable Photo-Ionisation Detector (PID). ▪ Representative soil samples were laboratory analysed to allow characterisation of soils. ▪ Review of the results was undertaken to determine if further sampling was warranted. Such was considered warranted where soil concentrations exceeded the assessment criteria relevant to the proposed land use(s).	72 sampling locations were ultimately selected, based on site conditions. Some of this 'extra' sampling was directed to the two stockpiles in the southern half of the site (SP1 and SP2).

5.2 Data Quality Indicators

To ensure that the ASI data were of an acceptable quality, they were assessed against the data quality indicators (DQI) outlined in **Table 5-2**. The overall assessment of data quality is discussed in **Section 7** and **Appendix I**.

Table 5-2 Summary of Project Data Quality Indicators

QA/QC Measures (PARC)	Data Quality Indicators
Precision – A quantitative measure of the variability (or reproducibility) of data	Data precision was assessed by reviewing the performance of blind field (intra-laboratory) duplicate sample sets, through calculation of relative percentage differences (RPD). Data precision was deemed acceptable if RPDs were less than 30%. RPDs that exceed this range were considered acceptable where: ▪ Results were less than 10 times the limit of reporting (LOR); ▪ Results were less than 20 times the LOR and the RPD was less than 50%; or ▪ Heterogeneous materials or volatile compounds were encountered.
Accuracy – A quantitative measure of the closeness of reported data to the "true" value	Data accuracy was assessed through the analysis of: ▪ Method blanks, analysed for the analytes targeted in the primary samples; ▪ Matrix spike and matrix spike duplicate sample sets; ▪ Laboratory control / standard reference samples; and ▪ Split field (inter-laboratory) duplicate sample sets.
Representativeness – The confidence (expressed qualitatively) that data are representative of each medium present onsite	To ensure the data produced by the laboratory was representative of conditions encountered in the field, the following were perfomed: ▪ Blank samples were run in parallel with field samples, to confirm there were no unacceptable instances of laboratory artefacts; ▪ Review of RPD values for field and laboratory duplicates, to provide an indication that the samples were generally homogeneous, with no unacceptable instances of significant sample matrix heterogeneities; and ▪ The appropriateness of collection methodologies, including handling, storage and preservation techniques, was assessed to confirm there was minimal opportunity for sample interference or degradation (i.e. volatile loss during transport due to incorrect preservation / transport methods).
Completeness – A measure of the amount of useable data from a data collection activity	Analytical data sets acquired during the ASI were evaluated as complete upon confirmation that: ▪ Standard operating procedures (SOPs) for sampling protocols were adhered to; and ▪ Copies of all COC documentation were presented, reviewed and found to be properly completed. It could therefore be considered whether the proportion of "useable data" generated was sufficient for the purposes of the land use assessment.
Comparability – The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event	Given that the reported data set comprised several (separate) sampling episodes, issues of comparability were reduced through adherence to SOPs and regulator-endorsed or published guidelines and standards. In addition, the data were 'collected' by experienced samplers and NATA-accredited laboratory methodologies were employed in all laboratory testing programs.

6. METHODOLOGY

6.1 Sampling Rationale

With reference to the CSM described in **Section 4**, the sampling component of this ASI was initially planned in accordance with the following rationale:

- Sampling soils from sixty (60) test pits / boreholes, distributed on a triangular grid across the site which complemented the previous EIS (2018) pattern, to further characterise and delineate contamination within *in situ* fill soils; and
- Laboratory analysis of representative soil samples for the identified contaminants of concern (asbestos, in particular).

In practice, 72 sampling locations were ultimately selected, based on conditions at the time of the field works, most significantly the presence of the two stockpiles (SP1 and SP2) in the southern half of the site.

6.2 Assessment Criteria

The soil assessment criteria adopted for this ASI are outlined in **Table 6-1**. These were selected from published guidelines that are endorsed by national and state regulatory authorities, with due consideration of the exposure scenario that was expected for the developed site, as well as the potential receptors.

The criteria are hereafter referred to as the Soil Investigation Levels (SILs). SILs are presented alongside the analytical results in the corresponding summary tables, which are discussed in **Section 8**.

Table 6-1 Adopted Investigation Levels for Soil

Source	Specific Criteria (based on Exposure Scenario and Potential Receptors)
NEPC (2013) soil HILs, HSLs, EILs, ESLs and Management Limits for TRHs	**Health-based Investigation Levels (HILs)** Sample results were assessed against the NEPC (2013) *HIL-D* thresholds for commercial/industrial sites, consisting of single or multi-storey buildings supported by ground-level slabs. **Health-based Screening Levels (HSLs)** The NEPC (2013) *HSL-D* thresholds for vapour intrusion on commercial/industrial sites were applied to assess potential impacts from residual petroleum hydrocarbon, BTEX and naphthalene vapours. Soil asbestos results were assessed against the NEPC (2013) *HSLs* for "all forms of asbestos", which are derived from WADOH (2009). **Ecological Investigation Levels (EILs)** Sample results were assessed against the NEPC (2013) EILs for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene, which apply to the protection of terrestrial ecosystems. **Ecological Screening Levels (ESLs)** Sample results were assessed against the NEPC (2013) ESLs for selected petroleum hydrocarbons and TRH fractions, which apply to the protection of terrestrial ecosystems. **Management Limits for Petroleum Hydrocarbons** Where the HSLs were exceeded for petroleum hydrocarbons, the corresponding sample results were assessed against the NEPC (2013) *Management Limits* for the F1-F4 TRH fractions to assess propensity for phase-separated hydrocarbons (PSH), fire and explosive hazards and adverse effects on buried infrastructure.

6.3 Soil Sampling Procedures

Soil sampling works conducted at the site by EI are described in **Table 6-2**. Test pit / bore locations are illustrated in **Figures A.3** and **A.4**, which include the EIS (2018) sampling points.

Table 6-2 Summary of Soil Investigation Methodology

Activity/Item	Details
Fieldwork	Intrusive soil investigation (profiling) and sampling were conducted on 4 October and 14 November, 2019.
Profiling Methods	Test pits TP101-TP125 and TP301-TP314 were constructed using a 15 tonne excavator. Test bores BH226-BH258 were constructed using a ute-mounted drill rig, fitted with solid flight augers. Test pit and borehole details are presented in the logs attached as **Appendix E**. Stockpiles SP1 and SP2 sampled using manual techniques.
Soil Logging	Soil samples were classified in the field with respect to lithological characteristics and evaluated on a qualitative basis for odour and visual signs of contamination. Soil classifications and descriptions were based on the Unified Soil Classification System (USCS) and Australian Standard (AS) 4482.1-2005. Refer to the logs presented in **Appendix E**, as well as **Table B.1** in **Appendix B**.
Field Observations	Observations recorded during the site walkover inspections are described in **Section 2.4** and **Appendix D**. Refer also to **Section 8.1** for additional comments. Photographs of individual test pits are attached to the logs, presented in **Appendix E**.
Soil Sampling	Bulk samples for asbestos analysis were prepared in-field using the following protocol: ▪ Approximately 10 litres (L) of soil from the indicated depth was collected into a plastic (HDPE) bulk bag. Soil characteristics were recorded (constituents, grain size, etc.). ▪ The sample bags were sent to the primary laboratory for friable asbestos / asbestos fines and bonded asbestos analyses, adopting 0.001% w/w and 0.01% w/w detection limits, respectively. All other samples were collected from either exposed fill, or directly from the excavator bucket / drill auger, by grab methods (wearing dedicated nitrile gloves) and placed into laboratory-supplied, acid-washed, solvent-rinsed glass jars. To minimise the loss of volatile contaminants while sampling, disturbance of soil was avoided as much as possible. The glass jars were placed adjacent to the soils which were to be collected and the material was taken in one swift movement. All sampling jars were entirely filled, to reduce headspace and minimise the loss of volatile compounds. Blind and split field duplicates were separated from the primary samples and placed into dedicated glass jars. A small aliquot was placed into a plastic (HDPE) zip-lock bag for in-field screening of the headspace for VOC using a Photo-ionisation Detector (PID).
Decontamination Procedures	*Drilling Equipment* - The drilling rods were decontaminated between sampling locations with potable water until the augers were free of all residual materials. *Sampling Equipment* - The sampling trowel, shovel and mixing bowl were decontaminated between locations by scrubbing with *Decon 90* and potable water until free of all residual materials.
Sample Preservation and Transport	Samples were stored in chilled (ice brick-containing) chests, whilst on-site and in transit to the laboratories. Sample transport was performed under strict chain-of-custody (COC) conditions. Copies of the completed COC and laboratory sample receipt advice (SRA) forms are provided in **Appendix G**.
Management of Soil Cuttings / Spoil	Soil cuttings and spoil were used as backfill for completed boreholes and test pits.

Activity/Item	Details
Quality Control and Laboratory Analysis	Selected soil samples were analysed by the primary laboratory, SGS Australia Pty Ltd (SGS), for the identified COPC. Field QC comprised intra-laboratory ('blind') field duplicates tested by SGS and inter-laboratory ('split') field duplicates tested by a second (independent) laboratory, Envirolab Services Pty Ltd (Envirolab). Other field QC measures included a rinsate blank, a laboratory-prepared trip spike soil sample and a laratory-prepared trip blank soil sample.
Soil Vapour Screening	No suspicious (petroleum hydrocarbon / chlorinated solvent) odour was detected in any of the examined soils. PID measurements were all low - ranging from 0.1-0.9 ppm (**Appendix E**) - consistent with the non-detection of any odour.

7. DATA QUALITY ASSESSMENT

The assessment of data quality is defined as the scientific and statistical evaluation of environmental data to determine if they meet the objectives for the project (US EPA, 2006).

For this ASI, data quality assessment included an evaluation of the compliance of the field and laboratory procedures, and an assessment of the accuracy and precision of the generated data from various quality control (QC) measures. The Quality Assurance (QA) process for the investigation is summarised in **Table 7-1**. The QA/QC assessment is discussed in more detail in **Appendix I**.

Table 7-1 Quality Assurance Process

Stage	QA/QC Measure	Conformance [Yes, Part, No]	Report Section(s)
Preliminaries	Data Quality Objectives established	Yes	See **Section 5**
Field work	Suitable documentation of fieldwork observations, including borehole logs, field notes.	Yes	See **Section 2.4** and **Appendix E**
Sampling Plan	Use of relevant and appropriate sampling plan (density, type, and location)	Yes	See sample rationale
	All media sampled and duplicates collected	Yes	See **Table B.1** and **Appendix I**
	Use of approved and appropriate sampling methods (soil, groundwater, soil vapour)	Yes	See **Section 6**
	Selection of soil samples according to field PID readings (where VOCs are present)	Yes	See **Section 6**
	Preservation and storage of samples upon collection and during transport to the laboratory	Yes	See **Section 6**
	Appropriate rinsate and trip blanks, trip spike and blind / split duplicates taken	Yes	See **Appendix I**
	Completed field and analytical laboratory sample COC procedures and documentation	Yes	See **Appendix G** and **Appendix H**
Laboratory	Sample holding times within acceptable limits	Part	See **Appendices H-J**
	Use of appropriate analytical procedures and NATA-accredited laboratories	Yes	See **Appendices H-J**
	LOR/PQL low enough to meet adopted criteria	Yes	See **Appendices H-J**
	Laboratory blanks	Yes	See **Appendices H-J**
	Laboratory duplicates	Yes	See **Appendices H-J**
	Matrix spike/matrix spike duplicates (MS/MSDs)	Part	See **Appendices H-J**
	Surrogates (or System Monitoring Compounds)	Yes	See **Appendices H-J**
	Analytical results for replicated samples, including field (intra- / inter-) and laboratory duplicates expressed as RPD	Yes	See **Appendices H-J**

Stage	QA/QC Measure	Conformance [Yes, Part, No]	Report Section(s)
	Checking for the occurrence of apparently unusual or anomalous results (e.g. laboratory results that appear to be inconsistent with field observations or measurements)	Yes	See **Appendix E** and **Appendix H**
Reporting	Report reviewed by senior staff to assess project meets desired quality, EPA guidelines and project outcomes.	Yes	See Report Distribution page at front of report.

On the basis of this assessment, the overall quality of the analytical data was considered to be of an acceptable standard for interpretive use and preparation of a conceptual site model (CSM).

8. RESULTS

8.1 Soil Investigation Results

8.1.1 Site Sub-Surface Conditions

Based on the logs for the investigative test pits and boreholes (**Table 2-3** and **Appendix E**), the general site lithology was described as a layer of anthropogenic filling (up to 1m BGL), overlying residual clays. Shale bedrock was assumed to be encountered at depth.

Fragments of bonded fibre cement sheeting (FCS) were observed within the shallow fill at EI test pits TP115 and TP125 (**Appendix D, Photograph 15**). During the EIS (2018) site assessment, matted (friable) asbestos material was identified within the fill at test pit TP14, while bonded asbestos fragments were observed in surface soils from the southern portion of the site (SS01), as well as within the soils comprising two stockpiles, identified as 'Northern Stockpile' and 'Central Stockpile' (both no longer present by the time of this ASI).

8.1.2 Stockpile Observations

At the time of this ASI, soil stockpiles SP1 and SP2 were present in the southern half of the site, with vegetation extruding from each (**Section 2.4** and **Appendix D**). Samples were obtained from both stockpiles for chemical analysis (SP1: SP1-1 and SP1-2; SP2: SP2-1, SP2-2 and SP2-3). The materials comprising these stockpiles were described as follows:

- Stockpile 1 (SP1):
  - FILL: Sandy CLAY; brown, low to medium plasticity clays, fine to medium grained sands, some fine to coarse, sub-angular to angular gravels (including shale gravel), fragments of ceramics, brick, soft and hard plastics evident, plant root fibres, moist, no odour.
- Stockpile 2 (SP2):
  - FILL: Sandy CLAY; brown, low to medium plasticity clays, fine to medium grained sands, some fine to coarse, sub-angular to angular gravels (including shale gravel), fragments of ceramics, brick, metal and hard plastics evident, plant root fibres and fine branches / twigs, moist, no odour.

8.2 Laboratory Analytical Results

A summary of the laboratory results, showing test sample quantities, minimum/maximum analyte concentrations and samples found to exceed the SILs, is presented in **Table 8-1**. More detailed tabulation, with analyte concentrations for individual samples alongside the adopted SILs, is presented in **Appendix B, Table B.2** at the end of this report.

Table 8-1 Summary of Soil Analytical Results

Number of Primary Samples	Analyte	Minimum Concentration	Maximum Concentration	Samples Exceeding SIL
Heavy Metals (mg/kg)				
25	Arsenic	2	6	None
25	Cadmium	<0.3	<0.3	None
25	Chromium	5.3	12	None
25	Copper	6.2	43	None

Number of Primary Samples	Analyte	Minimum Concentration	Maximum Concentration	Samples Exceeding SIL
25	Lead	4	45	None
25	Mercury	<0.05	<0.05	None
25	Nickel	4.6	16	None
25	Zinc	13	95	None
PAHs (mg/kg)				
25	Naphthalene	<0.1	<0.1	None
25	Benzo(a)pyrene	<0.1	7.1	None
25	Carcinogenic PAHs (as B(a)P TEQ)	<0.3	10	None
25	Total PAHs	<0.8	72	None
BTEX (mg/kg)				
25	Benzene	<0.1	<0.1	None
25	Toluene	<0.1	<0.1	None
25	Ethyl benzene	<0.1	<0.1	None
25	Xylenes (total)	<0.3	<0.3	None
TRHs (mg/kg)				
25	C_6-C_{10} F1	<25	<25	None
25	>C_{10}-C_{16} F2	<25	<25	None
25	>C_{16}-C_{34} F3	<90	970	None
25	>C_{34}-C_{40} F4	<120	1,200	None
Pesticides (mg/kg)				
25	OCPs	<1	<1	None
25	OPPs	<1.7	<1.7	None
PCBs (mg/kg)				
25	Total PCBs	<1	<1	None
Asbestos (%w/w)				
76	Bonded asbestos (>7mm ACM)	<0.01	2.4	TP118_0.4-0.8 (0.99% w/w) TP125_0.2-0.5 (2.4% w/w) TP306_0.2-0.6 (0.23% w/w)
76	Friable asbestos / Asbestos fines (<7mm)	<0.001	0.046	TP107_0.1-0.3 (0.019 %w/w) TP114_0.1-0.4 (0.006 %w/w) TP115_0.2-0.6 (0.003 %w/w) TP123_0.3-0.6 (0.009 %w/w) TP125_0.2-0.5 (0.046 %w/w)
76	Asbestos fines (<2mm)	<0.001	<0.001	None

Note: The primary laboratory recorded that the friable asbestos in TP123_0.3-0.6 was from 30mm “rope” material.

9. SITE CHARACTERISATION

9.1 Review of Conceptual Site Model

The CSM presented in **Section 4** was considered to appropriately identify contamination sources, migration mechanisms and exposure pathways, as well as potential on-site and off-site receptors. On the basis of the subsequent ASI findings, the data gaps identified in **Section 4.5** were at least partly addressed.

9.2 Soil and Stockpile Characterisation

With reference to **Table 8-1** and **Table B.2**, individual sample concentrations of HMs, PAH, TRH, BTEX, pesticides and PCBs all complied with the adopted SILs applicable to commercial / industrial land use. Asbestos was identified in (fill) samples from eight of the test pit locations, all of which were within the southern half of the site (TP107, TP114, TP115, TP118, TP123, TP125, TP305 and TP306). Except in the case of TP305_0.2-0.6, the concentrations of asbestos in these samples all exceeded the corresponding SIL. With respect to the TP305 sample, the asbestos was present entirely as bonded fragments (i.e. >7mm ACM), the reported total concentration of 0.04% w/w being below the corresponding *HSL* of 0.05% w/w.

The absence of asbestos in SP1 and SP2 indicated that the materials comprising these stockpiles were *General Solid Waste* in accordance with the EPA (2014) *Waste Classification Guidelines*. This needs to be confirmed, however, by way of a formal waste classification certificate, which should be completed prior to any off-site disposal.

9.3 Asbestos Risk

ACMs (bonded fragments and/or friable forms) were identified by EI at eight sampling locations within the southern half of the site (TP107, TP114, TP115, TP118, TP123, TP125, TP305 and TP306), the amounts exceeding the HSLs in each case, except at TP305. During the EIS (2018) site assessment, matted (friable) asbestos material was identified within the fill at TP14, while bonded ACM fragments were observed in surface soils at location SS01, as well as within the two stockpiles, identified as ‘Northern Stockpile’ and ‘Central Stockpile’ (both no longer present by the time of this ASI; **Table 3-1**).

The source of the asbestos was probably due to importing fill materials of unknown origins (and quality), for site levelling (including stockpile flattening, as possibly the case with the ‘Northern Stockpile’.

Based on the presence of both bonded and friable ACM at several locations across the southern half of the site, EI perceived there was a moderate to high risk to (future) human receptors. Remediation of the land was therefore necessary, in order for it to be suitable for the proposed development. Refer to **Figures A.3** and **A.4** for the recommended (minimum) remediation areas.

To date, no asbestos materials have been identified in any of the examined soils from the northern half of the site. However, this finding should be treated with caution, as the EI sampling for this (occupied) part of the site involved borehole drilling, which is less suited to asbestos investigation compared with test pitting. Although use of the drill rig created less disturbance to the surface (as requested by Coats Hire), identification of asbestos soils was limited to that which was visible on the auger flights. Test pits are advantageous in that more soils are visible to the sampler, thus providing an easier means for identification. EI therefore recommends that the surface of the northern half of the site be inspected periodically during the proposed remediation (and on-going development), to check the presence of ACM.

10. CONCLUSIONS

The site located at 7 Montore Road, Minto NSW was the subject of an Additional Site Investigation (ASI), which was conducted in order to delineate the on-site contamination identified by previous site investigations.

Findings

- The previous EIS (2018) site assessment identified matted (friable) asbestos material within fill at test pit TP14 in the southern portion of the site, while bonded ACM fragments were observed in surface soils at location SS01, as well as within the two stockpiles, identified as 'Northern Stockpile' and 'Central Stockpile' (both no longer present by the time of this ASI).
  - Information received from the client identified that the 'Central Stockpile' was removed from the site to an EPA licensed facility.
  - Areas where the 'Northern Stockpile' was previously identified were inaccessible during the investigation. EI assumed the majority of this stockpile had been flattened out across the site.
- Based on the soil sampling and analysis completed by EI for this ASI:
  - The sub-surface was comprised of a layer of anthropogenic filling (up to 1m BGL), overlying residual clays (and shale at depth).
  - Individual sample concentrations of HMs, PAH, TRH, BTEX, pesticides and PCBs all complied with the adopted SILs applicable to commercial / industrial land use.
  - Asbestos was identified in (fill) samples from eight of the test pit locations, all of which were within the southern half of the site (TP107, TP114, TP115, TP118, TP123, TP125, TP305 and TP306). Except in the case of TP305_0.2-0.6, the concentrations of asbestos in these samples all exceeded the corresponding SIL.
  - The absence of asbestos in SP1 and SP2 indicated that the materials comprising these stockpiles were *General Solid Waste* in accordance with the EPA (2014) *Waste Classification Guidelines*.
  - The asbestos contamination appeared to be limited to the southern half of the site. Areas of recommended remediation are delineated in **Figures A.3** and **A.4**.

Conclusions

Based on the findings of this ASI and with consideration of the Statement of Limitations (**Section 12**), EI concluded the ACM at the site posed a moderate to high risk to (future) human receptors. Remediation of the land was therefore necessary, in order for it to be suitable for the proposed (resource recovery facility) development.

11. RECOMMENDATIONS

EI suggests that the following recommendations be implemented, in order for the site to be made suitable for the proposed land use:

- Preparation of a Remedial Action Plan (RAP), the works for which could be integrated into the initial stages of the development. The scope of the RAP is to include:
  - Procedures for effective site clean-up;
  - A SAQP for the validation activities to be performed on-site;
  - Waste classification assessment of materials designated for off-site disposal (including stockpiles SP1 and SP2), in accordance with the EPA (2014) *Waste Classification Guidelines;*
  - Work health and safety matters, as well as environmental protection measures, and
  - A contingency plan to address unexpected finds.
- Preparation of an Asbestos Management Plan (AMP) for the site, to be implemented during site remediation and construction works; and
- Preparation of a final site validation report by a suitably qualified environmental consultant, certifying the suitability of site soils for the proposed (resource recovery facility) development.

12. STATEMENT OF LIMITATIONS

The findings presented in this report are the result of discrete and specific sampling methodologies used in accordance with best industry practices and standards. Due to the site-specific nature of soil sampling from point locations, it is considered likely that all variations in subsurface conditions across a site cannot be fully defined, no matter how comprehensive the field investigation program.

While normal assessments of data reliability have been made, EI assumes no responsibility or liability for errors in any data obtained from previous assessments conducted on site, regulatory agencies (e.g. Council, EPA), statements from sources outside of EI, or developments resulting from situations outside the scope of works of this project.

Despite all reasonable care and diligence, the ground conditions encountered and concentrations of contaminants measured may not be representative of conditions between the locations sampled and investigated. In addition, site characteristics may change at any time in response to variations in natural conditions, chemical reactions and other events (e.g. groundwater movement and or spillages of contaminating substances). These changes may occur subsequent to EI's investigations and assessment.

EI's assessment is necessarily based upon the results of the additional site investigation, with the restricted program of surface and subsurface sampling, screening and chemical testing which was set out in the proposal. Neither EI, nor any other reputable consultant, can provide unqualified warranties nor does EI assume any liability for site conditions not observed or accessible during the time of the investigations.

This report was prepared for the use of Concrete Recyclers Pty Ltd, and no responsibility is accepted for use of any part of this report in any other context or for any other purpose or by other third parties. This report does not purport to provide legal advice.

This report and associated documents remain the property of EI subject to payment of all fees due for this assessment. The report shall not be reproduced except in full and with prior written permission by EI.

REFERENCES

Australian Standard (2005) Table E1 - Minimum Sampling Points Required for Site Characterisation, in Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil - Part 1: Non-Volatile and Semi-Volatile Compounds, Standards Australia, AS4482.1-2005.

Chapman GA and Murphy CL (1989) Soil Landscapes of the Sydney 1:100 000 Sheet, Soil Conservation Service of NSW, Sydney, September 1989.

CRC CARE (2017) Risk-Based Management and Remediation Guidance for Benzo(a)pyrene, CRC CARE Technical Report No.39, CRC for Contamination Assessment and Remediation of the Environment, Newcastle, Australia, January 2017.

DEC (2006) Guidelines for the NSW Site Auditor Scheme (2nd Edition), Department of Environment and Conservation NSW, DEC 2006/121, April 2006.

DMR (1985) Wollongong-Port Hacking 1:100,000 Geological Series Sheet 9029-9129 (Edition 1), Geological Survey of New South Wales, Department of Mineral Resources.

DUAP / EPA (1998) Managing Land Contamination. Planning Guidelines SEPP 55 - Remediation of Land. New South Wales Department of Urban Affairs and Planning / Environment Protection Authority, August 1998.

EIS (2018) Stage 1 / Stage 2 Environmental Site Assessment; 7 Montore Road, Minto NSW 2566, Environmental Investigation Services, Report Reference: E29448KrptRev1, 10 January 2018.

enHealth (2005) Management of Asbestos in the Non-Occupational Environment, Department of Health and Ageing, Canberra, Australia.

EnRisk (2016) Proposed Decision Tree for Prioritising Sites Potentially Contaminated with PFASs, Environmental Risk Services Pty Ltd, NSW EPA, 25 February 2016.

EPA (1995) Sampling Design Guidelines, Environment Protection Authority of New South Wales, Contaminated Sites Unit, EPA 95/59, September 1995.

EPA (2014) Waste Classification Guidelines. Environment Protection Authority of New South Wales, EPA 2014/0796, November 2014.

EPA (2017) Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme (3rd Edition), Environment Protection Authority of New South Wales, EPAP0269, October 2017.

HEPA (2018) PFAS National Environmental Management Plan, The Heads of the EPAs Australia and New Zealand (HEPA), January 2018.

NEPC (2013) Schedule B1 Guideline on Investigation Levels for Soil and Groundwater, Schedule B2 Guideline on Site Characterisation and Schedule B4 Guideline on Site-Specific Health Risk Assessments, from the National Environmental Protection (Assessment of Site Contamination) Amendment Measure, National Environmental Protection Council, April 2013.

NUDLC (2012) Minimum Construction Requirements for Water Bores in Australia (3rd Edition). National Uniform Drillers Licensing Committee 2011, February 2012.

OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites, NSW Office of Environment and Heritage, OEH 2011/0650, August 2011.

USEPA (2000a) Guidance for the Data Quality Objectives Process. EPA QA/G-4, United States Environmental Protection Agency, EPA/600/R-96/055, August 2000.

USEPA (2000b) Data Quality Objectives Process for Hazardous Waste Site Investigations. EPA QA/G-4HW, United States Environmental Protection Agency, EPA/600/R-00/007, January 2000.

USEPA (2006) Data Quality Assessment: A Reviewers Guide – EPA QA/G-9R, USEPA Office of Environmental Information, EPA/240/B-06/002, February 2006.

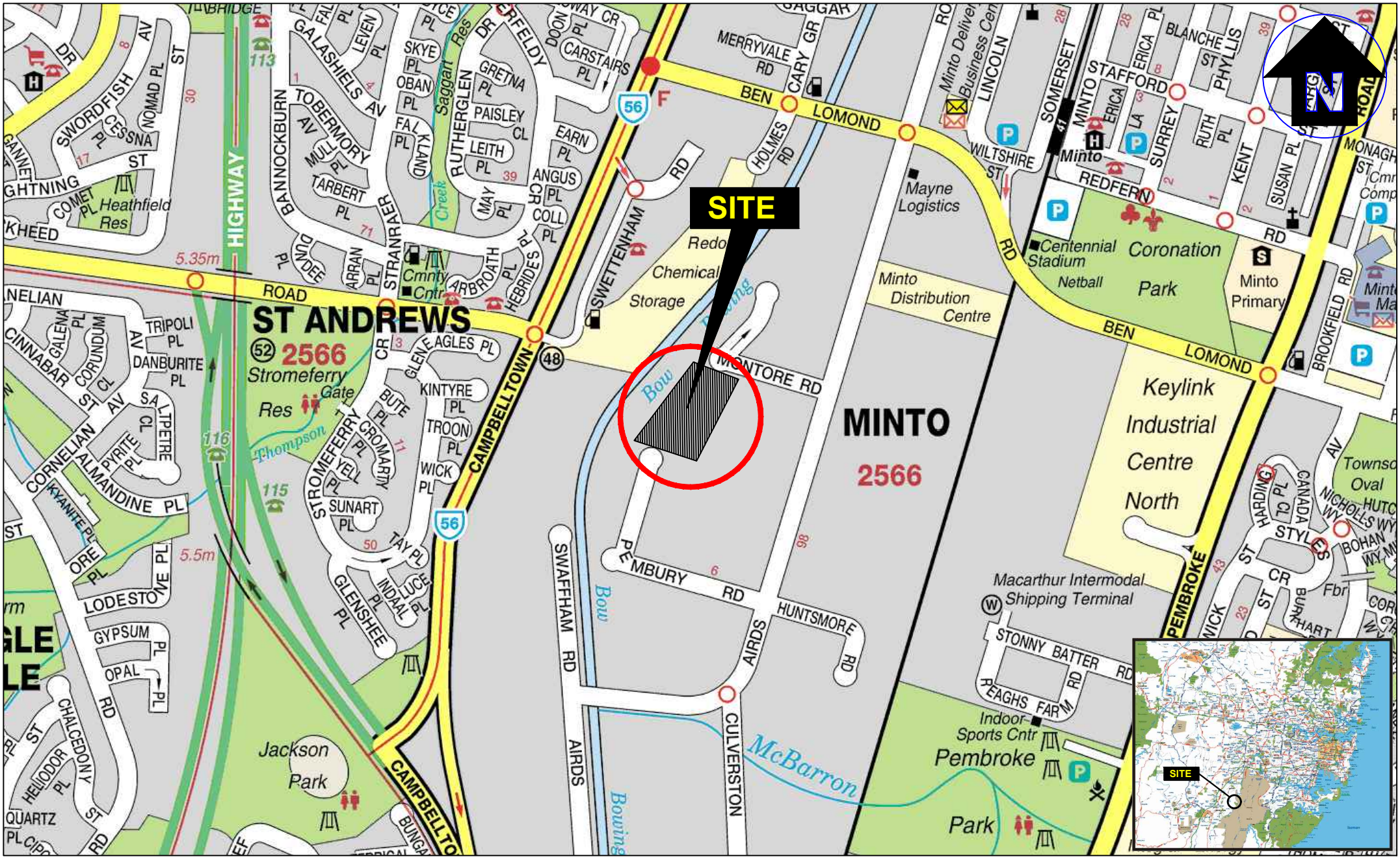
WADOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, Western Australian Department of Health, May 2009.

ABBREVIATIONS

ABC	Ambient Background Concentration
ACL	Added Contaminant Limit
ACM	Asbestos-Containing Materials
AGST	Above-Ground Storage Tank
AS	Australian Standard
ASS	Acid Sulfate Soils
ANZG	Australian and New Zealand and Australian State and Territory Governments
B(a)P	Benzo(a)Pyrene (a PAH compound)
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CBD	Central Business District
CSM	Conceptual Site Model
CLM	Contaminated Land Management
COC	Chain of Custody
COPC	Contaminants of Potential Concern
cVOCs	Chlorinated Volatile Organic Compounds (a sub-set of the VOC analysis suite)
DA	Development Application
DBYD	Dial Before You Dig
DO	Dissolved Oxygen
DP	Deposited Plan
DSI	Detailed Site Investigation
DQI	Data Quality Indicator
DQO	Data Quality Objective
EIL	Ecological Investigation Level
EPA	NSW Environment Protection Authority
ESL	Ecological Screening Level
F1	C_6-C_{10} TRH fraction, less sum of BTEX concentrations
F2	>C_{10}-C_{16} TRH fraction, less naphthalene
F3	>C_{16}-C_{34} TRH fraction
F4	>C_{34}-C_{40} TRH fraction
GPR	Ground Penetrating Radar
HDPE	High Density Polyethylene
HIL	Health-based Investigation Level
HSL	Health-based Screening Level
km	Kilometres
LNAPL	Light Non-Aqueous Phase Liquid (also referred to as PSH)
LOR	Limit of Reporting (of laboratory analytical method)
DNAPL	Dense Non-Aqueous Phase Liquid
m	Metres
mAHD	Metres Australian Height Datum
mBGL	Metres Below Ground Level
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW	New South Wales
OCP	Organochlorine Pesticides
OPP	Organophosphate Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Poly-Chlorinated Biphenyls
PFAS	Per or Poly-Fluoroalkyl Substances

PFHxS	Perfluorohexane Sulfonate
PFOA	Perflurorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PID	Photo-ionisation Detector
pH	Measure of the acidity or basicity of an aqueous solution
PSH	Phase-Separated Hydrocarbons (also referred to as LNAPL / DNAPL)
PQL	Practical Quantitation Limit (limit of detection for laboratory method)
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance / Quality Control
RAP	Remedial Action Plan
SIL	Soil Investigation Level
SRA	Sample Receipt Advice
TCLP	Toxicity Characteristics Leaching Procedure
TEQ	Toxicity Equivalent Quotient
TPH	Total Petroleum Hydrocarbons (superseded term equivalent to TRH)
TRH	Total Recoverable Hydrocarbons (non-specific petroleum hydrocarbon fractions)
UCL	Upper Confidence Limit of the Mean
UPSS	Underground Petroleum Storage System
US EPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

Appendix A - Figures



eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	L.C.
Approved:	J.H.
Date:	05-11-19
Scale:	Not To Scale

Concrete Recyclers Pty Ltd

Additional Site Investigation

7 Montore Road, Minto NSW

Site Locality Plan

Figure:

A.1

Project: E24373.E03_Rev0

LEGEND

- Approximate site boundary
- Approximate waste tyre location
- Approximate stockpile location
- Approximate point of interest
- Approximate point of interest
- Approximate boundary of Coates Hire yard (leased)

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	J.H.
Approved:	E.W.
Date:	18-12-19

Concrete Recyclers Pty Ltd
Additional Site Investigation
7 Montore Road, Minto NSW

Site Inspection Plan

Figure: A.2

Project: E24373.E03_Rev0

LEGEND

- Approximate site boundary
- Approximate borehole location
- Approximate test pit location
- Approximate stockpile location

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	L.C.
Approved:	J.H.
Date:	22-11-19

Concrete Recyclers Pty Ltd
Additional Site Investigation
7 Montore Road, Minto NSW

Sampling Location Plan

Figure: A.3

Project: E24373.E03_Rev0

KEY

Exceedance	Criteria Limit
Asbestos in soil (>7mm ACM)	0.05 %w/w
Asbestos in soil (>2mm to <7mm AF/FA)	0.001 %w/w
Asbestos in soil (<7mm AF/FA)	0.001 %w/w

Notes:
All concentrations are in %w/w.
The table above shows exceedance criteria for HIL-D: *Commercial / Industrial Sites*.
= Exceedance of Health Screening Level

Exceedances	TP125
Sampling Depth (mBGL)	0.2-0.5
Asbestos in soil (>7mm ACM)	2.4
Asbestos in soil (>2mm to <7mm AF/FA)	0.046
Asbestos in soil (>7mm AF/FA)	0.046

Exceedances	TP306
Sampling Depth (mBGL)	0.2-0.6
Asbestos in soil (>7mm ACM)	0.23

Exceedances	TP114
Sampling Depth (mBGL)	0.1-0.4
Asbestos in soil (>2mm to <7mm AF/FA)	0.006
Asbestos in soil (>7mm AF/FA)	0.006

Exceedances	TP115
Sampling Depth (mBGL)	0.2-0.6
Asbestos in soil (>2mm to <7mm AF/FA)	0.003
Asbestos in soil (>7mm AF/FA)	0.003

Exceedances	TP107
Sampling Depth (mBGL)	0.1-0.3
Asbestos in soil (>2mm to <7mm AF/FA)	0.019
Asbestos in soil (>7mm AF/FA)	0.019

Exceedances	TP123
Sampling Depth (mBGL)	0.3-0.6
Asbestos in soil (>2mm to <7mm AF/FA)	0.009
Asbestos in soil (>7mm AF/FA)	0.009

Exceedances	TP118
Sampling Depth (mBGL)	0.4-0.8
Asbestos in soil (>7mm ACM)	0.99

SP1
SP2

0 10 50 100
Approx. Scale (m)

Map Source: Nearmap, Imagery date: 04-09-2019

LEGEND

- Approximate site boundary
- Approximate borehole location
- Approximate test pit location
- Approximate stockpile location

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	J.H.
Approved:	E.W.
Date:	18-12-19

Concrete Recyclers Pty Ltd
Additional Site Investigation
7 Montore Road, Minto NSW

Analytical Exceedance Plan

Figure: A.4

Project: E24373.E03_Rev0

Appendix B - Tables

Table B.1 - Sample Register for 7 Montore Road, Minto NSW

Sample ID	Date	PID	Scheduled Analysis #							Primary Laboratory	Secondary Laboratory
			Heavy Metals	TRH	BTEX	PAH	OCP / OPP	PCB	Asbestos (%w/w)	SGS Batch No.	Envirolab Batch No.
Additional Site Investigation - EI, 2019											
Soils											
TP101_0.1-0.2	4/10/2019	0.1	X	X	X	X	X	X	X	SE198558	-
TP102_0.1-0.2		0.3							X		
TP103_0.1-0.2		0.1							X		
TP104_0.2-0.4		0.1	X	X	X	X	X	X	X		
TP105_0.1-0.3		0.1							X		
TP106_0.2-0.4		0.4							X		
TP107_0.1-0.3		0.3	X	X	X	X	X	X	X		
TP108_0.1-0.3		0.3							X		
TP109_0.1-0.3		0.1							X		
TP110_0.1-0.4		0.1							X		
TP111_0.2-0.5		0.3							X		
TP112_0.2-0.5		0.4							X		
TP113_0.1-0.4		0.7	X	X	X	X	X	X	X		
TP114_0.1-0.4		0.5							X		
TP115_0.2-0.6		0.4							X		
TP116_0.1-0.5		0.3	X	X	X	X	X	X	X		
TP117_0.1-0.3		0.1							X		
TP118_0.4-0.8		0.9							X		
TP119_0.1-0.4		0.5	X	X	X	X	X	X	X		
TP120_0.1-0.4		0.5							X		
TP121_0.1-0.3		0.1	X	X	X	X	X	X	X		
TP122_0.2-0.5		0.2							X		
TP123_0.3-0.6		0.2							X		
TP124_0.5-0.9		0.6	X	X	X	X	X	X	X		
TP125_0.2-0.5		0.2							X		
BH226_0.1-0.3		-	X	X	X	X	X	X	X		
BH227_0.1-0.3		-							X		
BH228_0.1-0.3		-	X	X	X	X	X	X	X		
BH229_0.1-0.3		-							X		
BH230_0.1-0.3		-							X		
BH231_0.2-0.5		-	X	X	X	X	X	X	X		
BH232_0.2-0.5		-							X		
BH233_0.2-0.5		0.3							X		
BH234_0.2-0.6		0.1	X	X	X	X	X	X	X		
BH235_0.2-0.5		0.4							X		
BH236_0.2-0.5		0.5							X		
BH237_0.2-0.5		0.1	X	X	X	X	X	X	X		
BH238_0.2-0.5		0.2							X		
BH239_0.2-0.5		0.3							X		
BH240_0.1-0.4		0.2							X		
BH241_0.2-0.5		0.2	X	X	X	X	X	X	X		
BH242_0.2-0.5		0.4							X		
BH243_0.2-0.5		0.4							X		
BH244_0.2-0.5		0.4	X	X	X	X	X	X	X		
BH245_0.2-0.5		0.2							X		
BH246_0.2-0.5		0.2							X		
BH247_0.2-0.5		0.4	X	X	X	X	X	X	X		
BH248_0.2-0.5		0.4							X		
BH249_0.2-0.5		0.5							X		
BH250_0.2-0.6		0.3	X	X	X	X	X	X	X		
BH251_0.2-0.6		0.3							X		
BH252_0.2-0.6		0.4	X	X	X	X	X	X	X		
BH253_0.2-0.6		0.3							X		
BH254_0.2-0.6		0.3							X		
BH255_0.2-0.6		0.1	X	X	X	X	X	X	X		
BH256_0.2-0.6		0.3							X		
BH257_0.2-0.6		0.3	X	X	X	X	X	X	X		
SP1-1		0.4	X	X	X	X	X	X	X		
SP1-2		0.2	X	X	X	X	X	X	X		
SP2-1		0.4	X	X	X	X	X	X	X		
SP2-2		0.2	X	X	X	X	X	X	X		
SP2-3		0.2	X	X	X	X	X	X	X		
QD1/QT1		-	X	X	X					-	227806
QD2/QT2		-	X	X	X						
TP301_0.2-0.6	14/11/2019	-							X	SE199972	-
TP302_0.1-0.3		-							X		
TP303_0.1-0.3		-							X		
TP304_0-0.2		-							X		
TP305_0.2-0.6		-							X		
TP306_0.2-0.6		-							X		
TP307_0.3-0.7		-							X		
TP308_0.2-0.4		-							X		
TP309_0.2-0.5		-							X		
TP310_0.1-0.3		-							X		
TP311_0.1-0.3		-							X		
TP312_0.3-0.6		-							X		
TP313_0.1-0.3		-							X		
TP314_0.1-0.3		-							X		

Table B.2 – Summary of Soil Investigation Results for 7 Montore Road, Minto NSW **E24373.E03**

Sample ID	Material	Sampling Date	Heavy Metals								PAHs				BTEX				TRHs				OCPs	OPPs	Total PCBs	Asbestos			
			As	Cd	Cr#	Cu	Pb	Hg	Ni	Zn	Carcinogenic PAHs (as BaP TEQ)	Benzo(a)pyrene	Total PAHs	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	F1	F2	F3	F4				Asbestos in soil (>7mm ACM)	Asbestos in soil (>2mm to <7mm AF/FA)	Asbestos in soil (<2mm AF/FA)	Asbestos in soil (<7mm AF/FA)
TP101_0.1-0.2			2	<0.3	10	41	11	<0.05	15	30	10	7.1	72	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	970	1200	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
TP102_0.1-0.2			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP103_0.1-0.2			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP104_0.2-0.4			5	<0.3	10	17	17	<0.05	7.9	29	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
TP105_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP106_0.2-0.4			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP107_0.1-0.3			6	<0.3	10	26	34	<0.05	10	86	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	0.019	<0.001	0.019
TP108_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP109_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP110_0.1-0.4			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP111_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP112_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP113_0.1-0.4			6	<0.3	11	18	29	<0.05	9.1	43	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
TP114_0.1-0.4			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	0.006	<0.001	0.006
TP115_0.2-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	0.003	<0.001	0.003
TP116_0.1-0.5			6	<0.3	11	26	45	0.05	11	95	<0.3	0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
TP117_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP118_0.4-0.8			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.99	<0.001	<0.001	<0.001
TP119_0.1-0.4			5	<0.3	9.5	15	18	<0.05	7.3	33	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
TP120_0.1-0.4			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP121_0.1-0.3			6	<0.3	9.4	20	18	<0.05	11	37	<0.3	0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
TP122_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP123_0.3-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	0.009	<0.001	0.009
TP124_0.5-0.9			6	<0.3	10	20	21	<0.05	11	41	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
TP125_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.4	0.046	<0.001	0.046
BH226_0.1-0.3			5	<0.3	11	17	18	<0.05	9.2	29	<0.3	0.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH227_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH228_0.1-0.3			2	<0.3	12	43	8	<0.05	16	28	10	7	70	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	740	1100	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH229_0.1-0.3	Fill		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH230_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH231_0.2-0.5		4/10/2019	3	<0.3	6	25	14	<0.05	13	48	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH232_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH233_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH234_0.2-0.6			3	<0.3	8.5	22	14	<0.05	6.3	30	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH235_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH236_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH237_0.2-0.5			3	<0.3	8.4	6.2	6	<0.05	6.7	20	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH238_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH239_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH240_0.1-0.4			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH241_0.2-0.5			3	<0.3	12	15	31	<0.05	11	55	1.3	0.9	10	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH242_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH243_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH244_0.2-0.5			2	<0.3	8	14	8	<0.05	6.7	24	1.9	1.4	17	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH245_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH246_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH247_0.2-0.5			2	<0.3	5.6	7.7	4	<0.05	4.6	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH248_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH249_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH250_0.2-0.6			4	<0.3	11	13	13	<0.05	7.2	33	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH251_0.2-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH252_0.2-0.6			5	<0.3	11	9.8	19	<0.05	5.6	87	<0.3	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH253_0.2-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH254_0.2-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH255_0.2-0.6			2	<0.3	6.9	9.3	6	<0.05	4.9	31	<0.3	0.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
BH256_0.2-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
BH257_0.2-0.6			2	<0.3	5.3	8.8	12	<0.05	5	39	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
SP1-1			4	<0.3	8.2	16	17	<0.05	8.7	75	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
SP1-2			6	<0.3	12	21	23	<0.05	8.8	48	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
SP2-1	Stockpiled fill		5	<0.3	9.1	19	25	<0.05	9.2	66	0.4	0.2	2.4	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
SP2-2			5	<0.3	11	22	29	<0.05	9.7	67	0.4	0.2	2.5	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
SP2-3			5	<0.3	8.6	21	23	<0.05	9.3	58	0.5	0.3	3	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	<0.01	<0.001	<0.001	<0.001
TP301_0.2-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP302_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP303_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP304_0-0.2			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP305_0.2-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.04	<0.001	<0.001	<0.001
TP306_0.2-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.23	<0.001	<0.001	<0.001
TP307_0.3-0.7	Fill	14/11/2019	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP308_0.2-0.4			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP309_0.2-0.5			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP310_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP311_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP312_0.3-0.6			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP313_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
TP314_0.1-0.3			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.01	<0.001	<0.001	<0.001
Statistical Analysis																													
Maximum Concentration			6	0.3	12	43	45	0.05	16	95	10	7.1	72	0.1	0.1	0.1	0.1	0.3	25	25	970	1200	1	1.7	1	2.4	0.046	0.001	0.046
Mean			4.12	0.3	9.42	18.912	18.52	0.05	8.968	45.8	1.196	0.756	7.684	0.1	0.1	0.1	0.1	0.3	25	25	151.2	202.4	1	1.7	1	0.0643548	0.0022581	0.001	0.0022581
SILs																													
HIL D - *Commercial / Industrial*			3,000	900	3,600 Cr(VI)	240,000	1,500	730	6,000	400,000	40	NR	4,000										3,600	NR	7				
HSL D - *Commercial / Industrial*			Source depths (0 m to <1 m BGL)											NL	4	NL	NL	NL	310	480									
Soil texture classification – Clay [1]			Source depths (1 m to <2 m BGL)											NL	6	NL	NL	NL	NL	NL									
			Source depths (2 m to < 4 m BGL)											NL	9	NL	NL	NL	NL	NL									
			Source depths (4 m + BGL)											NL	20	NL	NL	NL	NL	NL									
EIL/ESL - *Commercial / Industrial*			100	NR	198 [3]	80	1,260	NR	35	145	NR	33 [4]	NR	170	65	105	125	45	180	120	1,700 [3]	3,300 [3]	180	NR	NR				
Management Limits – Residential, parkland and public open space, Coarse grained soil texture [1]																			800	1,000	3,500	10,000							
Asbestos contamination HSL Bonded ACM (%w/w)																										0.05			
Asbestos contamination HSL Non Bonded / Friable Asbestos (%w/w)																											0.001		

Notes: All results are recorded in mg/kg, unless otherwise specified.

	Highlighted value indicates concentration exceeds HIL / HSL
	Highlighted value indicates concentration exceeds EIL / ESL
	Highlighted value indicates concentration exceeds HIL / HSL and EIL / ESL
HIL D	NEPM 2013 'HIL D" - Health Investigation Level - Commercial/Industrial land-use scenario assumes typical commercial or light industrial properties, consisting of single or multi-storey buildings usppported by ground-level slabs.
HSL D	Health Screening Level
EIL	Ecological Investigation Level
ESL	Ecological Screening Level
#	Thresholds are for Chromium VI.
NR	No current published criterion.
NL	'Not Limiting'
ND	'Not detected' i.e. all concentrations of the compounds within the analyte group were found to be below the laboratory limits of detection.
NA	'Not Analysed' i.e. the sample was not analysed.
1	As strata is predominantly clay, fine grained soil values were applied.
2	Ecological values relate to selected analytes of pH / CEC analysed across the site.
3	As no physiochemical properties were analysed, the most conservative values were adopted for EILs and ESLs.
4	Value derived from CRC Care Report No. 39, Table 11.
F1	TRH C_6-C_{10} less the sum concentration of BTEX.
F2	TRH $C_{>10}$-C_{16} less the concentration of Naphthalene.
F3	TRH $C_{>16}$-C_{34}
F4	TRH $C_{>34}$-C_{40}

eiaustralia

Appendix C – Proposed Development Plans

PROJECT: MINTO CONCRETE RECYCLERS

PLANSET: SITE EARTHWORKS

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

LOCALITY PLAN
N.T.S.

LGA: CAMPBELLTOWN

7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

DRAWING LIST		
DWG NO.	REV	DWG TITLE
GENERAL		
PS02-A000	L	COVER SHEET
PS02-A300	B	RIPARIAN FEATURES CONSTRAINTS PLAN
PS02-A400	I	SITE LAYOUT
PS02-AZ00	E	SITE FENCING, FIRE FIGHTING AND SPRINKLERS PLAN
CONSTRUCTION MANAGEMENT WORKS		
PS02-B300	G	SEDIMENT AND EROSION CONTROL PLAN
PS02-B350	B	SEDIMENT AND EROSION CONTROL DETAILS
EARTHWORKS		
PS02-C100	G	EARTHWORKS PLAN - SHEET 01
PS02-C105	C	EARTHWORKS PLAN - SHEET 02
PS02-C600	G	EARTHWORKS CUT & FILL ANALYSIS PLAN
PS02-C700	E	EARTHWORKS SECTIONS - SHEET 01
PS02-C701	E	EARTHWORKS SECTIONS - SHEET 02
ROADWORKS		
PS02-DZ01	H	SWEPT PATH ANALYSIS - SHEET 1 (TURNING MANOEUVRE ON SITE)
PS02-DZ02	H	SWEPT PATH ANALYSIS - SHEET 2 TURNING MANOEUVRE ON SITE)
PS02-DZ03	E	SWEPT PATH ANALYSIS - SHEET 3 (ENTRANCE AND EXIT MANOEUVRES)
PS03-DZ04	E	SWEPT PATH ANALYSIS - SHEET 4 (TURNING MANEOUVRE ON SITE)
PS03-DZ05	E	SWEPT PATH ANALYSIS - SHEET 5 (TURNING MANEOUVRE ON SITE)
PS03-DZ10	E	SITE LOADING AND UNLOADING PLAN
DRAINAGE		
PS02-E100	J	DRAINAGE PLAN
PS02-E200	D	DRAINAGE DETAILS
PS02-E201	A	SEDIMENT BASIN CROSS SECTIONS
PS02-E410	A	DRAINS CATCHMENT PLANS
PS02-E600	C	DRAINS MODELLING RESULTS
PS02-E700	A	WATER QUALITY CATCHMENT PLAN
SITEWORKS		
PS02-F101	F	DRIVEWAY PLAN
PS02-F102	F	CARPARK PLAN
PS02-F103	E	DRIVEWAY CROSS SECTION
PS02-F200	G	RETAINING WALL PLAN
PS02-F201	E	RETAINING WALL DETAILS
PS02-F400	C	DRIVEWAY LONGITUDINAL AND TYPICAL CROSS SECTIONS
PAVEMENT AND SIGNAGE		
PS02-G100	F	PAVEMENT PLAN

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
L	**MINOR AMENDMENTS**	**02/03/2020**	LL	**EZ**	**TH**	**TH**
K	NEW PAGE ADDED	15/11/2019	RK/LL	EZ	TH	TH
J	MINOR AMENDMENTS	12/10/2018	RK	EZ	TH	TH
I	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	EG/JCF/EZ	TH	TH
H	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
G	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
F	UPDATE	09/08/2018	PB	EZ		
E	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH

SCALE

GRID	DATUM	PROJECT MANAGER
---	---	TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE: COVER SHEET

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-A000	L

DRAWING ID: P1203464-PS02-R12-A000

PRINTED: ---- - USER: LUU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)

KEY:

- SITE BOUNDARY
- CONCRETE LINED CHANNEL
- 40 m WATERFRONT LAND BUFFER
- RIPARIAN ZONE

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
A	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF	JCF		

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

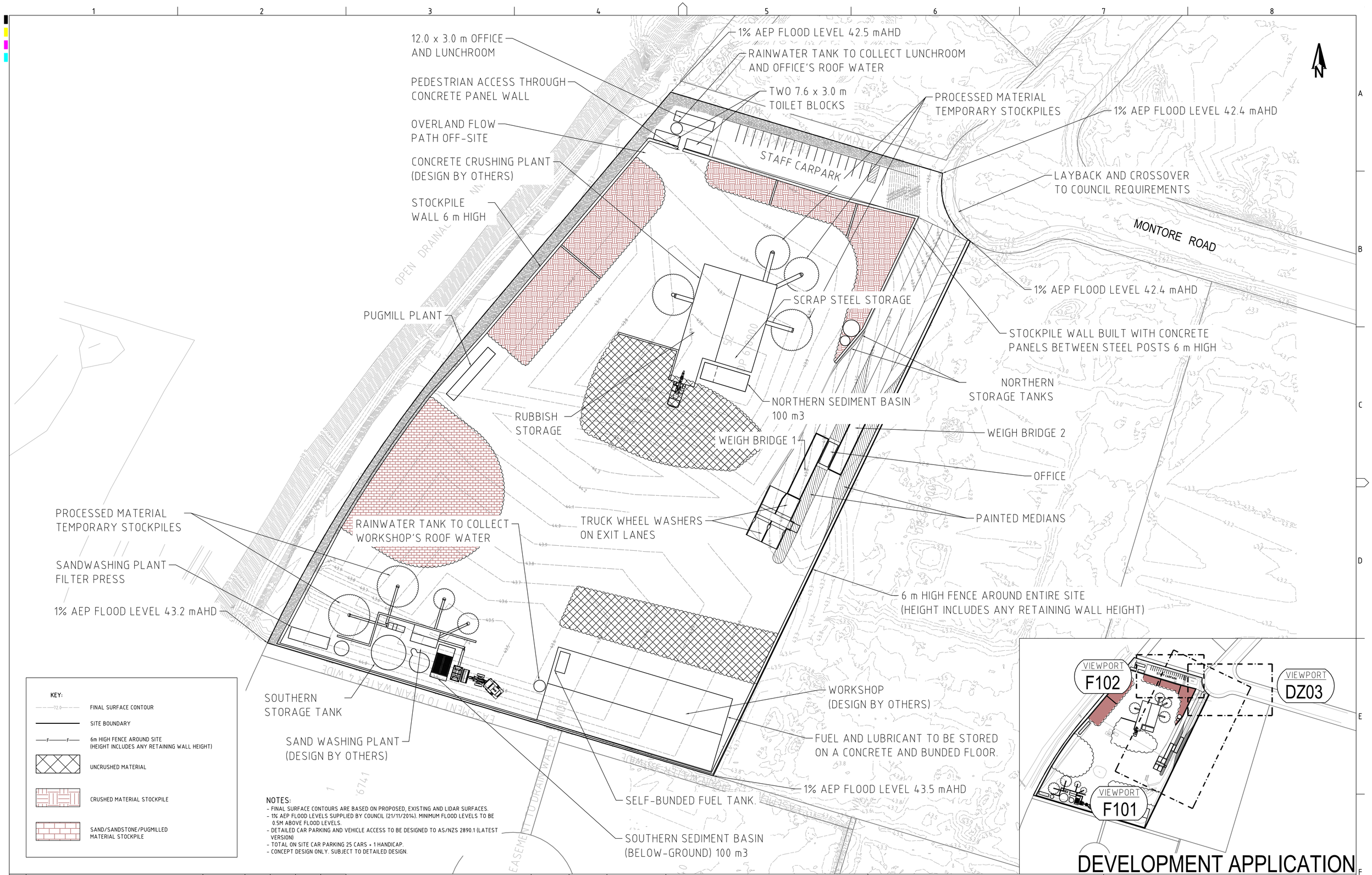
martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
RIPARIAN FEATURES CONSTRAINTS PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-A300	B

DRAWING ID: P1203464-PS02-R12-A300

PRINTED: --- (USER LU)
A1 / A3 LANDSCAPE (A1LC_v02.0.01)



DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
I	**MINOR AMENDMENTS**	**02/03/2020**	**LL**	**JCF**	**TH**	**TH**
H	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
G	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
F	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
E	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
D	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
C	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	CG/JCF	TH	

SCALE
A1 (A3) 1:500 (1:1,000) 0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:2,000 (1:4,000) 0 20 40 60 80 100 120 140 160 180 200 METRES

GRID	DATUM	PROJECT MANAGER
MGA	MAHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
SITE LAYOUT

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-A400	I

PRINTED: --- USER: LLU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)
DRAWING ID: P1203464-PS02-R12-A400

KEY

- SITE BOUNDARY
- CONCRETE PANEL FENCE
- CHAIN WIRE FENCE
- CLIP LOCK FENCE
- VYR-60 SPRINKLER
- TORO TG101 OR EQUIVALENT SPRINKLER
- VYR-65 OR EQUIVALENT SPRINKLER (NOTE: ENDS OF CONVEYORS WILL ALSO HAVE MISTING SPRAYS)

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**02/03/2020**	**LL**	**JCF**	**TH**	**TH**
D	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
C	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
A	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID | DATUM | PROJECT MANAGER: TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
SITE FENCING, FIRE FIGHTING AND SPRINKLERS PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-AZ00	E

DRAWING ID: P1203464-PS02-R12-AZ00

PRINTED: ---- USER: LOU
A1 / A3 LANDSCAPE (ATLC_v02.0.01)

KEY:

- INDICATIVE STOCKPILE
- GEOTEXTILE INLET FILTER
- SEDIMENT FENCE
- STABILISED SITE ACCESS

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
G	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**CG/JCF**	**TH**	**TH**
F	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
E	CLIENT REQUESTED AMENDMENTS	03/08/2018	PB	JCF	TH	TH
D	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
C	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	CG/JCF	TH	
A	BALANCE SITE EARTHWORKS	07/11/2017	CG	CG	TH	

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
MGA	MAHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

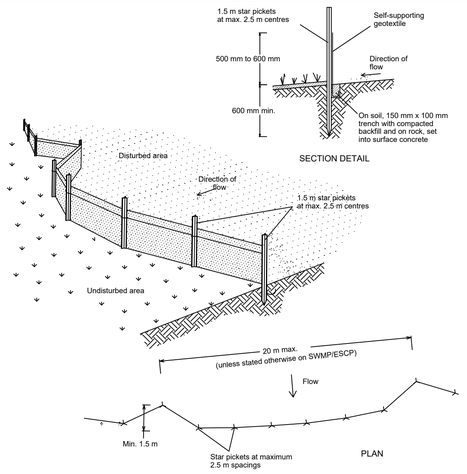
DEVELOPMENT APPLICATION

DRAWING TITLE
SEDIMENT AND EROSION CONTROL PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-B300	G

DRAWING ID: P1203464-PS02-R12-B300

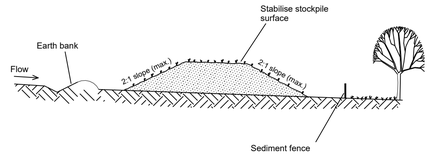
PRINTED: --- (USER LUU)
A1 / A3 LANDSCAPE (A1LC_v02.0.01)



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

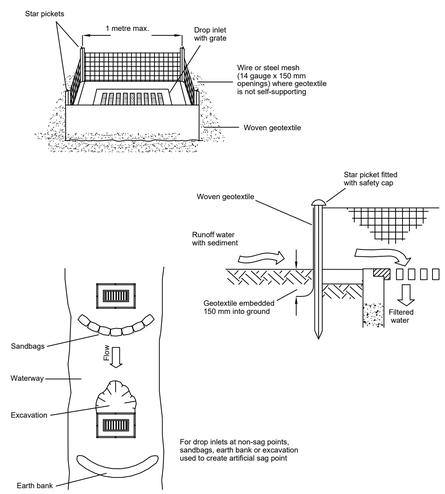
SEDIMENT FENCE — SD 6-8



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

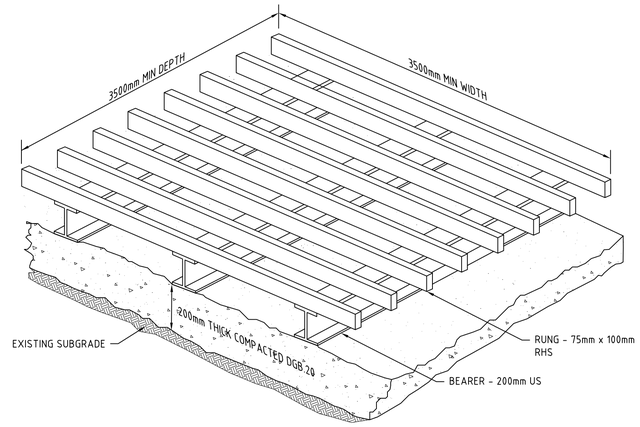
STOCKPILES — SD 4-1



Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER — SD 6-12



Construction Notes

A correctly designed and installed shaker pad will assist in preventing sediment transfer from a site. Any stabilised access point (SAP) can be designed with a shaker pad (compulsory in Type II SAP's)

Shaker pads can be designed and constructed to enable re-use on future projects.

The shaker pad:

1. Must be designed and certified by a practicing structural engineer. The certified design should be submitted with the relevant application.
2. Can be constructed from any suitable material.
3. Must be located on a suitably prepared and compacted sub-grade/base material.
4. Must be situated such thatthe rungs of the shaker pad are level with the adjoining natural surface.
5. Must be a minimum of 3.5 m in length.
6. Must be a minimum of 3.5 m in width.
7. Must have clear spacing between rungs of 200 - 250 mm.
8. Rings must have a maximum width (bearing area) of 75 mm.
9. Must have a minimum clear depth of 300 mm ie. from the top of the rung to the finished sub-grade/base level.
10. Must be provided with suitable barriers at the sides to ensure that all tyres of vehicles leaving the site traverse the device.

SHAKER PAD (CATTLE GRID)

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
B	**CLIENT REQUESTED AMENDMENTS**	**03/08/2018**	**PB**	**JCF**	**TH**	**TH**
A	BALANCE SITE EARTHWORKS	07/11/2017	CG	CG	TH	

SCALE

GRID	DATUM	PROJECT MANAGER
---	---	TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DEVELOPMENT APPLICATION

DRAWING TITLE
SEDIMENT AND EROSION CONTROL DETAILS

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-B350	B

DRAWING ID: P1203464-PS02-R12-B350

EXISTING SITE CONTOURS

PROPOSED SITE CONTOURS

KEY

- EXISTING CONTOURS — 72.0 —
- DESIGN CONTOURS — 72.0 —
- INTERFACE
- RETAINING WALL
- EXTERNAL BOUNDARY
- OVERLAND FLOW

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
G	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**CG/JCF**	**TH**	**TH**
F	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
E	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
D	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
C	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	CG/JCF	TH	
A	BALANCE SITE EARTHWORKS	07/11/2017	CG	CG	TH	

SCALE
0 7.5 15.0 22.5 30.0 37.5 45.0 52.5 60.0 67.5 75.0 METRES
A1 (A3) 1:750 (1:1,500)

GRID	DATUM	PROJECT MANAGER
MGA	MAHD	TH

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

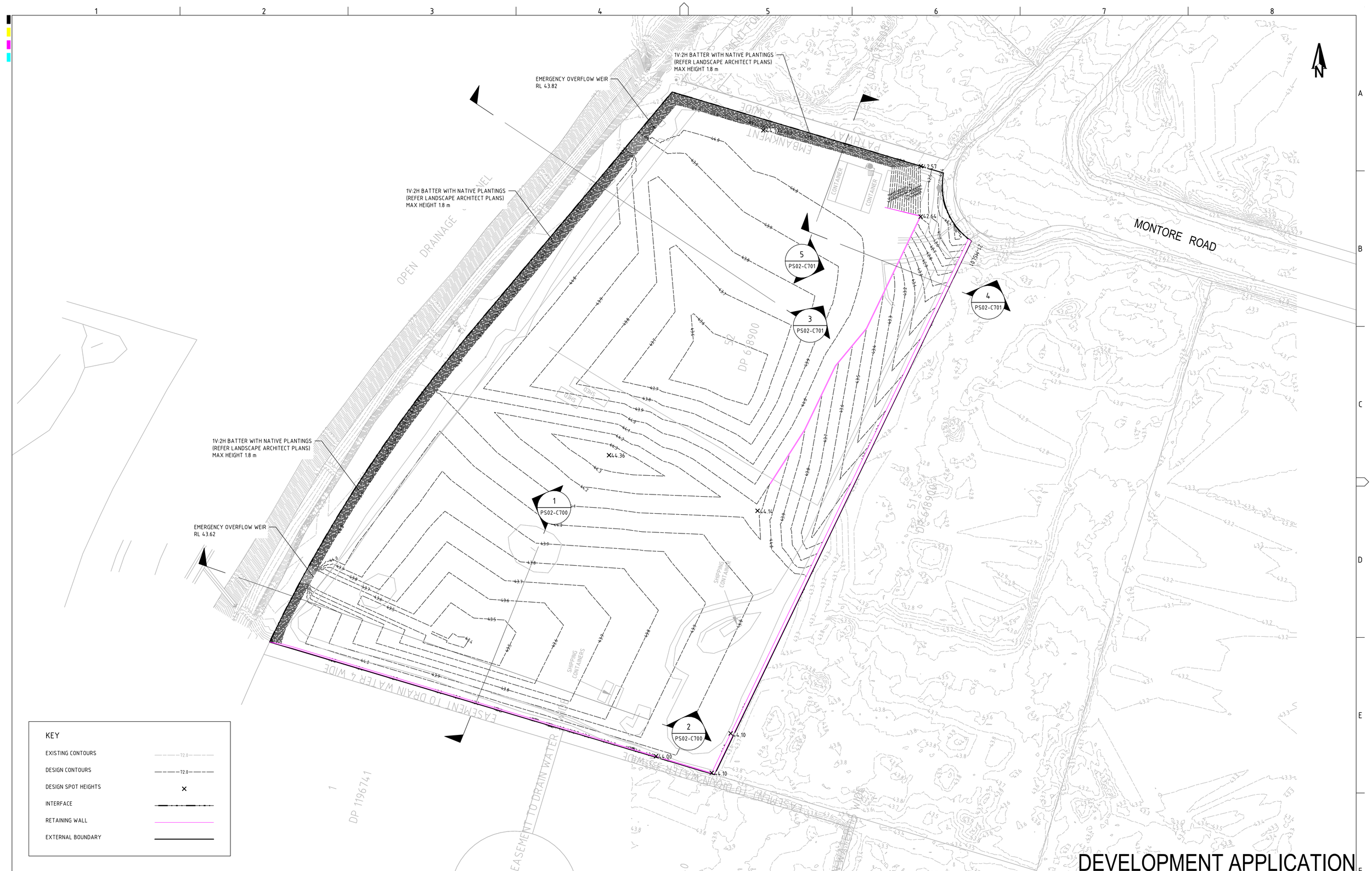
DRAWING TITLE
EARTHWORKS PLAN
SHEET 01

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-C100	G

DRAWING ID: P1203464-PS02-R12-C100

PRINTED ---- USER LUU

A1 / A3 LANDSCAPE (A1LC_v02.0.01)



DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	CG/JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
A	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
		TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.
(C) Copyright Martens & Associates Pty Ltd

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
EARTHWORKS PLAN
SHEET 02

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-C105	C

DRAWING ID: P1203464-PS02-R12-C105

PRINTED: ---- - USER: LUU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)

CUT FILL ANALYSIS

LESS THAN -3.000m			
-3.000	to	-2.250	m
-2.250	to	-1.500	m
-1.500	to	-0.750	m
-0.750	to	-0.150	m
-0.150	to	0.150	m
0.150	to	0.750	m
0.750	to	1.500	m
1.500	to	2.250	m
2.250	to	3.000	m
GREATER THAN 3.000m			

EARTHWORKS SUMMARY

	CUT	FILL
EARTHWORKS VOLUME (m^3)	-1298	7810
EARTHWORKS BALANCE (m^3)	-	6512
IMPORTED PAVEMENT (m^3)	-	6432
TOTAL BALANCE (m^3)	-	80

NOTES:
- EARTHWORKS VOLUMES MEASURED FROM EXISTING LEVELS TO DESIGN SURFACE LEVELS.
- APPROX. 6432 M3 OF HARDSTAND PAVEMENT AT 0.3 M DEPTH REQUIRED (21440 X 0.3).

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
G	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	CG/JCF	TH	TH
F	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
E	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
D	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
C	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	CG/JCF	TH	
A	BALANCE SITE EARTHWORKS	07/11/2017	CG	CG	TH	

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
---	MAHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.
(C) Copyright Martens & Associates Pty Ltd

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

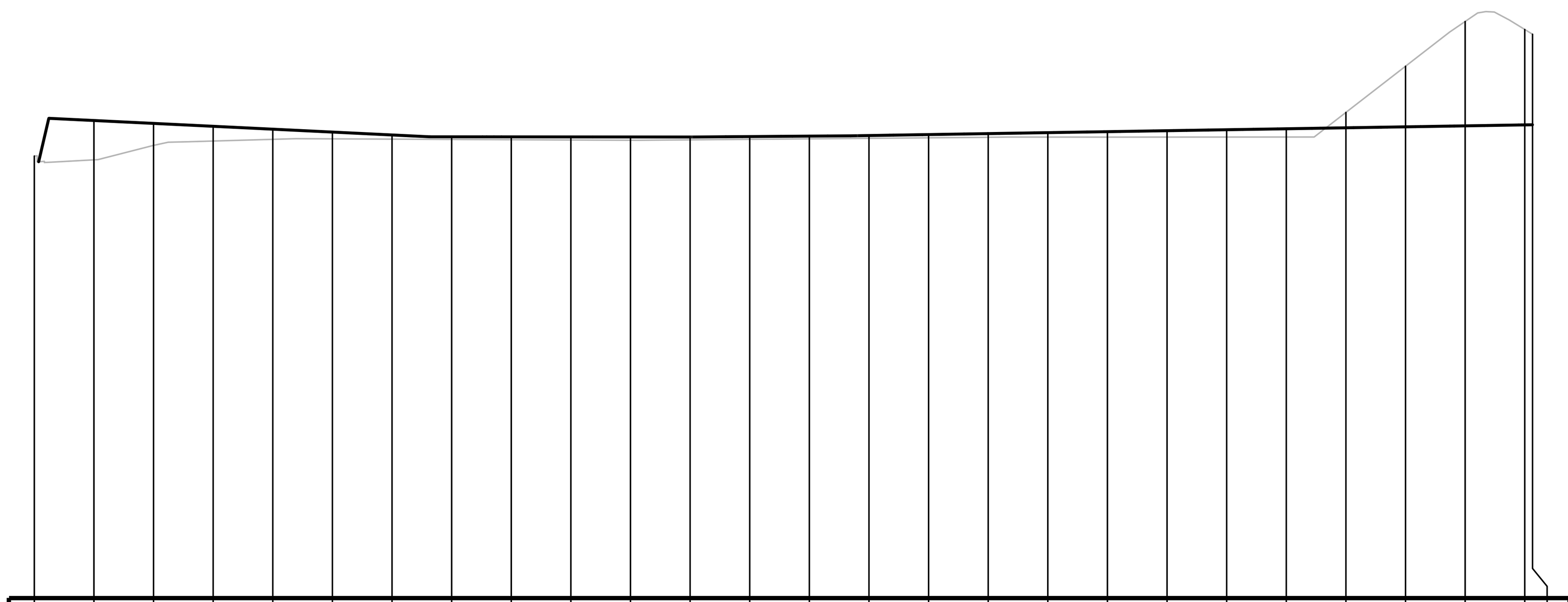
DRAWING TITLE
EARTHWORKS CUT & FILL ANALYSIS PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-C600	G

DRAWING ID: P1203464-PS02-R12-C600

PRINTED: ---- USER: LOU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)

DATUM RL 28.000

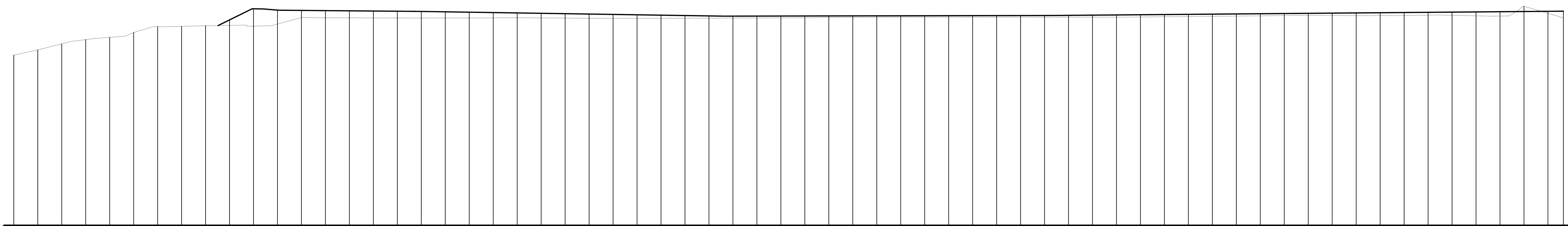


CHAINAGE	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CUT / FILL DEPTH
0.000		42.834	-0.432
2.000	44.027	42.707	1.241
4.000	43.93	43.192	0.558
6.000	43.833	43.338	0.218
8.000	43.736	43.395	0.080
10.000	43.639	43.411	0.065
12.000	43.542	43.402	0.076
14.000	43.479	43.392	0.086
16.000	43.478	43.383	0.096
18.000	43.476	43.373	0.103
20.000	43.475	43.365	0.110
22.000	43.473	43.378	0.095
24.000	43.488	43.395	0.092
26.000	43.503	43.412	0.091
28.000	43.522	43.429	0.092
30.000	43.555	43.446	0.104
32.000	43.587	43.464	0.116
34.000	43.62	43.471	0.138
36.000	43.652	43.469	0.169
38.000	43.685	43.470	0.199
40.000	43.717	43.471	0.228
42.000	43.75	43.473	0.258
44.000	43.782	44.298	-0.537
46.000	43.815	45.847	-2.055
48.000	43.847	47.348	-3.524
50.000	43.879	47.080	-3.225
50.260	43.884	46.921	-3.061

SECTION 1

SCALE: HORIZONTAL – 1:200
VERTICAL – 1:200

DATUM RL 26.000



CHAINAGE	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CUT / FILL DEPTH
0.000		40.224	0.000
2.000		40.668	0.000
4.000		41.170	0.000
6.000		41.522	0.000
8.000		41.713	0.000
10.000		42.119	0.000
12.000		42.609	0.000
14.000		42.629	0.000
16.000		42.680	0.000
18.000	43.17	42.713	0.457
20.000	44.098	42.653	1.432
22.000	43.988	42.822	1.158
24.000	43.965	43.369	0.445
26.000	43.946	43.348	0.397
28.000	43.929	43.342	0.372
30.000	43.913	43.336	0.360
32.000	43.896	43.330	0.349
34.000	43.878	43.325	0.301
36.000	43.847	43.329	0.238
38.000	43.816	43.332	0.174
40.000	43.785	43.336	0.109
42.000	43.753	43.347	0.039
44.000	43.722	43.335	0.035
46.000	43.691	43.323	0.047
48.000	43.66	43.311	0.059
50.000	43.629	43.301	0.069
52.000	43.597	43.301	0.069
54.000	43.566	43.303	0.067
56.000	43.535	43.311	0.059
58.000	43.504	43.319	0.051
60.000	43.486	43.327	0.043
62.000	43.49	43.335	0.035
64.000	43.495	43.344	0.026
66.000	43.499	43.355	0.015
68.000	43.503	43.367	0.013
70.000	43.507	43.379	0.018
72.000	43.511	43.391	0.023
74.000	43.514	43.403	0.027
76.000	43.518	43.403	0.044
78.000	43.522	43.400	0.064
80.000	43.526	43.400	0.081
82.000	43.53	43.400	0.098
84.000	43.533	43.399	0.115
86.000	43.537	43.399	0.133
88.000	43.551	43.399	0.150
90.000	43.568	43.400	0.165
92.000	43.585	43.402	0.180
94.000	43.602	43.417	0.182
96.000	43.619	43.435	0.181
98.000	43.636	43.453	0.180
100.000	43.652	43.473	0.177
102.000	43.669	43.492	0.174
104.000	43.686	43.512	0.171
106.000	43.703	43.532	0.168
108.000	43.72	43.552	0.165
110.000	43.737	43.540	0.193
112.000	43.754	43.527	0.223
114.000	43.77	43.532	0.235
116.000	43.787	43.533	0.251
118.000	43.804	43.566	0.234
120.000	43.821	43.552	0.266
122.000	43.838	43.511	0.323
124.000	43.855	43.491	0.361
126.000	43.872	44.308	-0.434
128.000	43.888	43.726	0.170
129.289	43.899	43.336	0.572

SECTION 2

SCALE: HORIZONTAL – 1:200
VERTICAL – 1:200

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**CG/JCF**	**TH**	**TH**
D	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
C	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	CG/JCF	TH	
A	BALANCE SITE EARTHWORKS	07/11/2017	CG	CG	TH	

SCALE 0 2 4 6 8 10 12 14 16 18 20 METRES
A1 (A3) 1:200 (1:400)

GRID: MGA | DATUM: MAHD | PROJECT MANAGER: TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

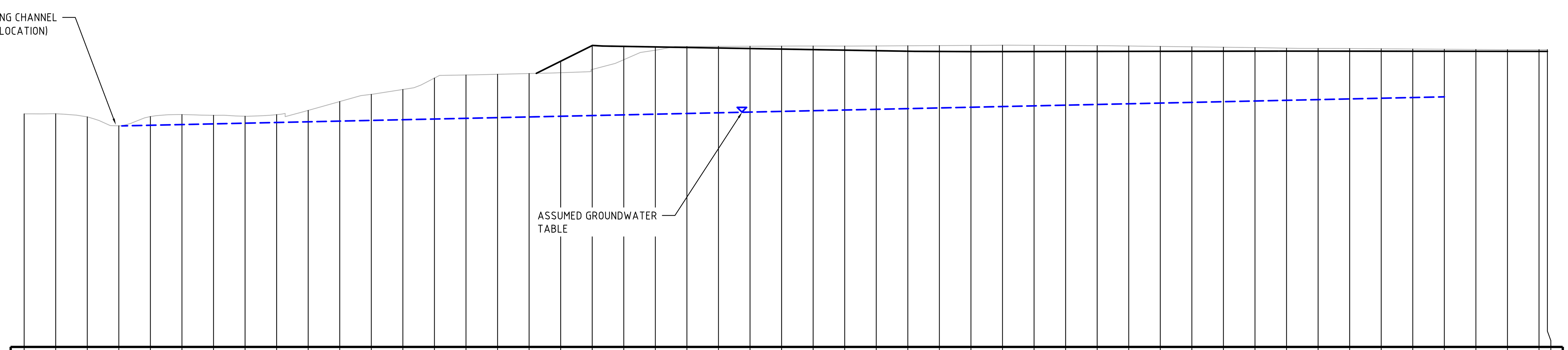
martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
EARTHWORKS SECTIONS
SHEET 01

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-C700	E

DRAWING ID: P1203464-PS02-R12-C700

A1 / A3 LANDSCAPE (A1LC_v02.0.01)

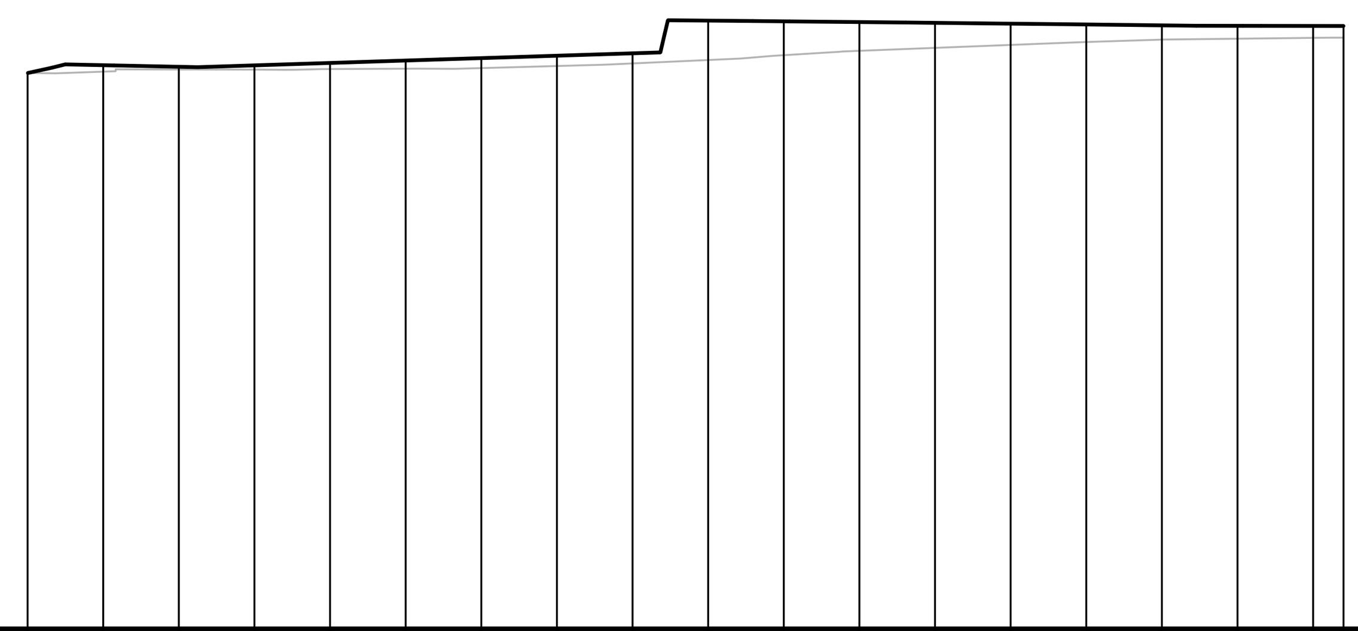


DATUM RL 25.000

CHAINAGE	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CUT / FILL DEPTH
0.000		39.764	0.000
2.000		39.771	0.000
4.000		39.572	0.000
6.000		39.008	0.000
8.000		39.594	0.000
10.000		39.719	0.000
12.000		39.674	0.000
14.000		39.615	0.000
16.000		39.715	0.000
18.000		39.984	0.000
20.000		40.545	0.000
22.000		41.000	0.000
24.000		41.310	0.000
26.000		42.034	0.000
28.000		42.228	0.000
30.000		42.272	0.000
32.000		42.319	0.000
34.000	43.098	42.372	0.727
36.000	44.093	42.579	1.514
38.000	44.039	43.196	0.843
40.000	44.005	43.797	0.208
42.000	43.971	44.031	-0.060
44.000	43.937	44.039	-0.102
46.000	43.903	44.047	-0.144
48.000	43.869	44.057	-0.188
50.000	43.835	44.061	-0.226
52.000	43.801	44.059	-0.258
54.000	43.767	44.067	-0.301
56.000	43.733	44.079	-0.346
58.000	43.718	44.090	-0.372
60.000	43.709	44.101	-0.392
62.000	43.711	44.113	-0.402
64.000	43.714	44.107	-0.392
66.000	43.718	44.096	-0.378
68.000	43.721	44.084	-0.363
70.000	43.724	44.064	-0.339
72.000	43.727	44.038	-0.310
74.000	43.731	44.012	-0.282
76.000	43.734	43.987	-0.253
78.000	43.737	43.961	-0.224
80.000	43.74	43.926	-0.186
82.000	43.738	43.909	-0.171
84.000	43.736	43.903	-0.167
86.000	43.734	43.888	-0.154
88.000	43.732	43.873	-0.141
90.000	43.73	43.858	-0.128
92.000	43.728	43.843	-0.115
94.000	43.726	43.833	-0.107
96.000	43.723	43.834	-0.111
96.531	43.723	43.835	-0.112

SECTION 3 - CONCEPTUAL GROUNDWATER MODEL

SCALE: HORIZONTAL - 1:200
VERTICAL - 1:200

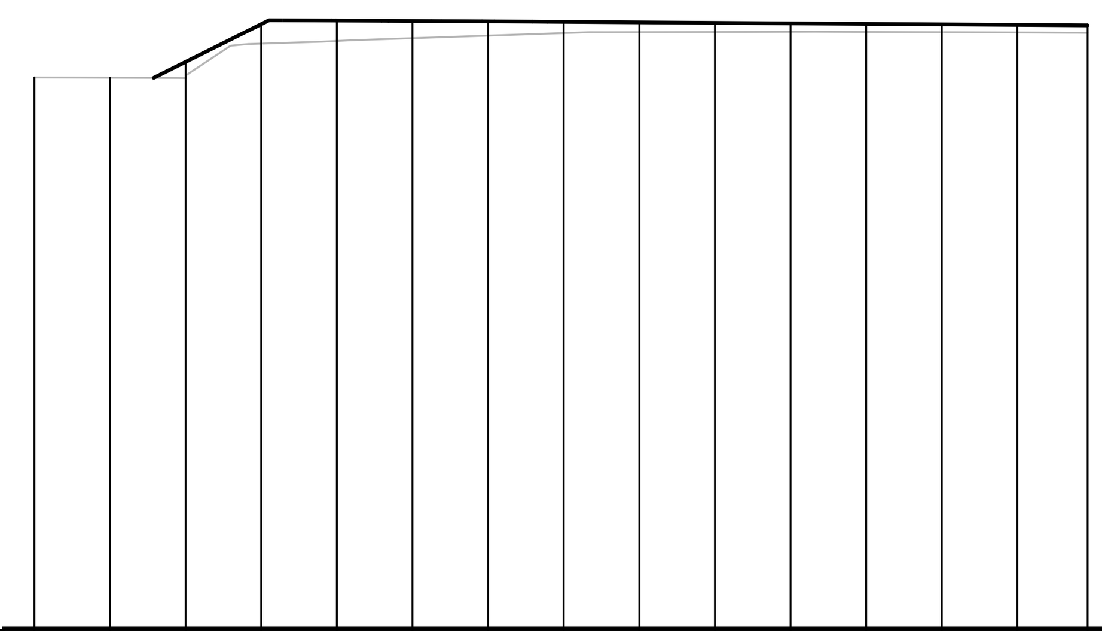


DATUM RL 28.000

CHAINAGE	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CUT / FILL DEPTH
0.000		42.706	0.000
2.000	42.912	42.741	0.171
4.000	42.87	42.799	0.071
6.000	42.907	42.794	0.113
8.000	42.971	42.810	0.161
10.000	43.035	42.819	0.216
12.000	43.099	42.835	0.264
14.000	43.162	42.890	0.272
16.000	43.226	42.959	0.267
18.000	44.091	43.049	1.041
20.000	44.071	43.176	0.894
22.000	44.052	43.292	0.757
24.000	44.032	43.370	0.657
26.000	44.01	43.448	0.556
28.000	43.989	43.525	0.454
30.000	43.965	43.588	0.365
32.000	43.953	43.612	0.315
34.000	43.95	43.634	0.265
34.804	43.949	43.639	0.248

SECTION 4

SCALE: HORIZONTAL - 1:200
VERTICAL - 1:200



DATUM RL 28.000

CHAINAGE	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CUT / FILL DEPTH
0.000		42.587	0.000
2.000		42.582	0.000
4.000	42.999	42.572	0.427
6.000	43.997	43.482	0.515
8.000	44.092	43.552	0.534
10.000	44.082	43.625	0.444
12.000	44.071	43.693	0.359
14.000	44.058	43.760	0.272
16.000	44.044	43.785	0.227
18.000	44.031	43.790	0.200
20.000	44.018	43.795	0.173
22.000	44.004	43.791	0.153
24.000	43.991	43.784	0.137
26.000	43.978	43.776	0.122
27.857	43.965	43.767	0.113

SECTION 5

SCALE: HORIZONTAL - 1:200
VERTICAL - 1:200

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**CG/JCF**	**TH**	**TH**
D	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
C	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	CG/JCF	TH	
A	BALANCE SITE EARTHWORKS	07/11/2017	CG	CG	TH	

SCALE 0 2 4 6 8 10 12 14 16 18 20 METRES
A1 (A3) 1:200 (1:400)

GRID: --- | DATUM: MAHD | PROJECT MANAGER: TH

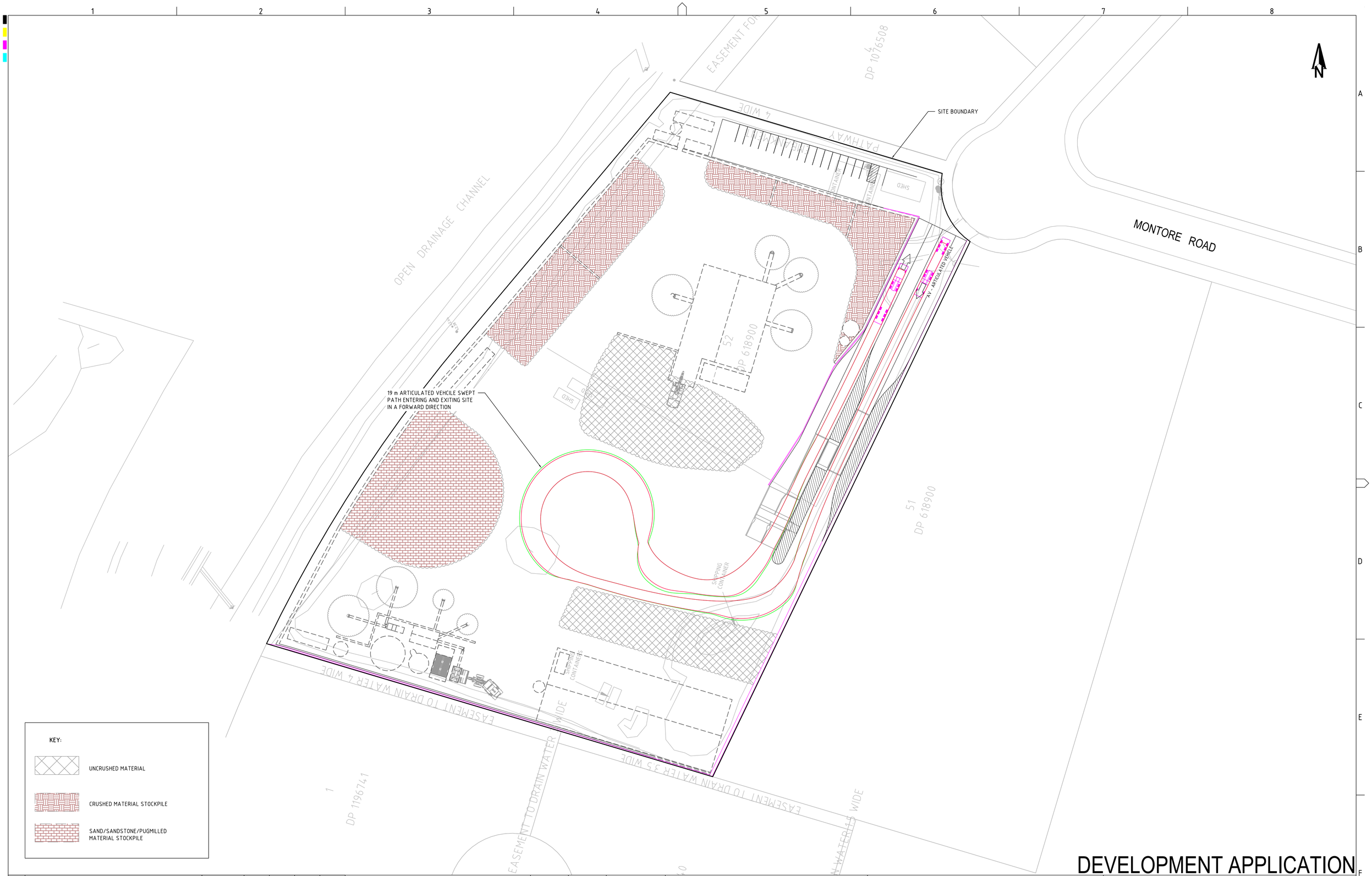
CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
EARTHWORKS SECTIONS
SHEET 02

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-C701	E



KEY:

- UNCRUSHED MATERIAL
- CRUSHED MATERIAL STOCKPILE
- SAND/SANDSTONE/PUGMILLED MATERIAL STOCKPILE

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
H	**MINOR AMENDMENTS**	**02/03/2020**	**LL**	**JCF**	**TH**	**TH**
G	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
F	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
E	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
D	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
C	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
A	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	JCF	TH	

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

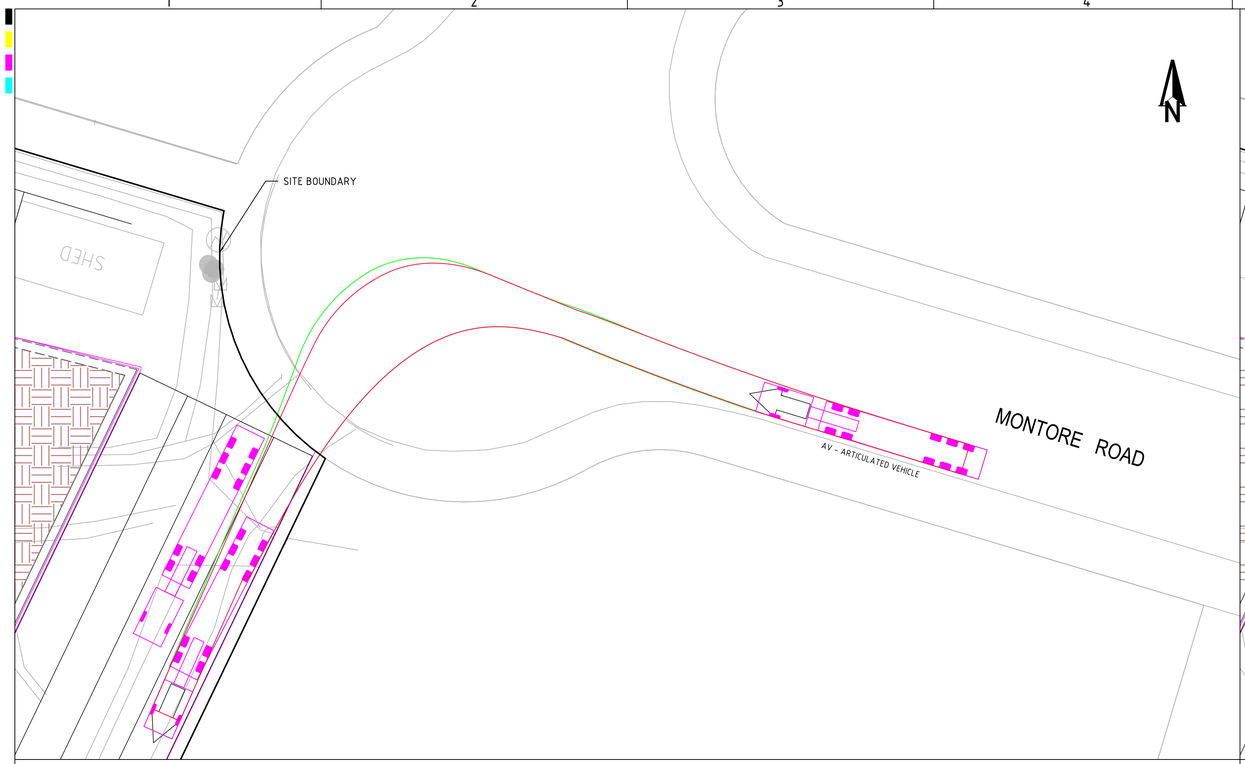
martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
SWEPT PATH ANALYSIS - SHEET 1
TURNING MANOEUVRE ON SITE

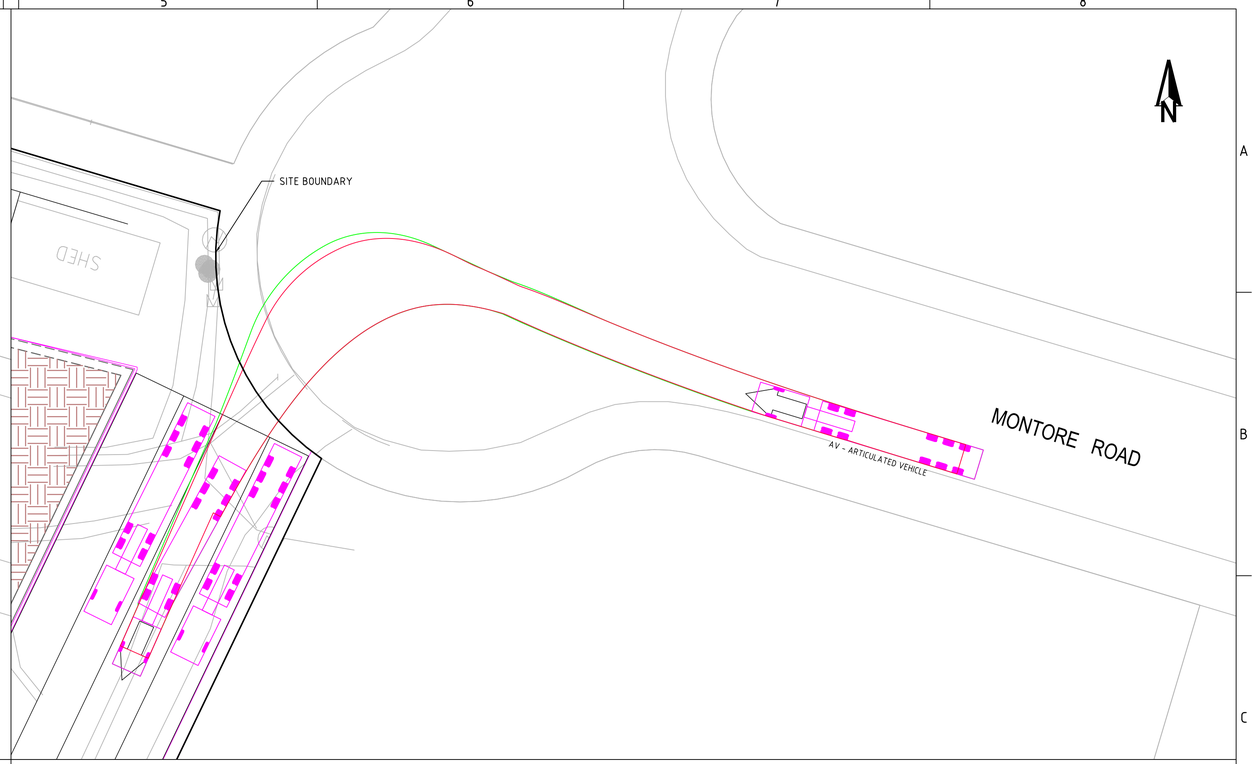
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-DZ01	H

DRAWING ID: P1203464-PS02-R12-DZ01

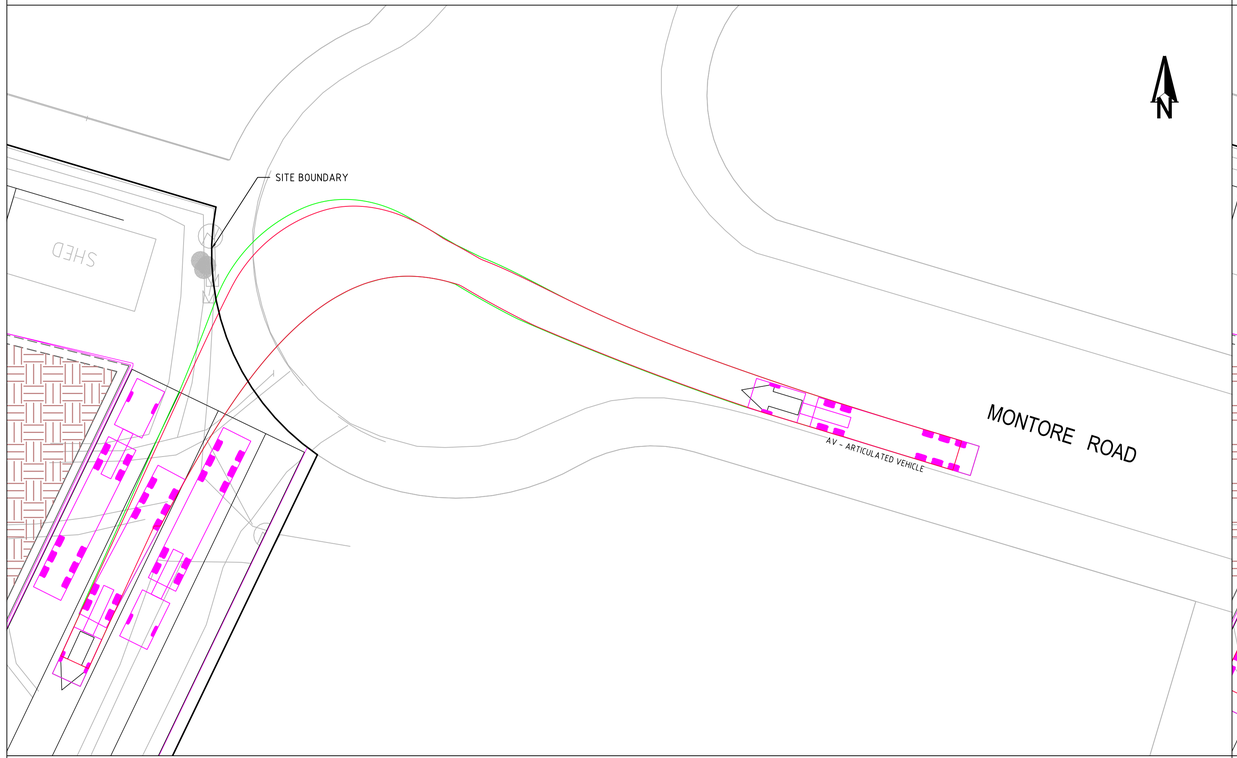
PRINTED: ---- USER: LUU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)



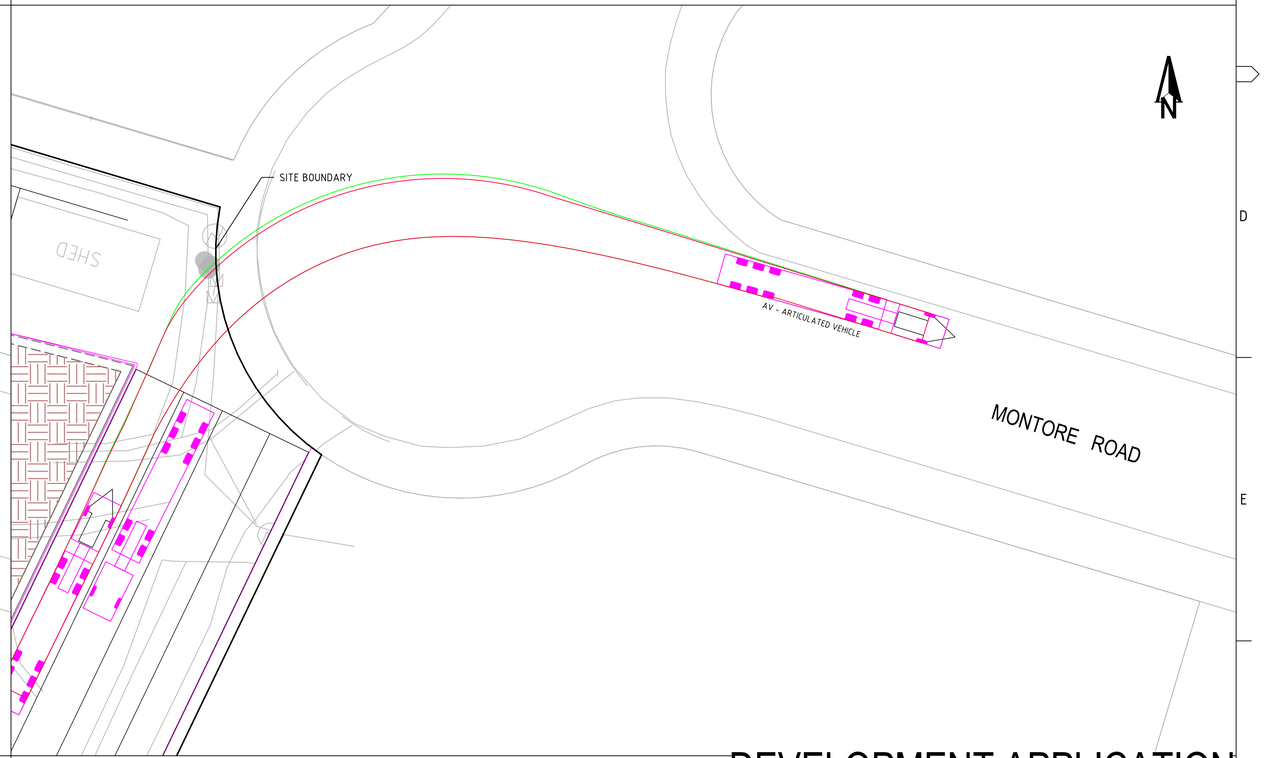
ENTERING SITE, LEFT LANE



ENTERING SITE, MIDDLE LANE



ENTERING SITE, RIGHT LANE



EXITING SITE

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**02/03/2020**	LL	JCF	TH	TH
D	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
C	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
A	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	JCF	TH	

SCALE
0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 METRES
A1 (A3) 1:250 (1:500)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

DISCLAIMER & COPYRIGHT

This plan must not be used for construction unless signed as approved by principal certifying authority.

All measurements in millimetres unless otherwise specified.

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
SWEPT PATH ANALYSIS - SHEET 3
ENTRANCE AND EXIT MANOEUVRES

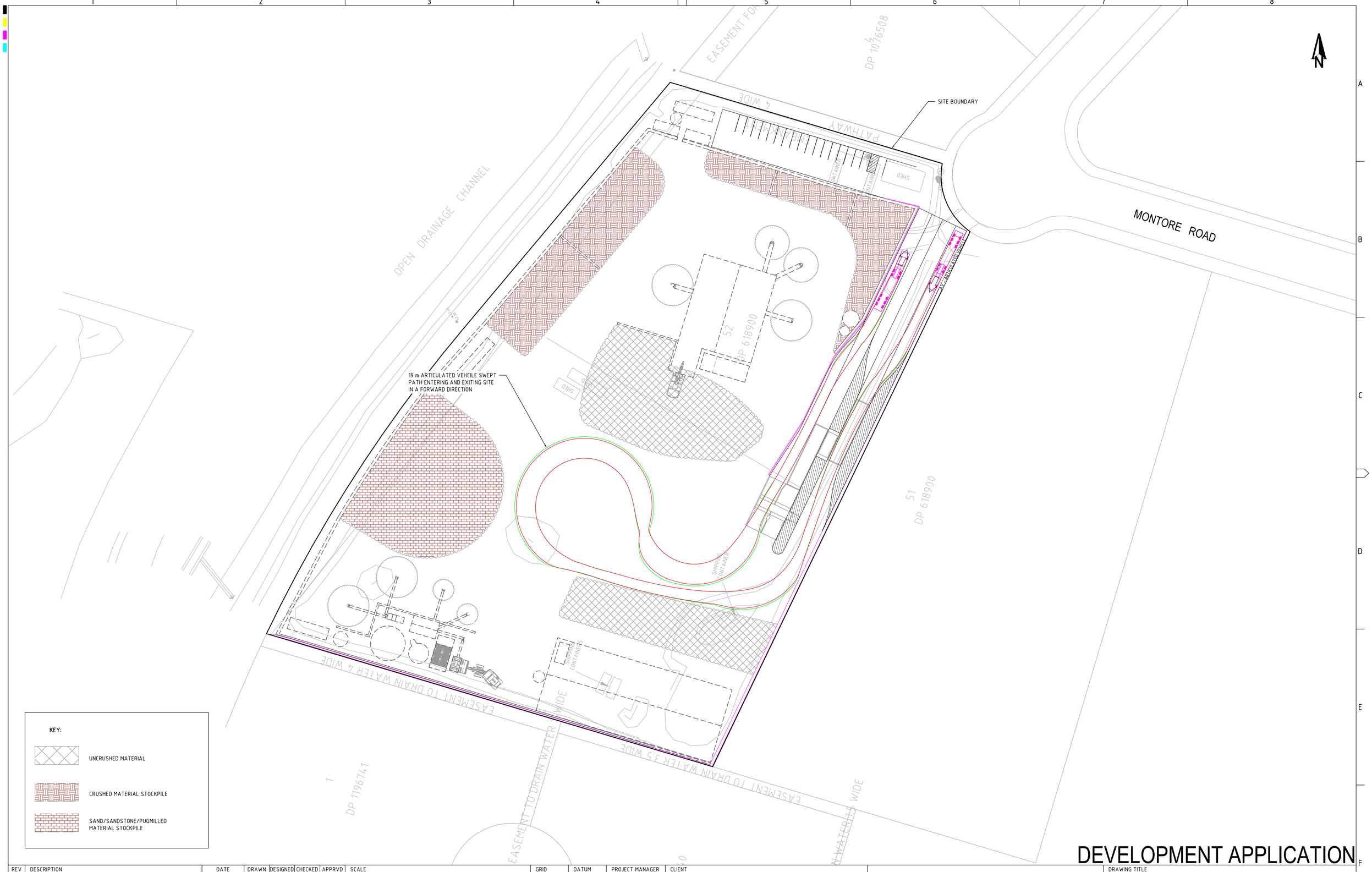
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-DZ03	E

DEVELOPMENT APPLICATION

PRINTED: ---- USER: LLU

A1 / A3 LANDSCAPE (A1LC_v02.0.01)

DRAWING ID: P1203464-PS02-R12-DZ03



DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
H	**MINOR AMENDMENTS**	**02/03/2020**	**LL**	**JCF**	**TH**	**TH**
G	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
F	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
E	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
D	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
C	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
A	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	JCF	TH	

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

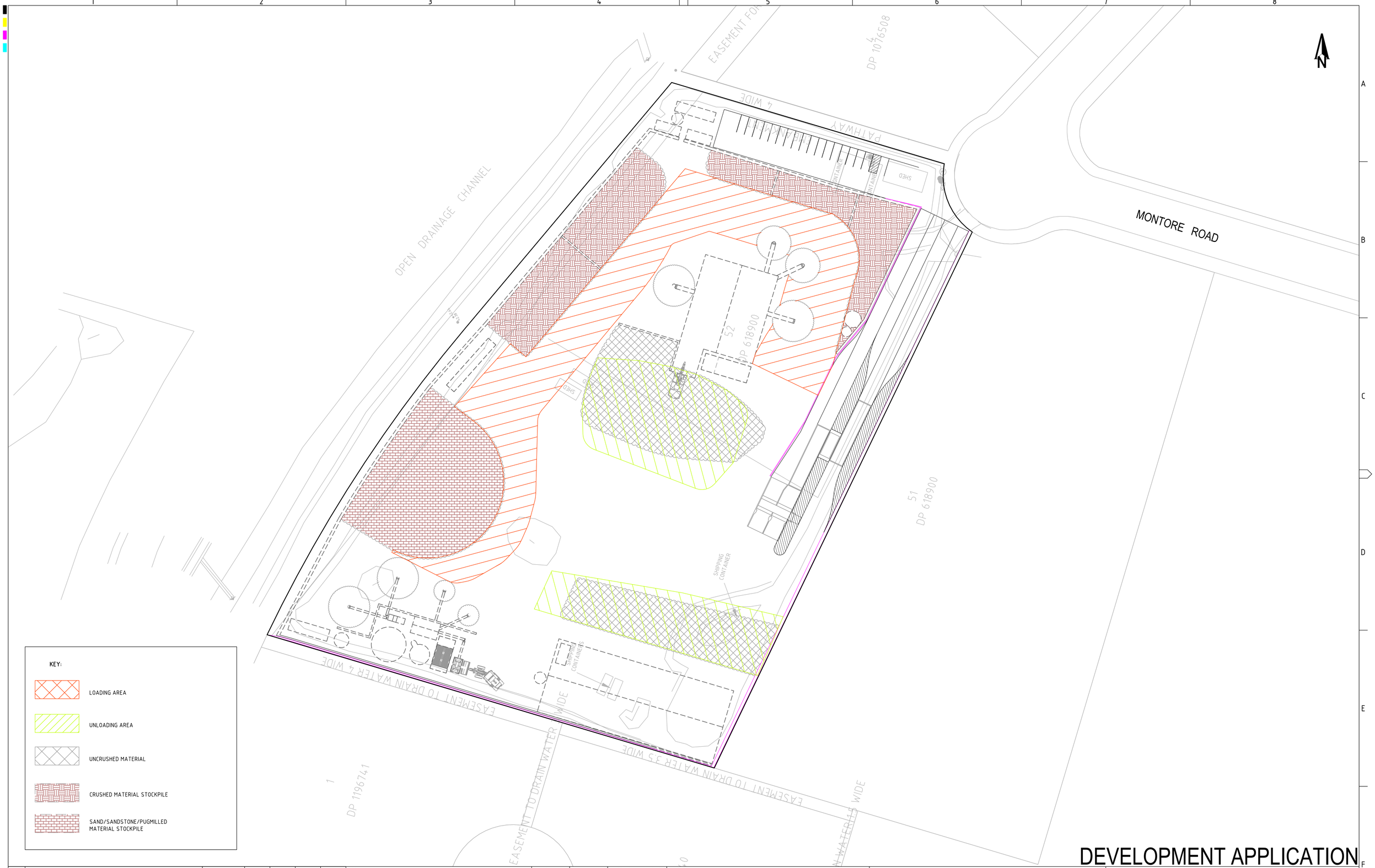
martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
SWEPT PATH ANALYSIS - SHEET 2
TURNING MANOEUVRE ON SITE

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-DZ02	H

DRAWING ID: P1203464-PS02-R12-DZ02

PRINTED: ---- USER: LIU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)



KEY:

- LOADING AREA
- UNLOADING AREA
- UNCRUSHED MATERIAL
- CRUSHED MATERIAL STOCKPILE
- SAND/SANDSTONE/PUGMILLED MATERIAL STOCKPILE

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**02/03/2020**	**LL**	**JCF**	**TH**	**TH**
D	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
C	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
A	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH

SCALE: 0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT

This plan must not be used for construction unless signed as approved by principal certifying authority.

All measurements in millimetres unless otherwise specified.

PROJECT NAME/PLANSET TITLE

MINTO CONCRETE RECYCLERS
SITE EARTHWORKS

7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil

Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

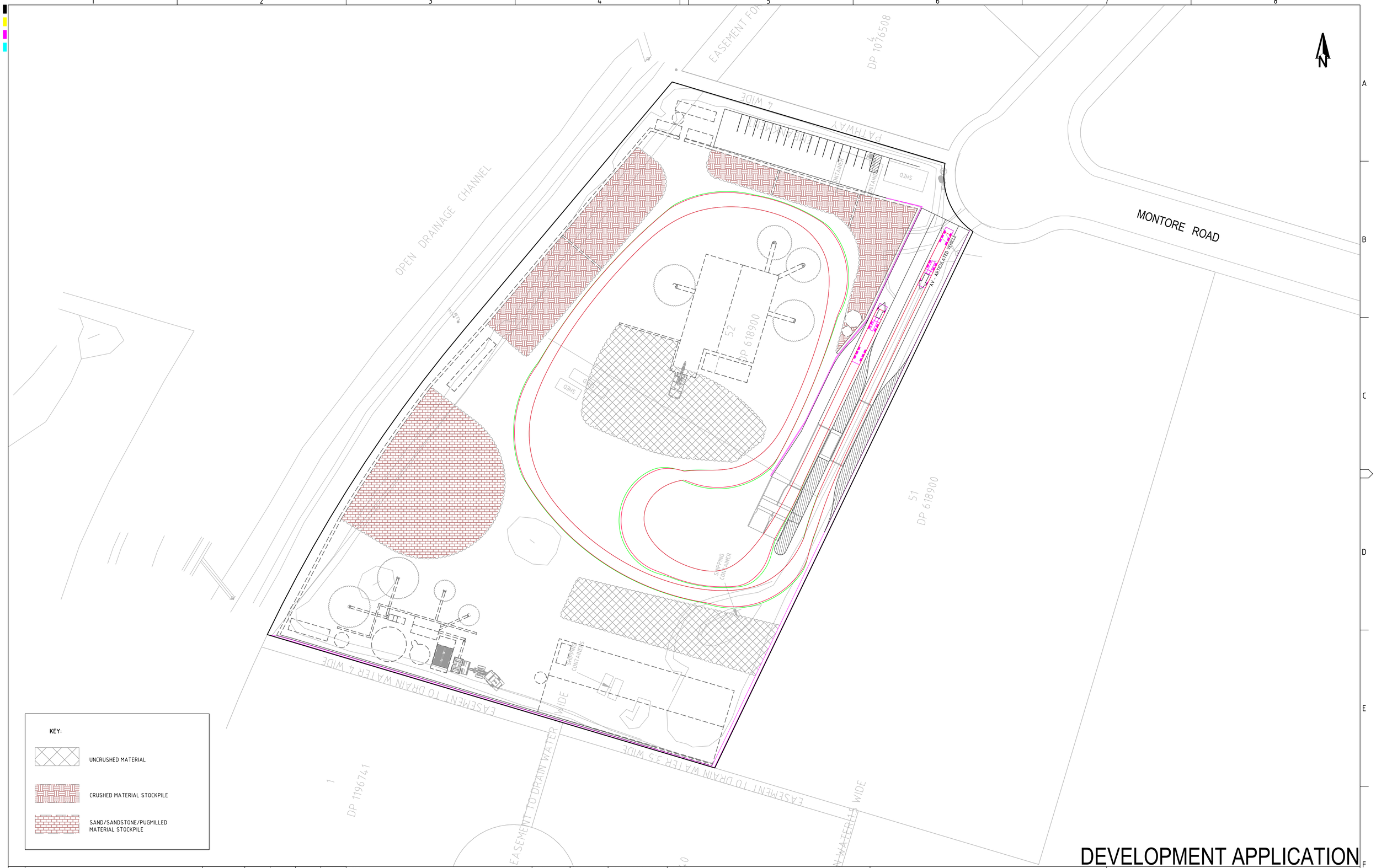
DRAWING TITLE: SITE LOADING & UNLOADING PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-DZ10	E

DRAWING ID: P1203464-PS02-R12-DZ10

PRINTED: --- (USER: LL)

A1 / A3 LANDSCAPE (A1LC_v02.0.01)



DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**02/03/2020**	**LL**	**JCF**	**TH**	**TH**
D	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
C	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
A	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

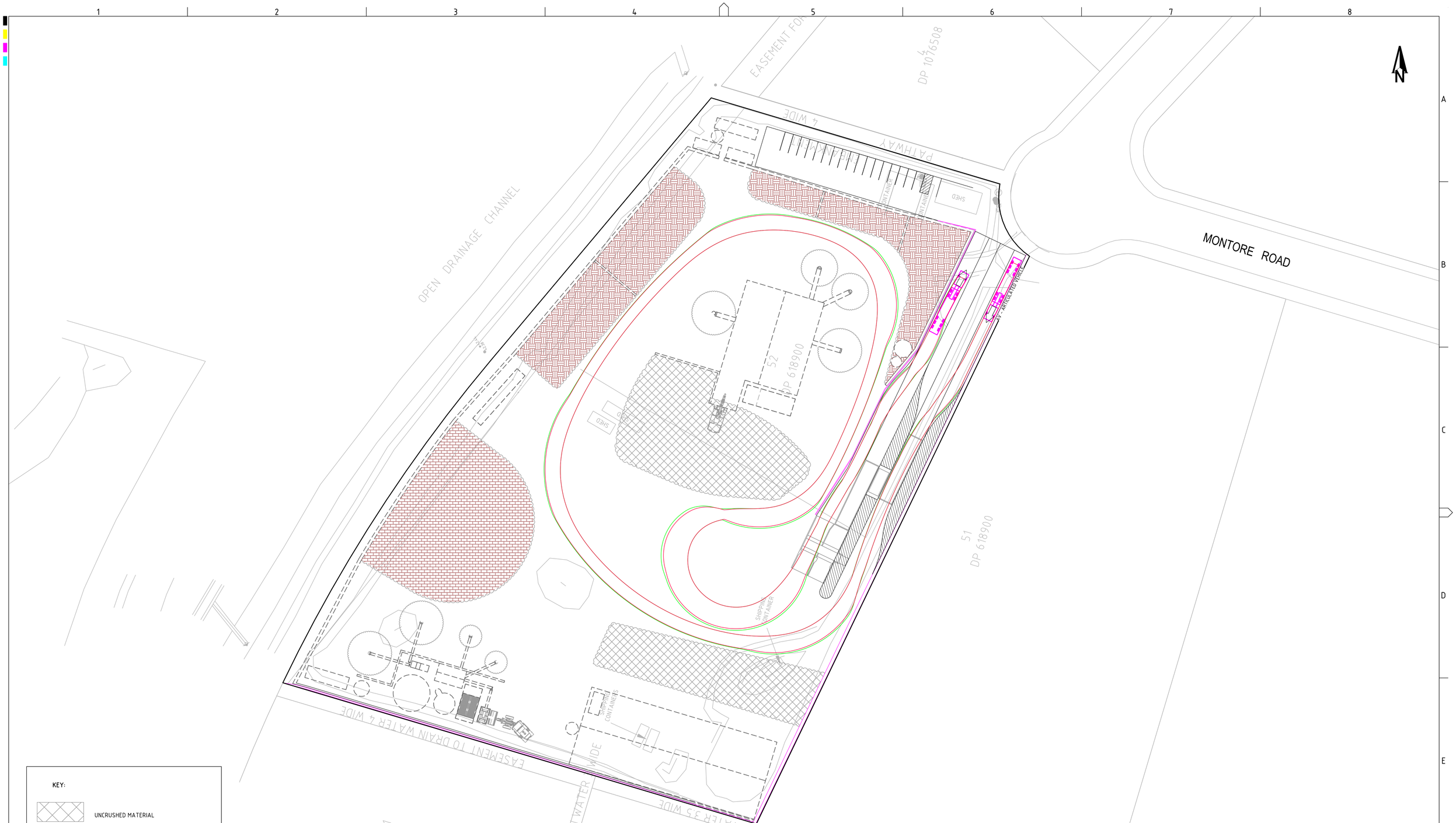
PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
SWEPTH PATH ANALYSIS - SHEET 4
TURNING MANEOUVRE ON SITE

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-DZ04	E

DRAWING ID: P1203464-PS02-R12-DZ04



KEY:

- UNCRUSHED MATERIAL
- CRUSHED MATERIAL STOCKPILE
- SAND/SANDSTONE/PUGMILLED MATERIAL STOCKPILE

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**02/03/2020**	LL	JCF	TH	TH
D	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	JCF	TH	TH
C	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
A	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID: MGA | DATUM: m AHD | PROJECT MANAGER: TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT

This plan must not be used for construction unless signed as approved by principal certifying authority.

All measurements in millimetres unless otherwise specified.

PROJECT NAME/PLANSET TITLE

MINTO CONCRETE RECYCLERS
SITE EARTHWORKS

7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil

Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE

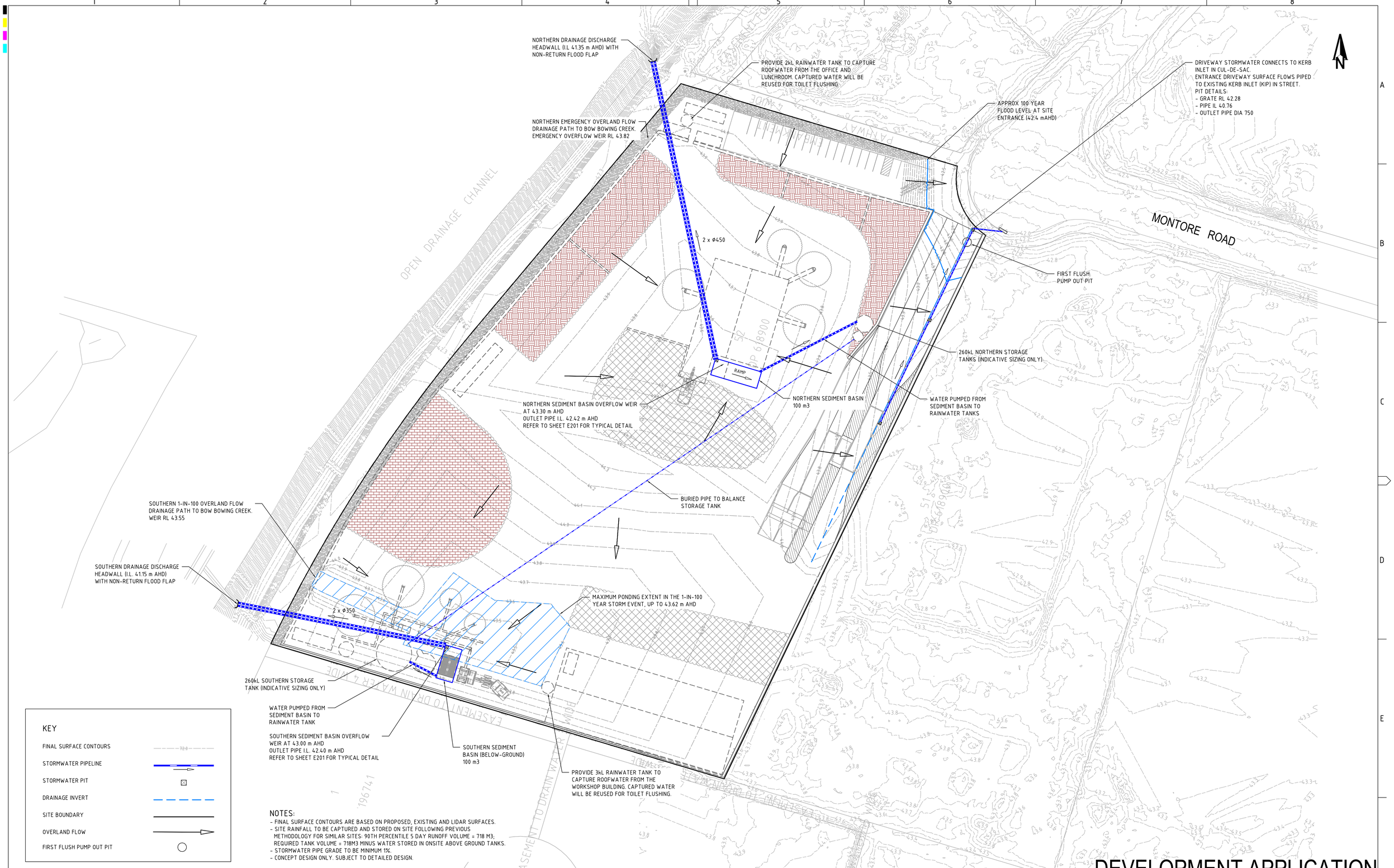
SWEPTH PATH ANALYSIS - SHEET 5
TURNING MANEOUVRE ON SITE

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-DZ05	E

DRAWING ID: P1203464-PS02-R12-DZ05

PRINTED: ---- USER: LLU

A1 / A3 LANDSCAPE (A1LC_v02.0.01)



KEY

- FINAL SURFACE CONTOURS
- STORMWATER PIPELINE
- STORMWATER PIT
- DRAINAGE INVERT
- SITE BOUNDARY
- OVERLAND FLOW
- FIRST FLUSH PUMP OUT PIT

NOTES:

- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.
- SITE RAINFALL TO BE CAPTURED AND STORED ON SITE FOLLOWING PREVIOUS METHODOLOGY FOR SIMILAR SITES: 90TH PERCENTILE 5 DAY RUNOFF VOLUME = 718 M3; REQUIRED TANK VOLUME = 718M3 MINUS WATER STORED IN ONSITE ABOVE GROUND TANKS.
- STORMWATER PIPE GRADE TO BE MINIMUM 1%.
- CONCEPT DESIGN ONLY. SUBJECT TO DETAILED DESIGN.

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
J	**MINOR AMENDMENTS**	**02/03/2020**	LL	EZ	TH	TH
I	MINOR AMENDMENTS	12/10/2018	RK	EZ	TH	TH
H	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	DG/EZ/JCF	TH	TH
G	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
F	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	EZ/JCF		
E	CLIENT REQUESTED AMENDMENTS	03/08/2018	PB	JCF	TH	TH
D	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
C	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	

SCALE: A1 (A3) 1:500 (1:1,000) — METRES

GRID	DATUM	PROJECT MANAGER
MGA	MAHD	TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

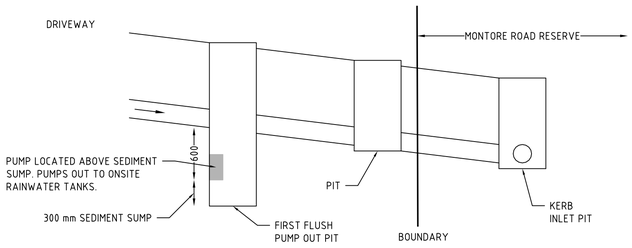
PROJECT NAME/PLANSET TITLE: MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

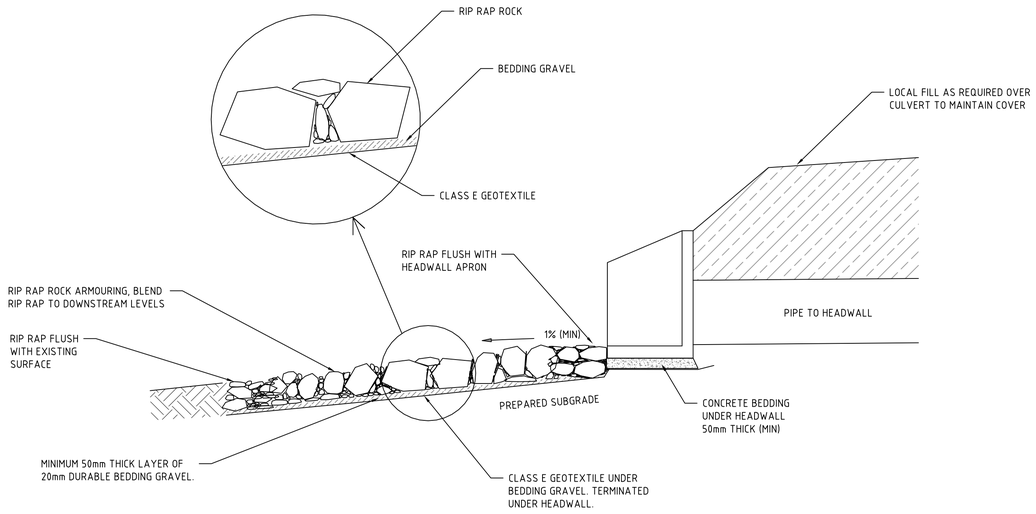
DRAWING TITLE: DRAINAGE PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-E100	J

DRAWING ID: P1203464-PS02-R12-E100



DETAIL: DRIVEWAY FIRST FLUSH PUMP



DETAIL: HEAD WALL OUTLET AND RIP RAP SECTION

NOT TO SCALE

NOTES:
- CONCEPT DESIGN ONLY. SUBJECT TO DETAILED DESIGN.

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
D	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**EZ/JCF**	**TH**	**TH**
C	AMENDMENTS AS PER CLIENT COMMENTS	20/09/2018	PB/JCF/LZ	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	EZ/JCF		
A	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH

SCALE

GRID	DATUM	PROJECT MANAGER
		TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

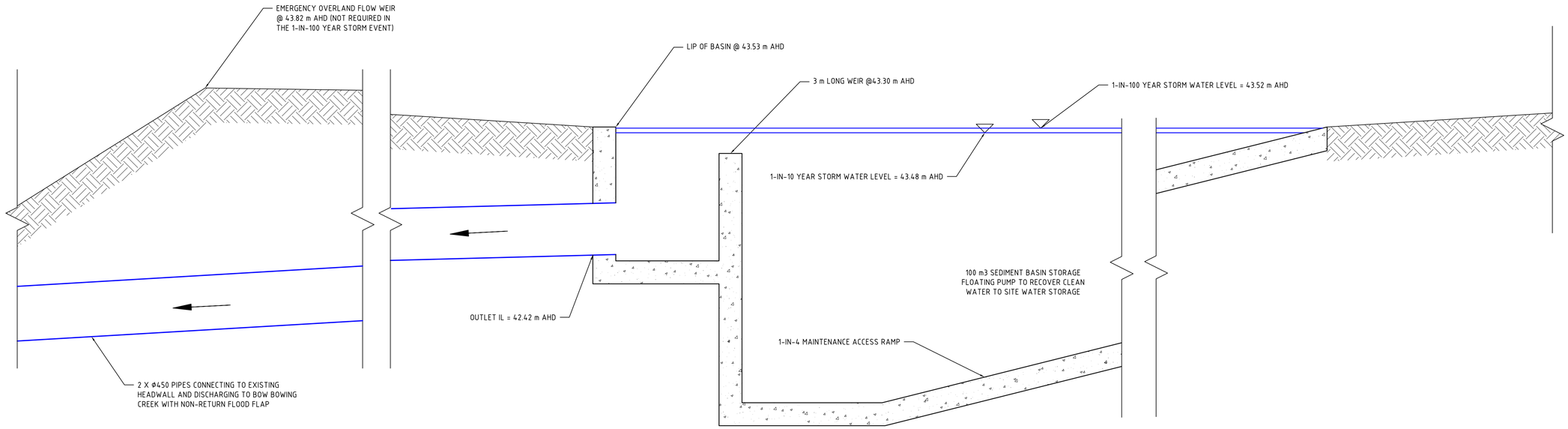
PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE: DRAINAGE DETAILS

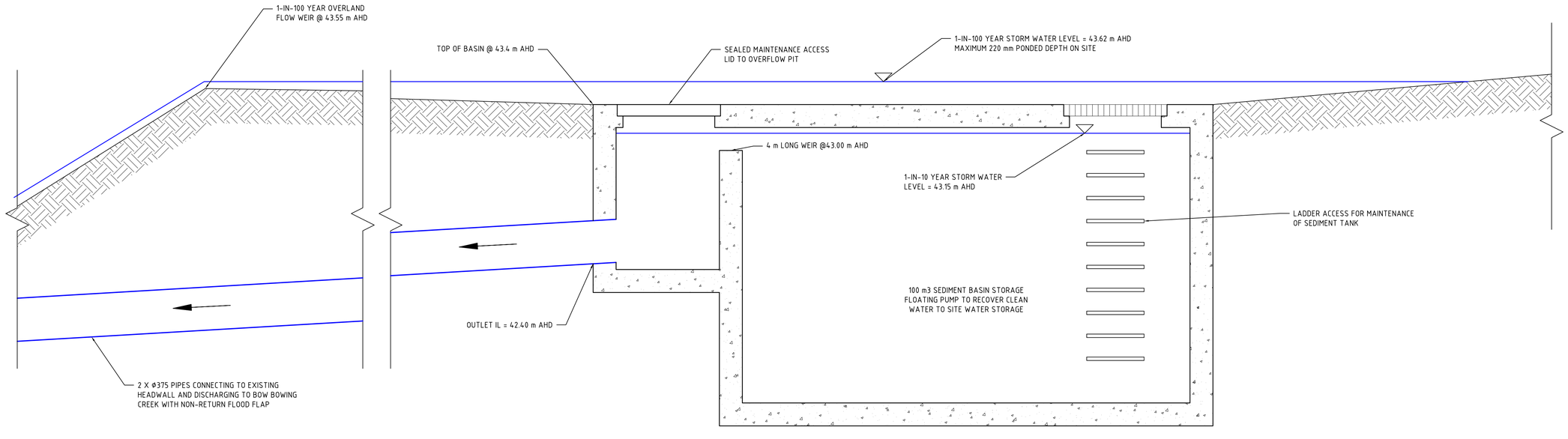
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-E200	D

DRAWING ID: P1203464-PS02-R12-E200



SECTION 01 - NORTHERN BASIN CONCEPT DESIGN

NOT TO SCALE



SECTION 02 - SOUTHERN BASIN CONCEPT DESIGN

NOT TO SCALE

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	DG/EZ/JCF	TH	TH

SCALE: 0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 METRES
A1 (A3) 1:20 (1:40)

GRID | DATUM | PROJECT MANAGER: TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

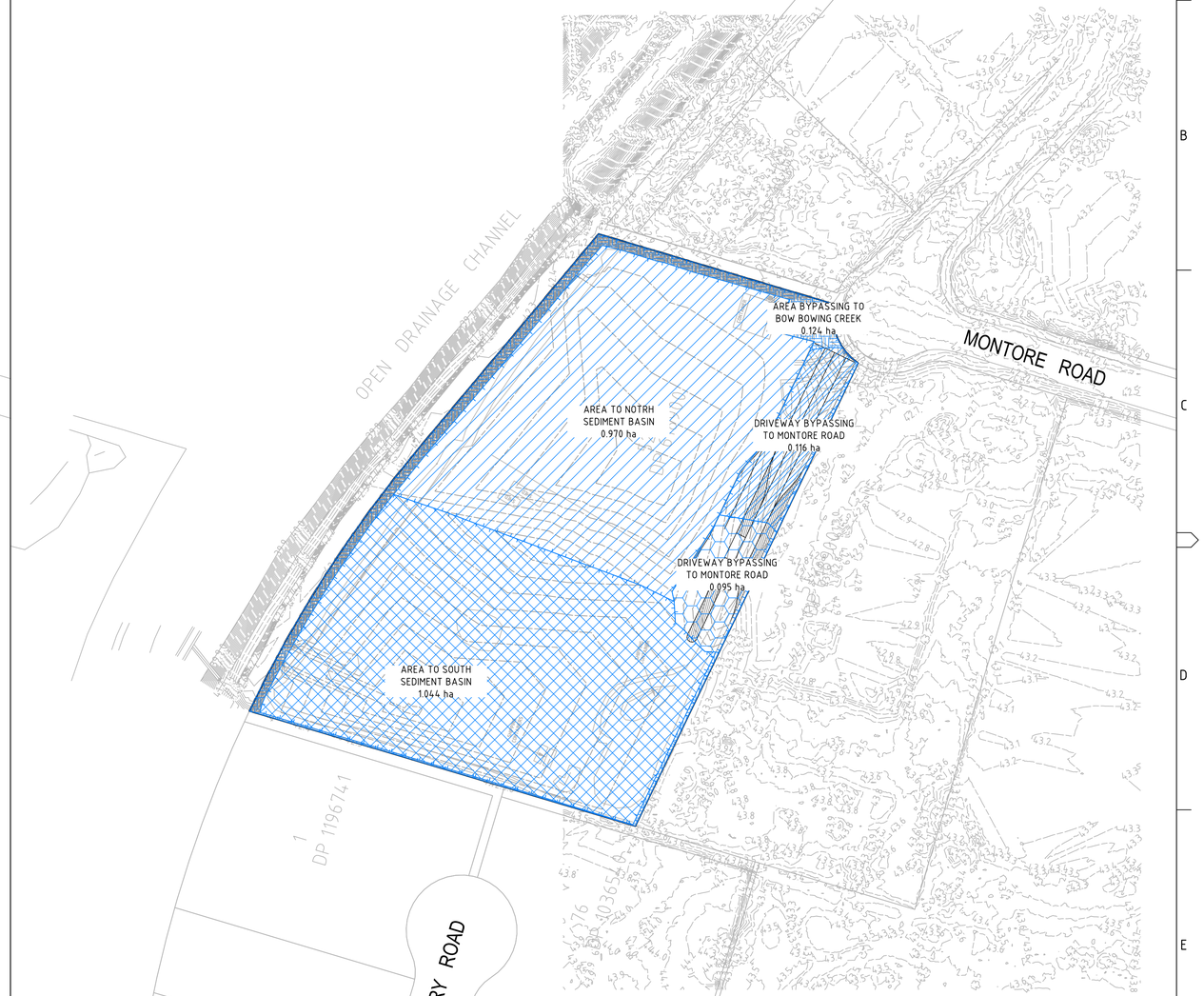
martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE: SEDIMENT BASIN CROSS SECTIONS

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-E201	A

DRAWING ID: P1203464-PS02-R12-E201

PRINTED: --- USER: LOU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)



DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	MINOR AMENDMENTS	12/10/2018	RK	EZ	TH	TH

SCALE
0 10 20 30 40 50 60 70 80 90 100 METRES
A1 (A3) 1:1,000 (1:2,000)

GRID	DATUM	PROJECT MANAGER
MGA	mAHD	TH

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.
(C) Copyright Martens & Associates Pty Ltd

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

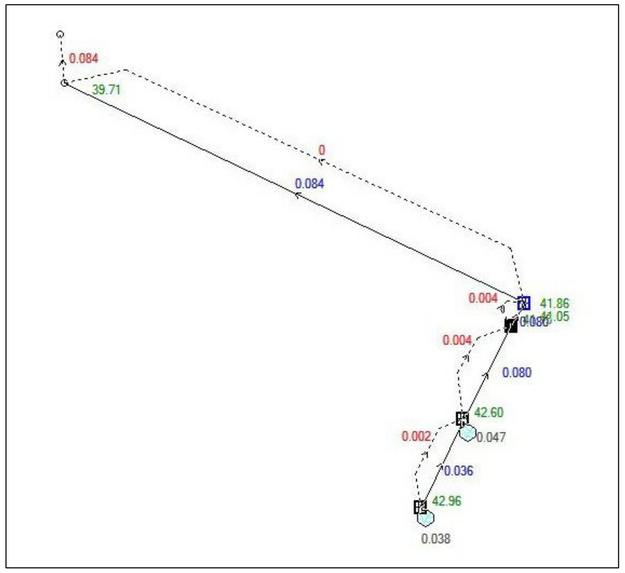
martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
DRAINS CATCHMENT PLANS

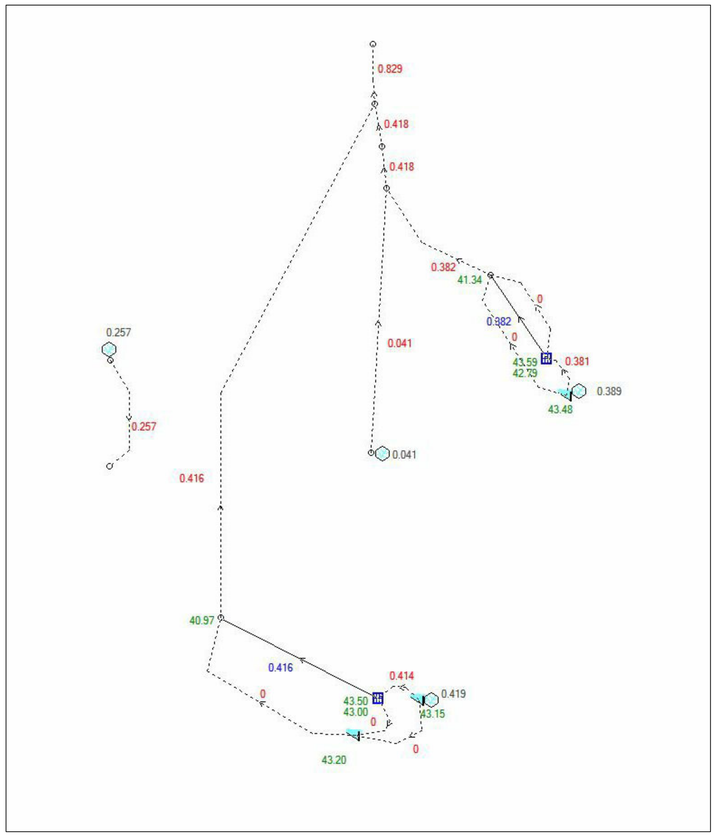
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-E410	A

DRAWING ID: P1203464-PS02-R12-E410

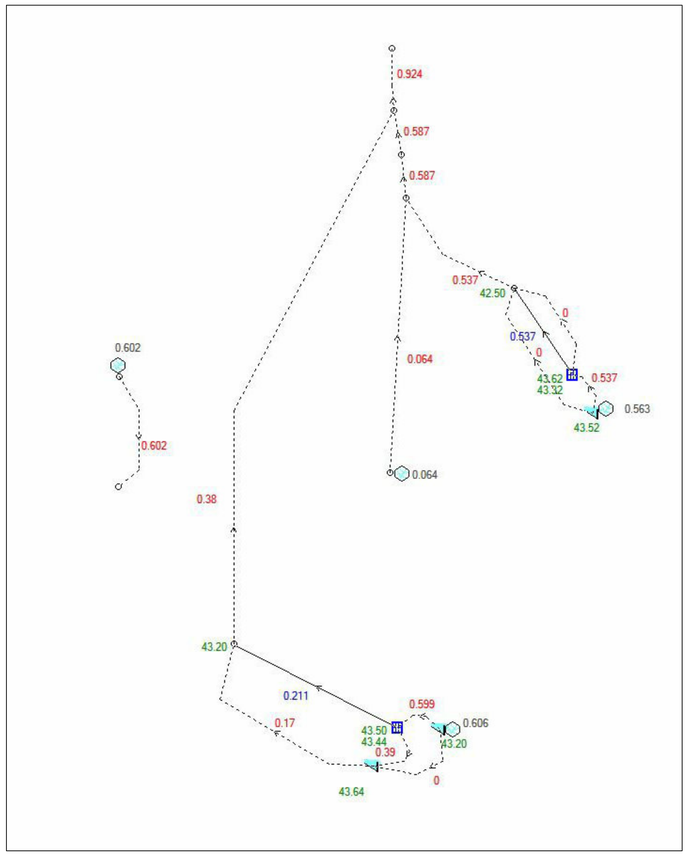
PRINTED: ---- - USER: LUU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)



DRIVEWAY DRAINAGE 1-IN-10 YEAR ARI



SEDIMENT BASINS 1-IN-10 YEAR ARI



SEDIMENT BASINS 1-IN-100 YEAR ARI

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
D	MINOR AMENDMENTS	15/11/2019	JCF/LZ/PB	DG/EZ/JCF	TH	TH
C	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	DG/EZ/JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	EZ/JCF		
A	UPDATE	09/08/2018	PB	EZ		

SCALE

PRINTED ---- USER LOU

A1 / A3 LANDSCAPE (A1LC_v02.0.01)

GRID	DATUM	PROJECT MANAGER
MGA	mAHD	TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

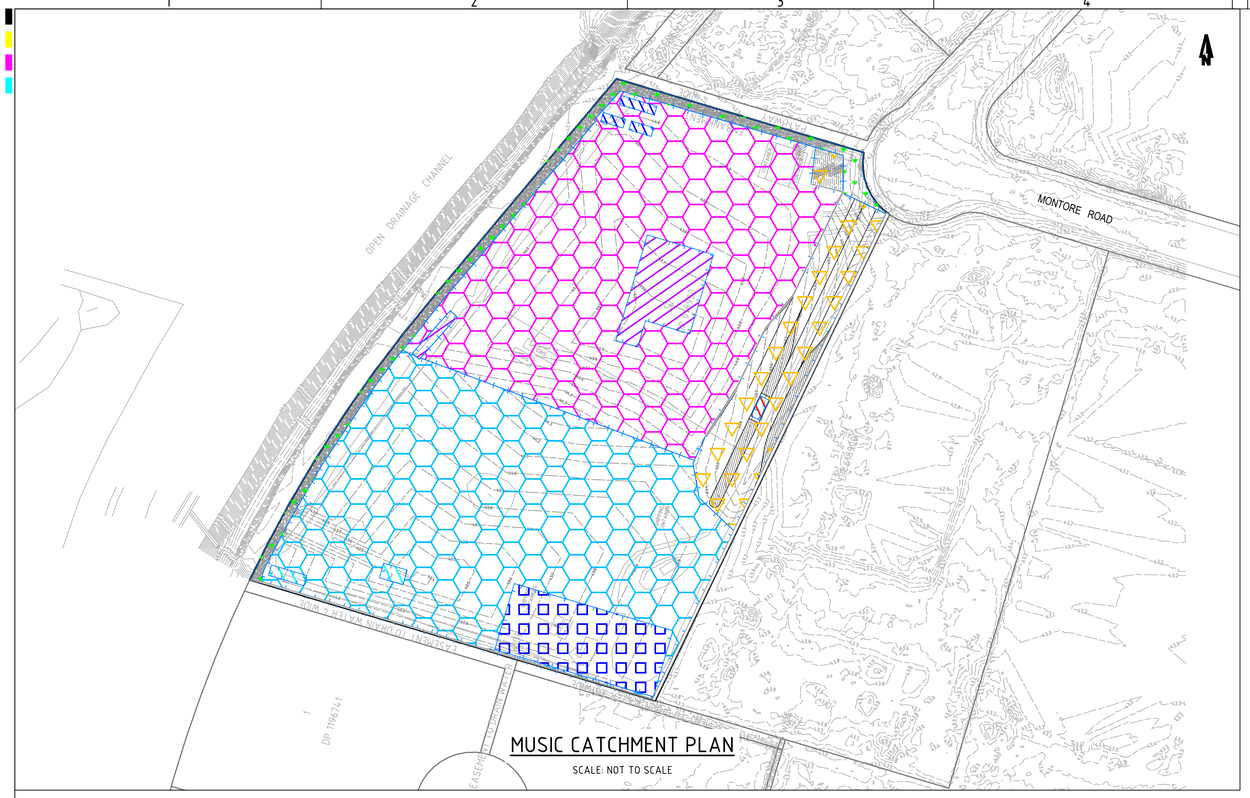
PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE: DRAINS MODELLING RESULTS

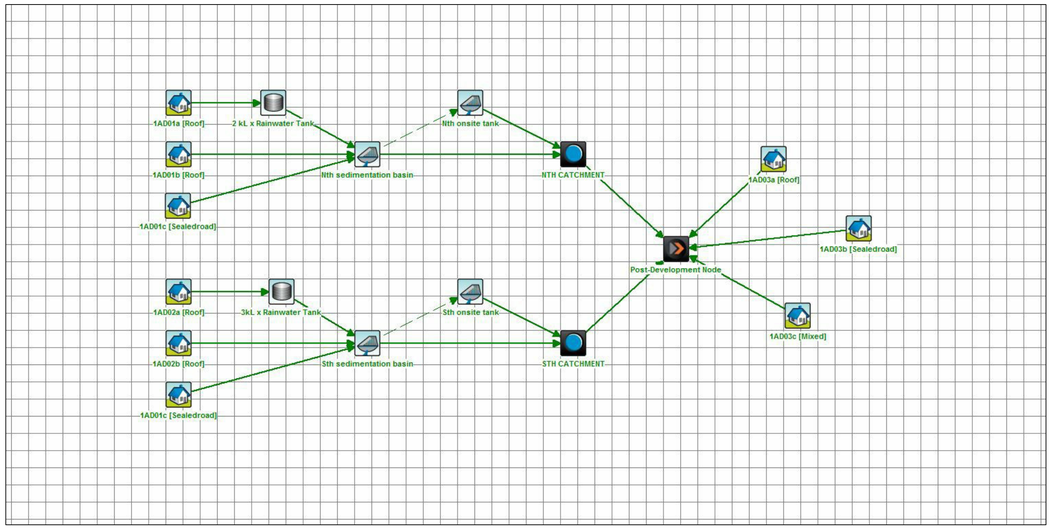
PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-E600	D

DRAWING ID: P1203464-PS02-R12-E600



MUSIC CATCHMENT PLAN

SCALE: NOT TO SCALE



MUSIC LAYOUT

MUSIC CATCHMENTS (P12034641MUS01V01)

KEY	DESCRIPTION	MUSIC NODE ID	AREA (ha)	IMPERVIOUS %	MUSIC NODE REFERENCE
NORTHERN CATCHMENT					
	ROOF TO 2kL RWT	1AD01a	0.008	100	NSW MUSIC MODELLING GUIDELINES 2015
	ROOF BYPASS 2kL RWT	1AD01b	0.073	100	NSW MUSIC MODELLING GUIDELINES 2015
	SEALED ROAD TO SEDIMENT BASIN	1AD01c	0.887	100	NSW MUSIC MODELLING GUIDELINES 2015
SOUTHERN CATCHMENT					
	ROOF TO 3kL RWT	1AD02a	0.122	100	NSW MUSIC MODELLING GUIDELINES 2015
	ROOF BYPASS 3kL RWT	1AD02b	0.008	100	NSW MUSIC MODELLING GUIDELINES 2015
	SEALED ROAD TO SEDIMENT BASIN	1AD02c	0.913	100	NSW MUSIC MODELLING GUIDELINES 2015
CATCHMENT BYPASS SEDIMENT BASINS					
	ROOF	1AD03a	0.002	100	NSW MUSIC MODELLING GUIDELINES 2015
	SEALED ROAD	1AD03b	0.215	100	NSW MUSIC MODELLING GUIDELINES 2015
	BUFFER	1AD03c	0.118	0	NSW MUSIC MODELLING GUIDELINES 2015
TOTAL SITE					
		TOTAL - OVERALL		2.346	= 100 % OF OVERALL AREA
		TOTAL - IMPERVIOUS		2.228	= 95 % OF OVERALL AREA
		TOTAL - PERVIOUS		0.118	= 5 % OF OVERALL AREA
NOTES:					
1. INTERNAL REUSE FOR TOILET FLUSHING IS 20 kL/PERSON/DAY.					
2. INTERNAL REUSE FOR DUST SUPPRESSION AND SAND WASHING SYSTEM IS 81.65 kL/DAY FOR EACH SEDIMENTATION BASIN.					

MUSIC MODELLING RESULTS (P1203464MUS01V01)

MUSIC NODE	POST DEVELOPMENT NODE			
PARAMETER	SOURCES	RESIDUAL LOAD	% REDUCTION	% TARGET
Flow (ML/yr)	16.6	8.73	47.3	NONE
Total Suspended Solids (kg/yr)	5.25E+03	9.69E+02	81.5	80
Total Phosphorus (kg/yr)	8.91	2.31	74	45
Total Nitrogen (kg/yr)	39.4	17.5	55.5	45
Gross Pollutants (kg/yr)	427	40.9	90.4	90

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
A	INITIAL RELEASE	15/11/2019	LL	EZ	TH	TH

SCALE

GRID | DATUM | PROJECT MANAGER: TH

CLIENT: CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

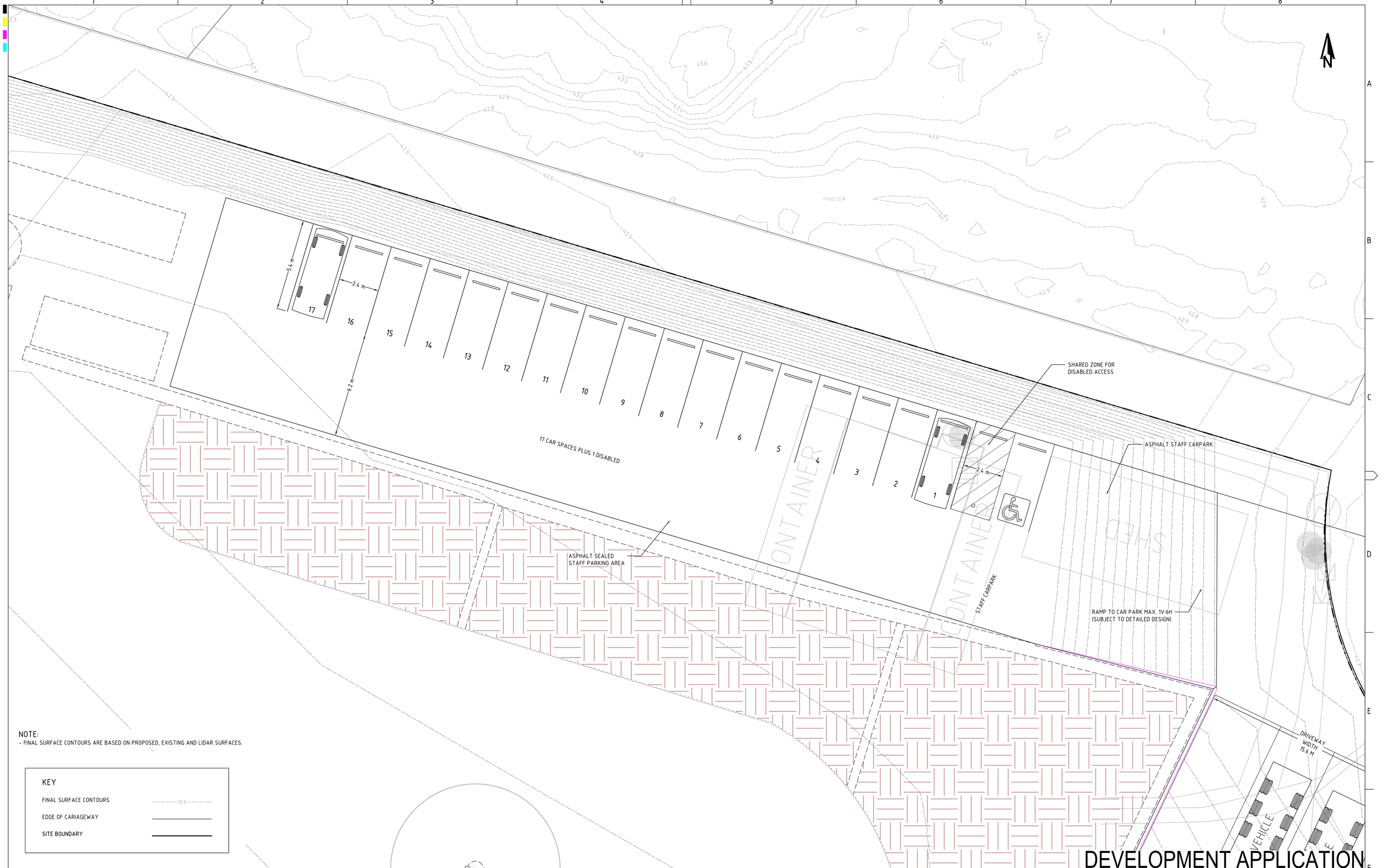
DRAWING TITLE
WATER QUALITY CATCHMENT PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-E700	A

DRAWING ID: P1203464-PS02-R12-E700

PRINTED: --- - USER: LLU

A1 / A3 LANDSCAPE (A1LC_v02.0.01)



NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.

KEY

FINAL SURFACE CONTOURS — 72.0 —

EDGE OF CARIAGEWAY

SITE BOUNDARY

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
F	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**JCF**	**TH**	**TH**
E	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
D	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
C	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
A	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	JCF	TH	

SCALE
0 1 2 3 4 5 6 7 8 9 10 METRES
A1 (A3) 1:100 (1:200)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

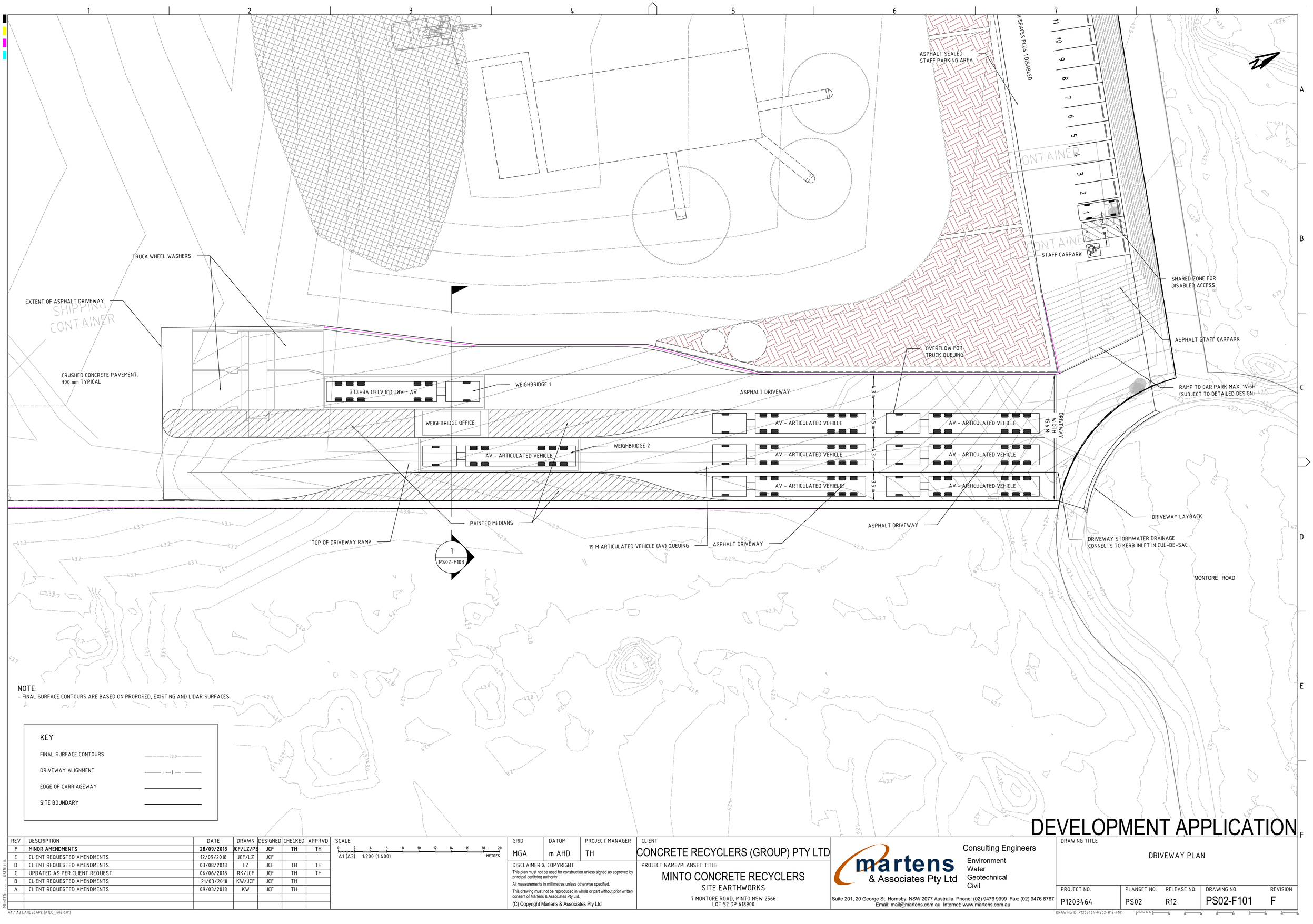
PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
CARPARK PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-F102	F

PRINTED: USER LUU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)
DRAWING ID: P1203464-PS02-R12-F102



NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.

KEY

- FINAL SURFACE CONTOURS — 72.0 —
- DRIVEWAY ALIGNMENT
- EDGE OF CARRIAGEWAY
- SITE BOUNDARY

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
F	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**JCF**	**TH**	**TH**
E	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
D	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
C	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
A	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	JCF	TH	

SCALE
0 2 4 6 8 10 12 14 16 18 20 METRES
A1 (A3) 1:200 (1:400)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

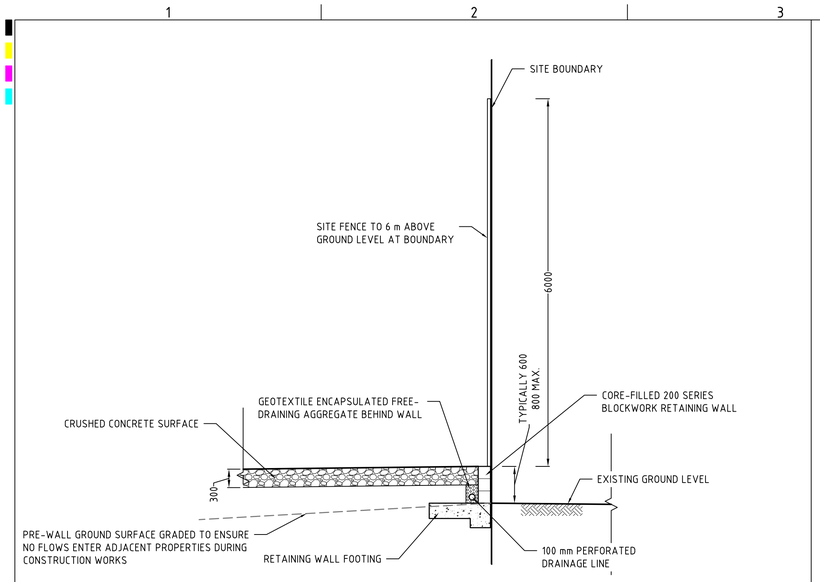
PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

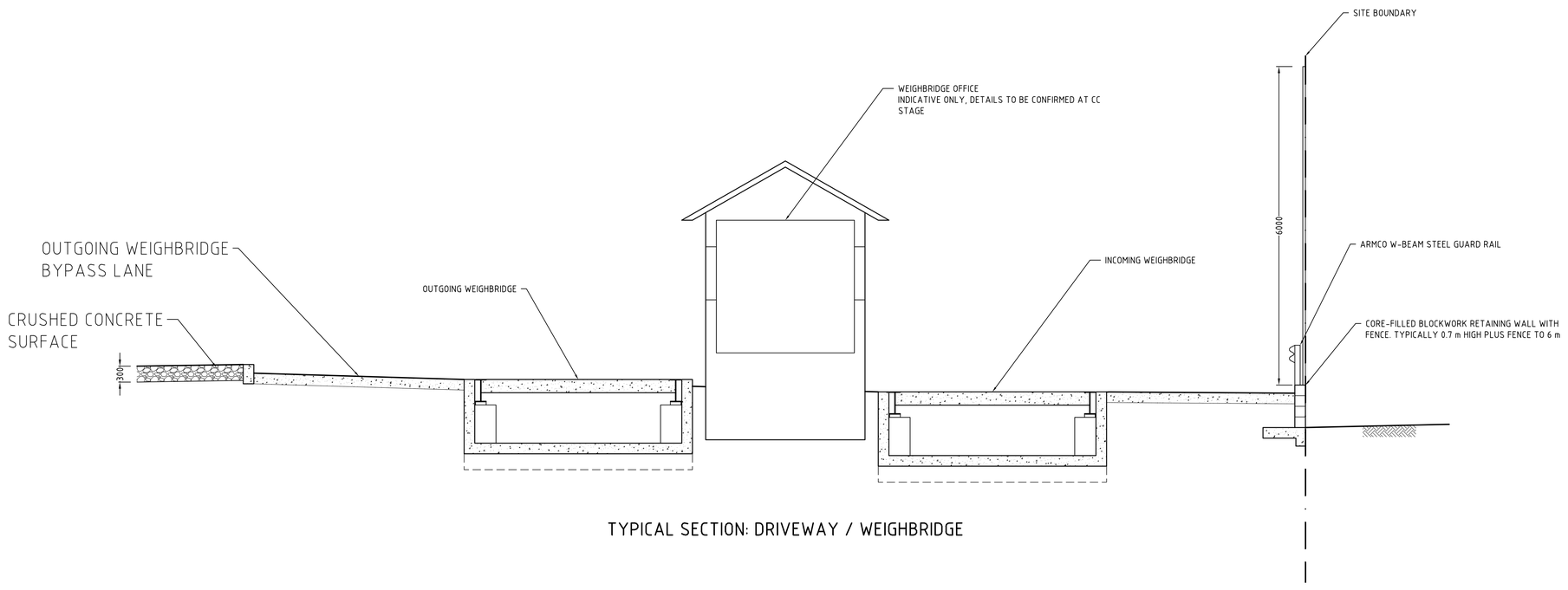
DRAWING TITLE
DRIVEWAY PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-F101	F

PRINTED: — USER: LIU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)
DRAWING ID: P1203464-PS02-R12-F101



TYPICAL PROPERTY BOUNDARY SECTION, EASTERN BOUNDARY



TYPICAL SECTION: DRIVEWAY / WEIGHBRIDGE

NOTES:
- RETAINING WALL & FENCE SUBJECT TO DETAILED DESIGN.

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**JCF**	**TH**	**TH**
D	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
C	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
B	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
A	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	JCF	TH	

SCALE
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 METRES
A1 (A3) 1:50 (1:100)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

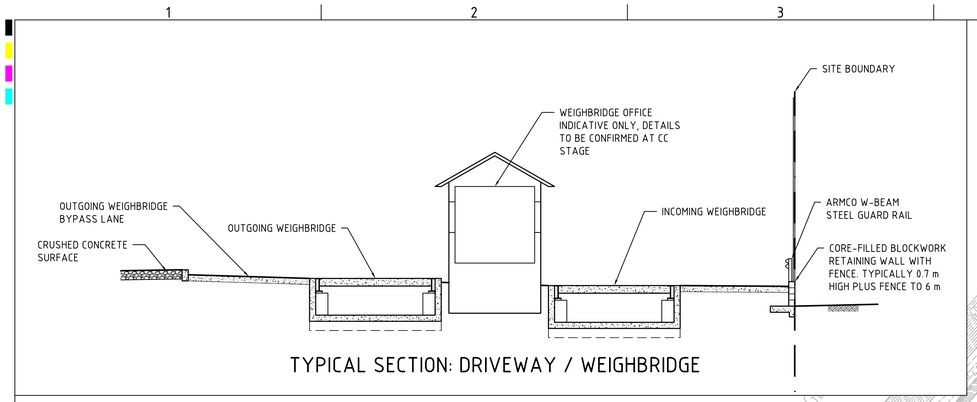
PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
DRIVEWAY CROSS SECTION

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-F103	E

PRINTED: ---- USER: LIU
A1 / A3 LANDSCAPE (A1LC__v02.0.01)
DRAWING ID: P1203464-PS02-R12-F103



TYPICAL SECTION: DRIVEWAY / WEIGHBRIDGE

MONTORE ROAD

DRIVEWAY BLOCKWORK RETAINING WALL
MAX. HEIGHT 1.5 m

WEIGHBRIDGE AREA

EASTERN BLOCKWORK RETAINING WALL
MAX. HEIGHT 0.72 m

SOUTHERN BLOCKWORK RETAINING WALL
MAX. HEIGHT 1.8 m

TOW 44.100 BOW 42.584
TOW 42.372 BOW 42.335
CH 0.000
CH 15
CH 30
CH 45
TOW 44.100 BOW 43.788
TOW 43.334 BOW 42.754
CH 60
TOW 44.100 BOW 44.035
CH 75
CH 90
TOW 44.100 BOW 43.387
CH 105
CREST 115.000
CH 120
CH 135
CH 150
CH 165
CH 176.150
TOW 44.100 BOW 43.505
BOW 42.264 TOW 44.100
TOW 44.100 BOW 42.649
EASEMENT TO DRAIN WATER 1 WIDE
OPEN DRAINAGE
DP 68900
DP 196741

NOTE:
- FINAL SURFACE CONTOURS ARE BASED ON PROPOSED, EXISTING AND LIDAR SURFACES.

KEY

FINAL SURFACE CONTOURS ——72.0——

EDGE OF RETAINING WALL

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
G	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**CG/JCF**	**TH**	**TH**
F	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
E	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
D	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
C	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
B	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	CG/JCF	TH	
A	BALANCE SITE EARTHWORKS	07/11/2017	CG	CG	TH	

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
MGA	MAHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

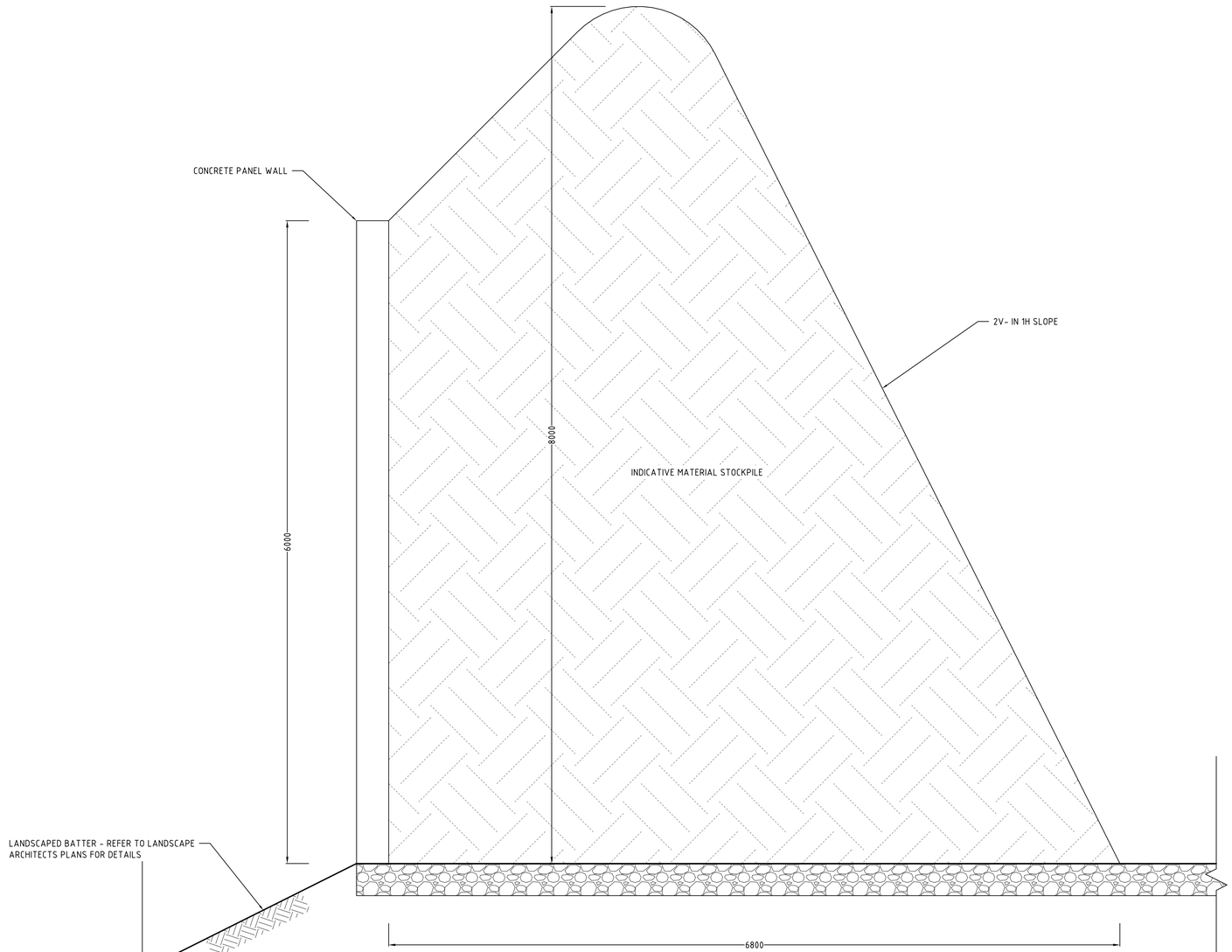
martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

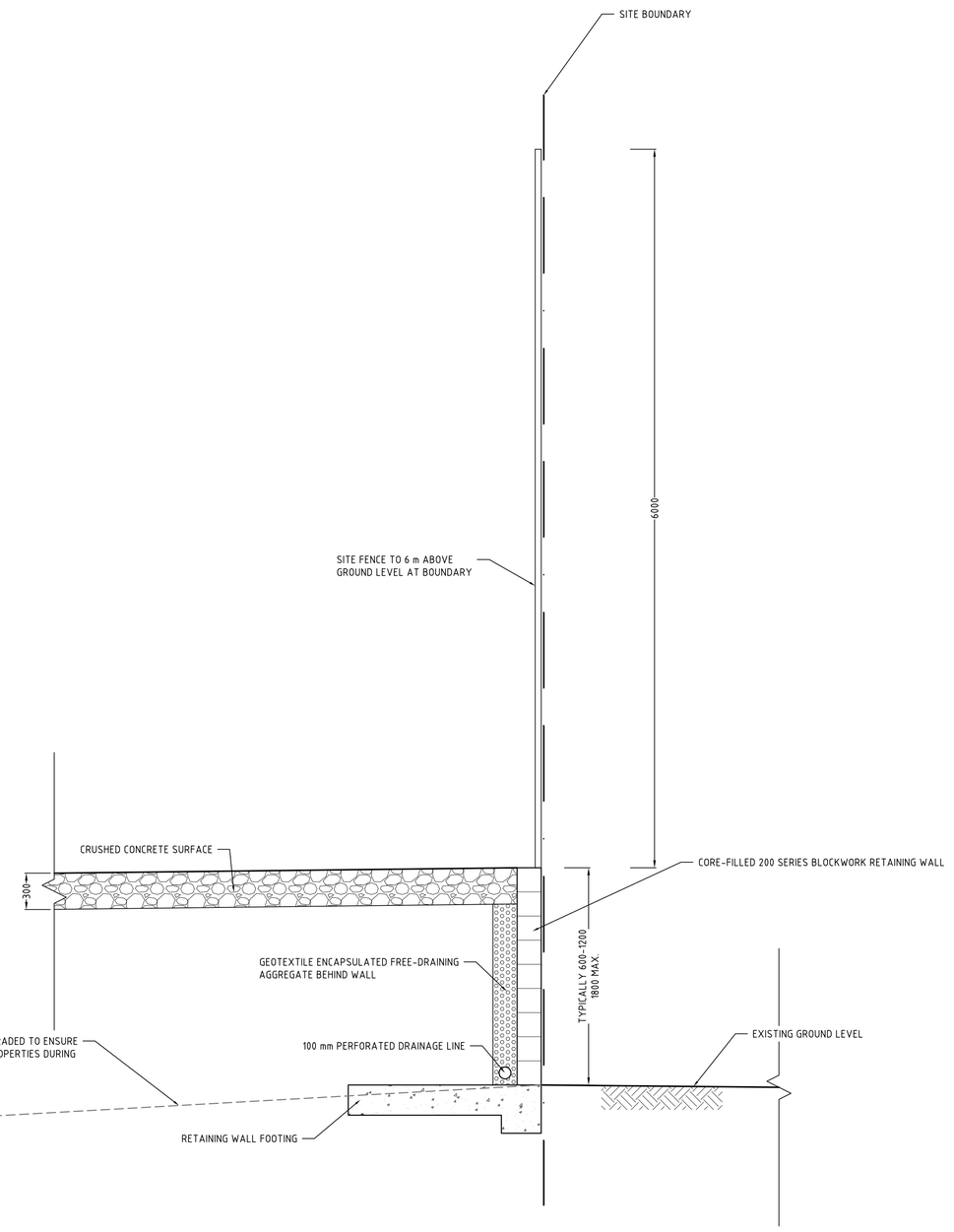
DRAWING TITLE
RETAINING WALL PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-F200	G

DRAWING ID: P1203464-PS02-R12-F200

PRINTED: ---- USER: LIU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)





NOTE:
- CONCEPT DESIGN ONLY. SUBJECT TO DETAILED DESIGN.

TYPICAL PROPERTY BOUNDARY SECTIONS: EASTERN, SOUTHERN AND WESTERN BOUNDARIES

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
E	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**JCF**	**TH**	**TH**
D	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
C	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
B	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
A	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	JCF	TH	

SCALE
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 METRES
A1 (A3) 1:20 (1:40)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

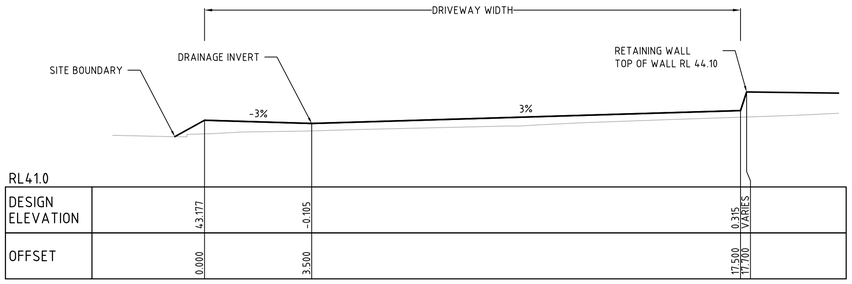
martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
RETAINING WALL DETAILS

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-F201	E

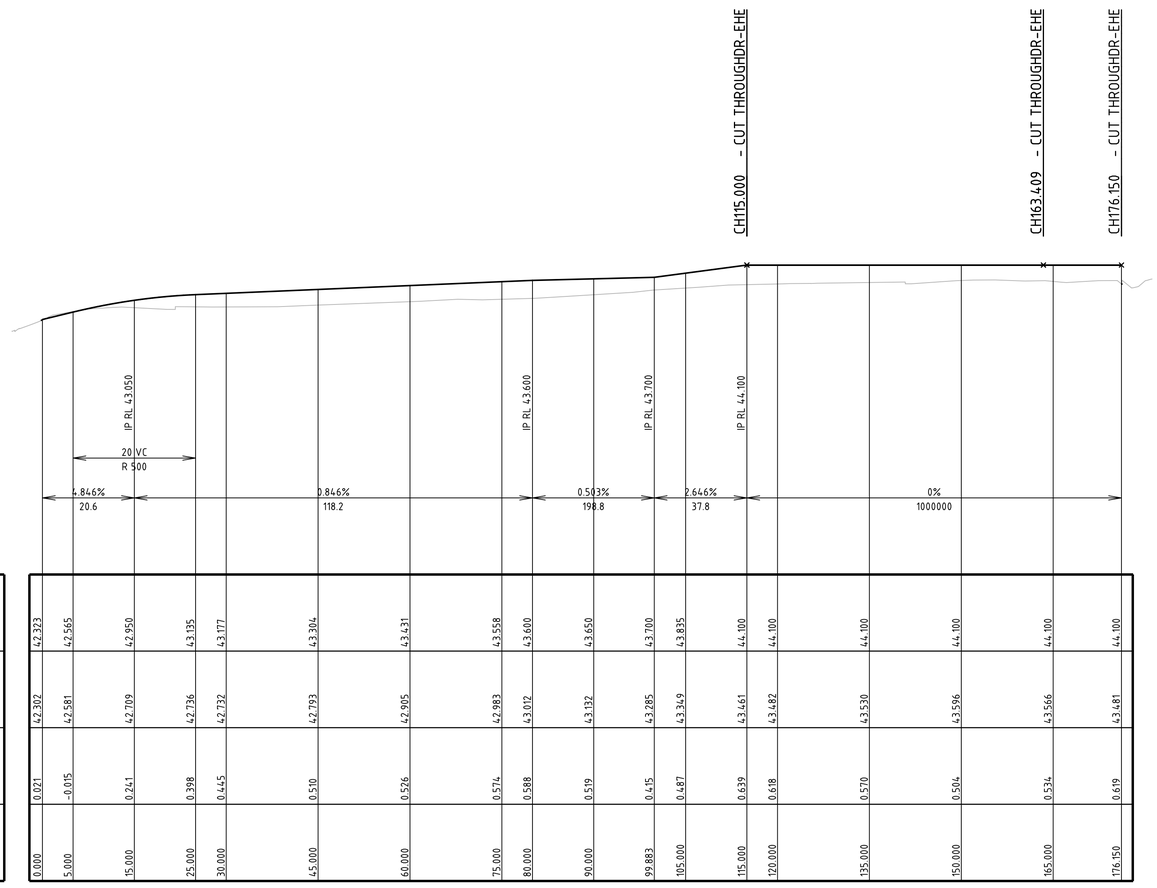
DRAWING ID: P1203464-PS02-R12-F201

PRINTED: --- (USER LID)
A1 / A3 LANDSCAPE (A1LC_v02.0.01)



DRIVEWAY (21-MSL01) TYPICAL SECTION

SCALE: 1:100



21-MSL01 LONG. SECTION (ON ROAD ALIGNMENT)

SCALE: HORIZONTAL - 1:500
VERTICAL - 1:100

DEVELOPMENT APPLICATION

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
C	MINOR AMENDMENTS	28/09/2018	JCF/LZ/PB	CG/JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	CG/JCF	TH	
A	BALANCE SITE EARTHWORKS	07/11/2017	CG	CG	TH	

SCALE
A1 (A3) 1:500 (1:1,000) 0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:100 (1:200) 0 1 2 3 4 5 6 7 8 9 10 METRES

GRID	DATUM	PROJECT MANAGER
---	MAHD	TH

DISCLAIMER & COPYRIGHT
This plan must not be used for construction unless signed as approved by principal certifying authority.
All measurements in millimetres unless otherwise specified.
This drawing must not be reproduced in whole or part without prior written consent of Martens & Associates Pty Ltd.

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DRAWING TITLE
DRIVEWAY LONGITUDINAL AND TYPICAL CROSS SECTIONS

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-F400	C

DRAWING ID: P1203464-PS02-R12-F400

PRINTED: --- - USER: LUU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)

KEY:

- ASPHALT DRIVEWAY
- ASPHALT CARPARKING AREA
- CONCRETE PAVEMENT
- CRUSHED CONCRETE PAVEMENT TYPICALLY 300 mm THICK
- VEGETATED BATTERS TO LANDSCAPE ARCHITECT DETAIL

REV	DESCRIPTION	DATE	DRAWN	DESIGNED	CHECKED	APPRVD
F	**MINOR AMENDMENTS**	**28/09/2018**	**JCF/LZ/PB**	**JCF**	**TH**	**TH**
E	CLIENT REQUESTED AMENDMENTS	12/09/2018	JCF/LZ	JCF		
D	CLIENT REQUESTED AMENDMENTS	03/08/2018	LZ	JCF	TH	TH
C	UPDATED AS PER CLIENT REQUEST	06/06/2018	RK/JCF	JCF	TH	TH
B	CLIENT REQUESTED AMENDMENTS	21/03/2018	KW/JCF	JCF	TH	
A	CLIENT REQUESTED AMENDMENTS	09/03/2018	KW	JCF	TH	

SCALE
0 5 10 15 20 25 30 35 40 45 50 METRES
A1 (A3) 1:500 (1:1,000)

GRID	DATUM	PROJECT MANAGER
MGA	m AHD	TH

CLIENT
CONCRETE RECYCLERS (GROUP) PTY LTD

PROJECT NAME/PLANSET TITLE
MINTO CONCRETE RECYCLERS
SITE EARTHWORKS
7 MONTORE ROAD, MINTO NSW 2566
LOT 52 DP 618900

martens & Associates Pty Ltd
Consulting Engineers
Environment
Water
Geotechnical
Civil
Suite 201, 20 George St, Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767
Email: mail@martens.com.au Internet: www.martens.com.au

DEVELOPMENT APPLICATION

DRAWING TITLE
PAVEMENT PLAN

PROJECT NO.	PLANSET NO.	RELEASE NO.	DRAWING NO.	REVISION
P1203464	PS02	R12	PS02-G100	F

DRAWING ID: P1203464-PS02-R12-G100

PRINTED: ---- - USER: LOU
A1 / A3 LANDSCAPE (A1LC_v02.0.01)

NOTES:

THE PURPOSE OF THIS SURVEY WAS TO OBTAIN TOPOGRAPHICAL DETAIL AS REPRESENTED ON THIS PLAN.IF IT IS INTENDED TO ERECT ADDITIONAL STRUCTURES OR FENCING ON THE SUBJECT PROPERTY, THEN THE BOUNDARIES SHOULD BE MARKED.

REDUCED LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) AND ARE SHOWN THUS ·55.55.

CONTOURS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) AND ARE AT INTERVALS OF 0.5 METRES.

ORIGIN OF LEVELS IS SSM21860, RL43.216, VERTICAL ACCURACY C? AS SUPPLIED BY LAND AND PROPERTY MANAGEMENT AUTHORITY DATED 12.06.2012.

COORDINATES ARE BASED ON THE MAP GRID OF AUSTRALIA (MGA).

A SCALE FACTOR OF 1.000 HAS BEEN USED FOR COORDINATE CALCULATIONS.

ORIGIN OF COORDINATES IS PM52452 E300333.552m N=6232216.354 HORIZONTAL ACCURACY B?, AND SSM21860 E=300351.580 N=6232778.428 HORIZONTAL ACCURACY C? AS SUPPLIED BY LAND AND PROPERTY MANAGEMENT AUTHORITY DATED 12.06.2012.

BOUNDARIES HAVE NOT BEEN DEFINED OR MARKED.

BEARINGS, DIMENSIONS AND AREAS SHOWN HEREON HAVE BEEN COMPILED FROM PUBLIC RECORDS AND ARE SUBJECT TO A BOUNDARY SURVEY.

LOCATION OF UTILITY FEATURES, AS SHOWN HEREON, HAVE BEEN DETERMINED FROM VISIBLE SURFACE INFORMATION AVAILABLE.

BEFORE ANY EXCAVATION COMMENCES ON SITE, THE CONTRACTOR/DESIGNER MUST INVESTIGATE UNDERGROUND UTILITY SERVICES.

DIAL 1100 BEFORE YOU DIG

MGA

CONCRETE HEADWALL INVERT 39.96 PIPE 900 DIA

CONCRETE DRAINAGE CHANNEL

OPEN DRAINAGE CHANNEL

BOTTOM OF BANK

TOP OF BANK

CHORD 107.29
ARC 107.55
RADIUS 428.24
92°49'40"

CHAIN WIRE FENCE

EASEMENT TO DRAIN WATER 4 WIDE

101
DP 818914

STOCKPILE

286°35'45"
38.17

PEMBURY ROAD

EASEMENT TO DRAIN WATER 3 WIDE

EASEMENT TO DRAIN WATER 3.5 WIDE

79
DP 1036540

EASEMENT TO DRAIN WATER 1.5 WIDE

EMBANKMENT

GRASS

GRAVEL

CONCRETE

BITUMEN

PONDS UNDER CONSTRUCTION
NO ACCESS AT TIME OF SURVEY

52
DP 618900
CARPARK

PORTABLE METAL SHEDS

PORTABLE METAL OFFICE

CONCRETE HEADWALL INVERT 39.58 PIPE 1500 DIA

40°01'30"
95.875

176.15
205°42'00"

EASEMENT FOR LANDSCAPING VARIABLE WIDTH

4 WIDE PATHWAY

106°35'50"
84.24

4
DP 1076508

51
DP 618900

KERB & GUTTER

BENCH MARK
NAIL ON KERB
RL 42.095 AHD

157°44'00"
CHORD 21.85
ARC 23.15
RADIUS 20

MONTORE ROAD

- SEWER LAMP HOLE
- SEWER MANHOLE
- RLEV ROOF RIDGE LEVEL
- GLEV ROOF GUTTER LEVEL

DETAIL SURVEY
No.7 MONTORE ROAD
MINTO
IN THE LOCAL GOVERNMENT AREA OF
CAMPBELLTOWN
RE: MR B. LAWSON

RATIO 1:500 @ A1 (5 0 5 10 15 20 25)	SURVEYED MS
LEVEL DATUM AHD	DRAWN MS
DATE 08.06.2012	CAD FILE CH5241A1
SHEET 1 OF 2	REFERENCE CH5241.001

WILLIAM L. BACKHOUSE Pty. Limited
SURVEYORS, PLANNERS & DEVELOPMENT CONSULTANTS.
ABN 88 003 000 708

Suite 8, 38 Brookhollow Ave.,
Norwest Business Park, Baulkham Hills
P.O. Box 6807
Baulkham Hills Business Centre 2153

Telephone: (02) 9634 2866
Facsimile: (02) 9899 4286
e-mail: wlb@backhouse.com.au

Appendix D – Site Photographs

Photograph 1: View looking south-west at the entrance to the site, from Montore Road (18 September, 2019).

Photograph 2: Directly inside the entrance to the site, looking south-west across the leased Coates Hire storage facility (18 September, 2019).

Photograph 3: Storage materials located within the northern half of the site (18 September, 2019).

Photograph 4: Looking south-east across the southern half of the site. Overgrown grass and vegetation was noted (18 September, 2019).

Photograph 5: Looking west across the southern half of the site. Overgrown grass and vegetation was noted (18 September, 2019).

Photograph 6: Looking south along the access road, from the main entrance to the site (18 September, 2019).

Photograph 7: A shelter station for forklift equipment was noted within the leased northern portion of the site (18 September, 2019).

Photograph 8: Medium sized aggregate was noted across large parts of the site surface, within the northern portion of the site, and within the unsealed access road (18 September, 2019).

Photograph 9: Image of Stockpile 1, located in the south-western corner of the site (4 October, 2019).

Photograph 10: Image of Stockpile 2, located in the southern portion of the site (4 October, 2019).

Photograph 11: A dilapidated site shed located in the southern half of the site. A small accumulation of mattresses, gas canisters and general rubbish can be seen in the foreground (4 October, 2019).

Photograph 12: A small accumulation of old mattresses, gas canisters and general rubbish next to the site shed in the southern half of the site (4 October, 2019).

Photograph 13: Machinery and storage containers noted in the vicinity of the south-eastern site boundary (18 September, 2019).

Photograph 14: Large truck tyres noted in the southern portion of the site (18 September, 2019).

Photograph 15: Fragments of bonded asbestos containing material identified within fill soils at test pit TP125 (4 October, 2019).

Photograph 16: View along the northern boundary of the site, where evidence of site raising and levelling is apparent (18 September, 2019).

Photograph 17: View along the western boundary of the site, where evidence of site raising and levelling is apparent. The trees in the photo step down approximately 1 metre from the general level of the site (18 September, 2019).

Photograph 18: Medium sized aggregate noted in portions of the southern half of the site (4 October, 2019).

Photograph 19: View looking south at Bow Bowing Creek, which is approximately 30 m west of the western site boundary (18 September, 2019).

Photograph 20: Looking south-east at a stormwater pipe in the foreground, inferred to run between the exterior northern boundary of the site, through an alley. The north-western boundary of the site can be seen in the background (18 September, 2019).

Appendix E – Test Pit / Borehole Logs

TEST PIT: TP101

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW	Sheet	1 OF 1
Position	Refer to Figure 2	Date	4/10/19
Job No.	E24373.E03	Logged	JH/EW
Client	Concrete Recyclers Pty Ltd	Checked	
Contractor	-		
Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
			0.0					-	FILL: Gravelly SAND; fine to coarse grained, dark brown, gravels fine to medium, sub-angular to angular, brick, ceramic and concrete fragments evident, along with traces of root fibres, no odour.			FILL
				0.50								
E	-	GWNE	0.5		TP101_0.1-0.2 ES			CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0									
				1.20					Hole Terminated at 1.20 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP102

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW	Sheet	1 OF 1
Position	Refer to Figure 2	Date	4/10/19
Job No.	E24373.E03	Logged	JH/EW
Client	Concrete Recyclers Pty Ltd	Checked	
Contractor	-		
Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0	0.20	TP102_0.1-0.2 ES			-	FILL: Gravelly SAND; fine to coarse grained, dark brown, gravels fine to medium, sub-angular to angular, brick, ceramic and concrete fragments evident, along with traces of root fibres, no odour.			FILL
								CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			0.5	0.80								
									Hole Terminated at 0.80 mBGL; Target depth reached.			
			1.0									
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP103

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW	Sheet	1 OF 1
Position	Refer to Figure 2	Date	4/10/19
Job No.	E24373.E03	Logged	JH/EW
Client	Concrete Recyclers Pty Ltd	Checked	
Contractor	-		
Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP103_0.1-0.2 ES			-	FILL: Silty SAND; fine to medium grained, brown, with fine to medium, sub-angular to angular gravels, no odour.			FILL
				0.20								
			0.5					Cl	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0	1.00					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP104

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position	Refer to Figure 2			Logged	JH/EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
			0.0					-	FILL: Silty CLAY; medium plasticity, pale brown to brown, with traces of fine to medium, sub-angular to angular gravels, root fibres evident, no odour.			FILL
			0.5		TP104_0.2-0.4 ES							
				0.60								
E	-	GWNE						CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0									
				1.10					Grading to extremely weathered shale, pale brown.			
				1.40								
			1.5						Hole Terminated at 1.40 mBGL; Target depth reached.			
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP105

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW		
Position	Refer to Figure 2		
Job No.	E24373.E03	Contractor	-
Client	Concrete Recyclers Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	4/10/19
Logged	JH/EW
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP105_0.1-0.3 ES			-	FILL: Silty CLAY; medium plasticity, pale brown to brown, with traces of fine to medium, sub-angular to angular gravels, root fibres evident, no odour.	M	-	FILL
			0.5	*0.60*				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	*1.00*					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP106

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW	Sheet	1 OF 1
Position	Refer to Figure 2	Date	4/10/19
Job No.	E24373.E03	Logged	JH/EW
Client	Concrete Recyclers Pty Ltd	Checked	
Contractor	-		
Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP106_0.2-0.4 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to medium, sub-angular to angular gravels, trace brick and ceramic fragments, root fibres evident, no odour.	M	-	FILL
			0.5	0.60				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	1.00					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP107

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position	Refer to Figure 2			Logged	JH/EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP107_0.1-0.3 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to medium, sub-angular to angular gravels, trace brick, ceramic and metal fragments, no odour.	M	-	FILL
			0.5									
				0.70								
								Cl	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	1.10								
									Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP108

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position				Logged	JH/EW
Job No.	Refer to Figure 2	Contractor	-	Checked	
Client	E24373.ASI	Machine	Excavator		
	Concrete Recyclers Pty Ltd				

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
			0.0					-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to medium, sub-angular to angular gravels, with root fibres, no odour.			FILL
					TP108_0.1-0.3 ES							
				0.40								
E	-	GWNE	0.5					Cl	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
				1.00								
			1.0						Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP109

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW		
Position	Refer to Figure 2		
Job No.	E24373.E03	Contractor	-
Client	Concrete Recyclers Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	4/10/19
Logged	JH/EW
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP109_0.1-0.3 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular gravels, brick, ceramic and concrete fragments evident, no odour.	M	-	FILL
			0.5									
				0.70				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0									
				1.20					Grading to extremely weathered shale, pale brown.			
				1.30					Hole Terminated at 1.30 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP110

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW		
Position	Refer to Figure 2		
Job No.	E24373.E03	Contractor	-
Client	Concrete Recyclers Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	4/10/19
Logged	JH/EW
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP110_0.1-0.4 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular gravels, brick, ceramic and concrete fragments evident, no odour.	M	-	FILL
			0.5									
				0.80								
			1.0					CI	Silty CLAY; medium plasticity, pale brown to pale orange, no odour.			RESIDUAL SOIL
				1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP111

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW		
Position	Refer to Figure 2		
Job No.	E24373.E03	Contractor	-
Client	Concrete Recyclers Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	4/10/19
Logged	JH/EW
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP111_0.2-0.5 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular gravels, brick, ceramic and concrete fragments evident, along with concrete boulders and rootlets, no odour.	M	-	FILL
			0.5									
				0.70				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	*1.10*								
									Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP112

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position	Refer to Figure 2			Logged	JH/EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0	0.10	TP112_0.2-0.5 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, with fine to medium grained and pale grey sand, with fine to coarse, sub-angular to angular gravels, root fibres evident, no odour.	M	-	FILL
				0.30					From 0.1m, no root fibres.			
			0.5						From 0.3m, with concrete boulders.			
				0.70				CI	Silty CLAY; medium plasticity, pale brown to pale red, no odour.			RESIDUAL SOIL
			1.0	1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP113

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position				Logged	JH/EW
Job No.	Refer to Figure 2	Contractor	-	Checked	
Client	E24373.ASI	Machine	Excavator		
	Concrete Recyclers Pty Ltd				

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP113_0.1-0.4 ES			-	FILL: Sandy CLAY; low to medium plasticity, pale brown, sands fine to medium grained, with fine to medium, sub-angular to angular gravels, brick and concrete fragments evident, along with root fibres, no odour.	M	-	FILL
				0.20				-	FILL: SAND; fine to medium grained, pale grey, with fine to medium and sub-angular to angular gravels, no odour.			
			0.5	*0.60*				Cl	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	*1.10*					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP114

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position	Refer to Figure 2			Logged	JH/EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP114_0.1-0.4 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained and pale grey, with fine to medium, sub-angular to angular gravels, no odour.	M	-	FILL
			0.5									
				0.60				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	*1.10*								
									Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP115

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW	Sheet	1 OF 1
Position	Refer to Figure 2	Date	4/10/19
Job No.	E24373.E03	Logged	JH/EW
Client	Concrete Recyclers Pty Ltd	Checked	
Contractor	-		
Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP115_0.2-0.6 ES			-	FILL:Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular shale gravels, ceramic and concrete fragments evident, trace soft plastics and concrete boulders, no odour.	M	-	FILL
			0.5									
			1.0	1.00				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.5	1.60								
									Hole Terminated at 1.60 mBGL; Target depth reached.			
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP116

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position	Refer to Figure 2			Logged	JH/EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP116_0.1-0.5 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular gravels, brick, ceramic and concrete fragments evident, along with root fibres, no odour.	M	-	FILL
			0.5									
			1.0									
				1.20				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.5	*1.60*								
									Hole Terminated at 1.60 mBGL; Target depth reached.			
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP117

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW		
Position	Refer to Figure 2		
Job No.	E24373.E03	Contractor	-
Client	Concrete Recyclers Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	4/10/19
Logged	JH/EW
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0	0.10	TP117_0.1-0.3 ES			-	FILL: Gravelly SAND; fine to medium grained, pale brown, gravels fine to medium, sub-angular to angular, with root fibres, no odour.	M	-	FILL
				0.20				-	From 0.1m, no root fibres. FILL: Sandy CLAY; medium plasticity, brown, sands fine to medium, with fine to coarse, sub-angular to angular gravels, no odour.			
			0.5									
				0.80				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	1.20					Hole Terminated at 1.20 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP118

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW		
Position	Refer to Figure 2		
Job No.	E24373.E03	Contractor	-
Client	Concrete Recyclers Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	4/10/19
Logged	JH/EW
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0	0.10				-	FILL: Gravelly SAND; fine to medium grained, pale brown, gravels fine to medium, sub-angular to angular, root fibres evident, no odour. From 0.1m, no root fibres.	M	-	FILL
				0.30	TP118_0.4-0.8 ES			-	FILL: Sandy CLAY; medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular gravels, no odour.			
			0.5									
				1.00				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	1.40								
			1.5						Hole Terminated at 1.40 mBGL; Target depth reached.			
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP119

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW	Sheet	1 OF 1
Position	Refer to Figure 2	Date	4/10/19
Job No.	E24373.E03	Logged	JH/EW
Client	Concrete Recyclers Pty Ltd	Checked	
Contractor	-		
Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP119_0.1-0.4 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular gravels, trace concrete fragments and root fibres, no odour.			FILL
			0.5	0.60				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0	1.00					From 1.0m, grading into extremely weathered shale, pal brown.			
				1.20					Hole Terminated at 1.20 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP120

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position	Refer to Figure 2			Logged	JH/EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP120_0.1-0.4 ES			-	FILL: Sandy CLAY; low plasticity, brown, sands fine to medium grained, with fine to medium, sub-angular to angular gravels, root fibres evident, no odour.	M	-	FILL
			0.5	0.50				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.0	1.20					Hole Terminated at 1.20 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP121

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW		
Position	Refer to Figure 2		
Job No.	E24373.E03	Contractor	-
Client	Concrete Recyclers Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	4/10/19
Logged	JH/EW
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP121_0.1-0.3 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to medium, sub-angular to angular gravels, traces of root fibres evident, no odour.			FILL
			0.5									
				0.60				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0	*1.20*								
									Hole Terminated at 1.20 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP122

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW	Sheet	1 OF 1
Position	Refer to Figure 2	Date	4/10/19
Job No.	E24373.E03	Logged	JH/EW
Client	Concrete Recyclers Pty Ltd	Checked	
Contractor	-		
Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP122_0.2-0.5 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to medium, sub-angular to angular gravels, brick and concrete fragments evident, along with root fibres, no odour.			FILL
			0.5									
				0.60				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0	*1.30*								
									Hole Terminated at 1.30 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP123

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW		
Position	Refer to Figure 2		
Job No.	E24373.E03	Contractor	-
Client	Concrete Recyclers Pty Ltd	Machine	Excavator

Sheet	1 OF 1
Date	4/10/19
Logged	JH/EW
Checked	

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP123_0.3-0.6 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular gravels, concrete and brick fragments evident, along with traces of asphalt fragments and root fibres, no odour.	M	-	FILL
			0.5									
			1.0	1.00				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
				1.20					Hole Terminated at 1.20 mBGL; Target depth reached.			
			1.5									
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP124

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position	Refer to Figure 2			Logged	JH/EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0					-	FILL: Sandy CLAY; low to medium plasticity, brown to pale red, sands fine to medium grained, with trace fine to medium, sub-angular to angular gravels, root fibres evident, no odour.			FILL
				0.20				-	FILL: Gravelly SAND, fine to medium grained, pale brown, gravels fine to coarse, sub-angular to angular, with trace concrete fragments, no odour.			
				0.40				-	FILL: Sandy CLAY; low to medium plasticity, pale brown, sands fine to medium grained, with traces of fine to medium, sub-angular to angular gravels and concrete fragments, no odour.			
			0.5		TP124_0.5-0.9 ES							
				0.80				-	FILL: Silty CLAY; medium plasticity, dark brown, with medium organic odour.	M	-	
			1.0									
				1.10				Cl	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.5									
				1.70								
			2.0						Hole Terminated at 1.70 mBGL; Target depth reached.			

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP125

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	4/10/19
Position	Refer to Figure 2			Logged	JH/EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0	0.10	TP125_0.2-0.5 ES			-	FILL: Sandy GRAVEL; fine to medium, sub-angular to sub-rounded, pale grey, brown and pale red, sands fine to medium grained, with root fibres, no odour.	M	-	FILL
								-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with fine to coarse, sub-angular to angular gravels, glass, brick and granite fragments evident, fibro cement sheeting fragments also noted, no odour.			
			0.5									
			1.0	1.00				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

Sketch & Other Observations

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH226

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0		BH226_0.1-0.3 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			FILL
				0.40				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			0.5									
			1.0	*1.00*					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH227

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0		BH227_0.1-0.3 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			FILL
				0.40				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			0.5									
			1.0	*1.00*					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH228

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0		BH228_0.1-0.3 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			FILL
				0.40				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace rootlets, no odour.	M	-	RESIDUAL SOIL
			0.5									
			1.0	*1.00*					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH229

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0		BH229_0.1-0.3 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			FILL
				0.40								
			0.5					CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			1.0	*1.00*					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH230

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH230_0.1-0.3 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5	0.50				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			1.0	1.00					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH231

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH231_0.2-0.5 ES							
				0.80				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			1.0									
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH232

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged	EW Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH232_0.2-0.5 ES							
				0.80						M	-	
			1.0					CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH233

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH233_0.2-0.5 ES							
				0.80						M	-	
			1.0					CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH234

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged	EW Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.	M	-	FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH234_0.2-0.6 ES							
				0.90				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0									
			1.5	*1.50*					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH235

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged	EW Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH235_0.2-0.5 ES							
				0.80						M	-	
			1.0					CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH236

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH236_0.2-0.5 ES							
				0.80				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			1.0									
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH237

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH237_0.2-0.5 ES							
				0.80				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			1.0									
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH238

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH238_0.2-0.5 ES							
				0.80				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			1.0									
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH239

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH239_0.2-0.5 ES							
				0.80						M	-	
			1.0					CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.5	1.50					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH240

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged	EW Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.	M	-	FILL
				0.10	BH240_0.1-0.4 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5	0.60				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH241

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH241_0.2-0.5 ES					M	-	
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH242

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH242_0.2-0.5 ES					M	-	
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH243

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged	EW Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.	M	-	FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse grained, dark grey, with trace root fibres, no odour.			
			0.5		BH243_0.2-0.5 ES							
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	*1.10*					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH244

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour..			
			0.5		BH244_0.2-0.5 ES					M	-	
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH245

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH245_0.2-0.5 ES					M	-	
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	*1.10*					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH246

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged	EW Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour..			
			0.5		BH246_0.2-0.5 ES					M	-	
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH247

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged	EW Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH247_0.2-0.5 ES					M	-	
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH248

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH248_0.2-0.5 ES					M	-	
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	*1.10*					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH249

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0					-	Roadbase Gravel.			FILL
				0.10				-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5		BH249_0.2-0.5 ES					M	-	
				0.70				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.			RESIDUAL SOIL
			1.0	*1.10*					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH250

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged	EW Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH250_0.2-0.6 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5									
			1.0	1.10				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
			1.5									
			2.0	2.00					Hole Terminated at 2.00 mBGL; Target depth reached.			
			2.5									
			3.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH251

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH251_0.2-0.6 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5									
			1.0	1.10				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace rootlets, no odour.	M	-	RESIDUAL SOIL
			1.5									
			2.0	2.00					Hole Terminated at 2.00 mBGL; Target depth reached.			
			2.5									
			3.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH252

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH252_0.2-0.6 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5									
			1.0	1.10				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace rootlets, no odour.	M	-	RESIDUAL SOIL
			1.5									
			2.0	2.00					Hole Terminated at 2.00 mBGL; Target depth reached.			
			2.5									
			3.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH253

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH253_0.2-0.6 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5									
			1.0	1.10				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace rootlets, no odour.	M	-	RESIDUAL SOIL
			1.5									
			2.0	2.00					Hole Terminated at 2.00 mBGL; Target depth reached.			
			2.5									
			3.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH254

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH254_0.2-0.6 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5									
			1.0	1.10				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace rootlets, no odour.	M	-	RESIDUAL SOIL
			1.5									
			2.0	2.00					Hole Terminated at 2.00 mBGL; Target depth reached.			
			2.5									
			3.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH255

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH255_0.2-0.6 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5									
			1.0	1.10				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace rootlets, no odour.	M	-	RESIDUAL SOIL
			1.5									
			2.0	2.00					Hole Terminated at 2.00 mBGL; Target depth reached.			
			2.5									
			3.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH256

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH256_0.2-0.6 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5									
			1.0	1.10				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace rootlets, no odour.	M	-	RESIDUAL SOIL
			1.5									
			2.0	2.00					Hole Terminated at 2.00 mBGL; Target depth reached.			
			2.5									
			3.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH257

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date Started	4/10/19
Position	Refer to Figure 2			Date Completed	4/10/19
Job No.	E24373.E03	Contractor	HartGeo	Logged EW	Date:
Client	Concrete Recyclers Pty Ltd	Drill Rig	Ute-Mounted Drill Rig	Checked	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0.0	0.10				-	Roadbase Gravel.			FILL
					BH257_0.2-0.6 ES			-	FILL: Sandy GRAVEL; fine to coarse, sub-angular to angular, dark grey, sands fine to coarse, with trace root fibres, no odour.			
			0.5									
			1.0	1.10				CI-CH	Silty CLAY; medium to high plasticity, brown, with trace rootlets, no odour.	M	-	RESIDUAL SOIL
			1.5									
			2.0	2.00					Hole Terminated at 2.00 mBGL; Target depth reached.			
			2.5									
			3.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP301

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP301_0.2-0.6 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with trace brick, ceramic, concrete and metal fragments, no odour.	M	-	FILL
			0.5									
				0.80								
			1.0					ML	Sandy SILT; low plasticity, brown, with trace rootlets, no odour.			RESIDUAL SOIL
				1.10					Hole Terminated at 1.10 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP302

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
			0.0					-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with trace brick, ceramic, concrete and metal fragments, no odour.			FILL
E	-	GWNE	0.5	*0.50*	TP302_0.1-0.3 ES			CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0	*1.00*					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP303

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
			0.0					-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with trace brick, ceramic, concrete and metal fragments, no odour.			FILL
					TP303_0.1-0.3 ES							
				0.40								
E	-	GWNE	0.5					CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
				0.90								
			1.0						Hole Terminated at 0.90 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP304

Project	Additional Site Investigation		
Location	7 Montore Road, Minto NSW	Sheet	1 OF 1
Position	Refer to Figure 2	Date	14/11/19
Job No.	E24373.E03	Logged	EW
Client	Concrete Recyclers Pty Ltd	Checked	
Contractor	-		
Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
			0.0		TP304_0.0-0.2 ES			-	TOPSOIL: Sandy SILT; low plasticity, brown, with trace root fibres, no odour.			TOPSOIL
				0.20								
E	-	GWNE	0.5					ML	Sandy SILT; low plasticity, brown, with trace root fibres, no odour.	M	-	RESIDUAL SOIL
				0.80								
			1.0						Hole Terminated at 0.80 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP305

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP305_0.2-0.6 ES			-	FILL: SAND; fine to medium grained, brown, with brick fragments and trace fine to medium, sub-angular to angular gravels, no odour.	M	-	FILL
			0.5									
			1.0	*1.00*				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
				1.20					Hole Terminated at 1.20 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP306

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0					-	FILL: SAND; fine to medium grained, brown, with brick fragments and trace fine to medium, sub-angular to angular gravels, no odour.			FILL
					TP306_0.2-0.6 ES					M	-	
			1.0	*1.00*					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP307

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP307_0.3-0.7 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with trace brick, ceramic, concrete and metal fragments, no odour.	M	-	FILL
			0.5									
			1.0									
			1.5	*1.50*					Hole Terminated at 1.50 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP308

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		
		Bucket Size			

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0					-	FILL: Gravelly SAND; fine to coarse grained, dark brown, trace concrete fragments, no odour.	M	-	FILL
					TP308_0.2-0.4 ES							
			0.5									
				0.80								
								Cl	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
				1.00								
			1.0						Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP309

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP309_0.2-0.5 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with traces of brick, ceramic, concrete and metal fragments, crushed concrete also evident, no odour.	M	-	FILL
			0.5									
				0.80								
			1.0					CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
				1.40								
			1.5						Hole Terminated at 1.40 mBGL; Target depth reached.			
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP310

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP310_0.1-0.3 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with traces of brick, ceramic, concrete and metal fragments, no odour.			FILL
			0.5	0.50				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0	1.00					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP311

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		
		Bucket Size			

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP311_0.1-0.3 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with traces of brick, ceramic, concrete and metal fragments, crushed concrete also evident, no odour.	M	-	FILL
			0.5	0.50				-	REWORKED NATURAL: Silty CLAY; medium plasticity, brown, no odour.			
			1.0	1.00				CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
				1.20					Hole Terminated at 1.20 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP312

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP312_0.3-0.6 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with traces of brick, ceramic, concrete and metal fragments, no odour.	M	-	FILL
			0.5									
			1.0									
				1.20				Cl	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
				1.40					Hole Terminated at 1.40 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP313

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
			0.0					-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with traces of brick, ceramic, concrete and metal fragments, no odour.			FILL
				0.40	TP313_0.1-0.3 ES							
E	-	GWNE	0.5					CI	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.	M	-	RESIDUAL SOIL
			1.0	1.00					Hole Terminated at 1.00 mBGL; Target depth reached.			
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

TEST PIT: TP314

eiaustralia
Contamination | Remediation | Geotechnical

Project	Additional Site Investigation			Sheet	1 OF 1
Location	7 Montore Road, Minto NSW			Date	14/11/19
Position	Refer to Figure 2			Logged	EW
Job No.	E24373.E03	Contractor	-	Checked	
Client	Concrete Recyclers Pty Ltd	Machine	Excavator		

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E	-	GWNE	0.0		TP314_0.0-0.2 ES			-	FILL: Sandy CLAY; low to medium plasticity, brown, sands fine to medium grained, with traces of brick, ceramic, concrete and metal, no odour.			FILL
				0.40						M	-	
			0.5					Cl	Silty CLAY; medium plasticity, pale orange to pale brown, no odour.			RESIDUAL SOIL
				0.80								
									Hole Terminated at 0.80 mBGL; Target depth reached.			
			1.0									
			1.5									
			2.0									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

EXPLANATION OF NOTES, ABBREVIATIONS & TERMS USED ON BOREHOLE AND TEST PIT LOGS

DRILLING/EXCAVATION METHOD

HA	Hand Auger	**RD**	Rotary blade or drag bit	**NQ**	Diamond Core - 47 mm
DT	Diatube Coring	**RT**	Rotary Tricone bit	**NMLC**	Diamond Core - 52 mm
NDD	Non-destructive digging	**RAB**	Rotary Air Blast	**HQ**	Diamond Core - 63 mm
AS*	Auger Screwing	**RC**	Reverse Circulation	**HMLC**	Diamond Core - 63 mm
AD*	Auger Drilling	**PT**	Push Tube	**BH**	Tractor Mounted Backhoe
***V**	V-Bit	**CT**	Cable Tool Rig	**EX**	Tracked Hydraulic Excavator
***T**	TC-Bit, e.g. AD/T	**JET**	Jetting	**EE**	Existing Excavation
ADH	Hollow Auger	**WB**	Washbore or Bailer	**HAND**	Excavated by Hand Methods

PENETRATION RESISTANCE

L	**Low Resistance**	Rapid penetration/ excavation possible with little effort from equipment used.
M	**Medium Resistance**	Penetration/ excavation possible at an acceptable rate with moderate effort from equipment used.
H	**High Resistance**	Penetration/ excavation is possible but at a slow rate and requires significant effort from equipment used.
R	**Refusal/Practical Refusal**	No further progress possible without risk of damage or unacceptable wear to equipment used.

These assessments are subjective and are dependent on many factors, including equipment power and weight, condition of excavation or drilling tools and experience of the operator.

WATER

Standing Water Level

Partial water loss

Water Seepage

Complete Water Loss

GWNO	GROUNDWATER NOT OBSERVED - Observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave-in of the borehole/ test pit.
GWNE	GROUNDWATER NOT ENCOUNTERED - Borehole/ test pit was dry soon after excavation. However, groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/ test pit been left open for a longer period.

SAMPLING AND TESTING

SPT	Standard Penetration Test to AS1289.6.3.1-2004
4,7,11 N=18	4,7,11 = Blows per 150mm. N = Blows per 300mm penetration following a 150mm seating drive
30/80mm	Where practical refusal occurs, the blows and penetration for that interval are reported
RW	Penetration occurred under the rod weight only
HW	Penetration occurred under the hammer and rod weight only
HB	Hammer double bouncing on anvil
Sampling	
DS	Disturbed Sample
ES	Sample for environmental testing
BDS	Bulk disturbed Sample
GS	Gas Sample
WS	Water Sample
U50	Thin walled tube sample - number indicates nominal sample diameter in millimetres
Testing	
FP	Field Permeability test over section noted
FVS	Field Vane Shear test expressed as uncorrected shear strength (sv= peak value, sr= residual value)
PID	Photoionisation Detector reading in ppm
PM	Pressuremeter test over section noted
PP	Pocket Penetrometer test expressed as instrument reading in kPa
WPT	Water Pressure tests
DCP	Dynamic Cone Penetrometer test
CPT	Static Cone Penetration test
CPTu	Static Cone Penetration test with pore pressure (u) measurement

ROCK CORE RECOVERY

TCR=Total Core Recovery (%)

$$= \frac{Length\ of\ core\ recovered}{Length\ of\ core\ run} \times 100$$

SCR=Solid Core Recovery (%)

$$= \frac{\sum Length\ of\ cylindrical\ core\ recovered}{Length\ of\ core\ run} \times 100$$

RQD = Rock Quality Designation (%)

$$= \frac{\sum Axial\ lengths\ of\ core > 100mm}{Length\ of\ core\ run} \times 100$$

GEOLOGICAL BOUNDARIES

———— = Observed Boundary (position known)

– – – – – – – – – – = Observed Boundary (position approximate)

– –?– –?– –?– – = Boundary (interpreted or inferred)

METHOD OF SOIL DESCRIPTION USED ON BOREHOLE AND TEST PIT LOGS

	FILL		ORGANIC SOILS (OL, OH or Pt)		CLAY (CL, CI or CH)
	COUBLES or BOULDERS		SILT (ML or MH)		SAND (SP or SW)
	GRAVEL (GP or GW)	Combinations of these basic symbols may be used to indicate mixed materials such as sandy clay			

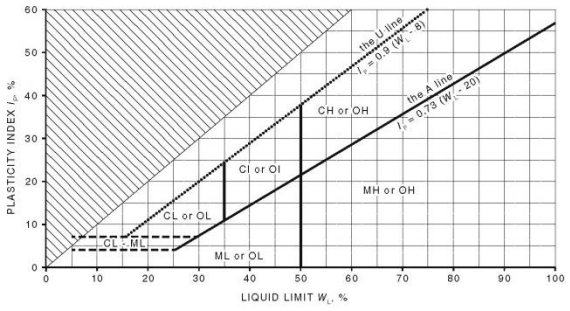
CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS 1726:2017, Section 6.1 – Soil description and classification.

PARTICLE SIZE CHARACTERISTICS

Fraction	Components	Sub Division	Size mm
Oversize	BOULDERS		>200
	COBBLES		63 to 200
Coarse grained soil	GRAVEL	Coarse	19 to 63
		Medium	6.7 to 19
		Fine	2.36 to 6.7
	SAND	Coarse	0.6 to 2.36
		Medium	0.21 to 0.6
		Fine	0.075 to 0.21
Fine grained soil	SILT		0.002 to 0.075
	CLAY		<0.002

PLASTICITY PROPERTIES



GROUP SYMBOLS

Major Divisions		Symbol	Description
COARSE GRAINED SOILS More than 65% of soil excluding oversize fraction is greater than 0.075mm	**GRAVEL** More than 50% of coarse fraction is >2.36mm	GW	Well graded gravel and gravel-sand mixtures, little or no fines.
		GP	Poorly graded gravel and gravel-sand mixtures, little or no fines.
		GM	Silty gravel, gravel-sand-silt mixtures.
		GC	Clayey gravel, gravel-sand-clay mixtures.
	SAND More than 50% of coarse fraction is <2.36 mm	SW	Well graded sand and gravelly sand, little or no fines.
		SP	Poorly graded sand and gravelly sand, little or no fines.
		SM	Silty sand, sand-silt mixtures.
		SC	Clayey sand, sandy-clay mixtures.
FINE GRAINED SOILS More than 35% of soil excluding oversized fraction is less than 0.075mm	Liquid Limit less < 50%	ML	Inorganic silts of low plasticity, very fine sands, rock flour, silty or clayey fine sands.
		CL, CI	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays.
		OL	Organic silts and organic silty clays of low plasticity.
	Liquid Limit > than 50%	MH	Inorganic silts of high plasticity.
		CH	Inorganic clays of high plasticity.
		OH	Organic clays of medium to high plasticity.
	Highly Organic soil	PT	Peat muck and other highly organic soils.

MOISTURE CONDITION

Symbol	Term	Description
D	Dry	Non- cohesive and free-running.
M	Moist	Soils feel cool, darkened in colour. Soil tends to stick together.
W	Wet	Soils feel cool, darkened in colour. Soil tends to stick together, free water forms when handling.

Moisture content of cohesive soils shall be described in relation to plastic limit (PL) or liquid limit (LL) for soils with higher moisture content as follows: Moist, dry of plastic limit (w < PL); Moist, near plastic limit (w ≈ PL); Moist, wet of plastic limit (w < PL); Wet, near liquid limit (w ≈ LL), Wet, wet of liquid limit (w > LL),

CONSISTENCY

Symbol	Term	Undrained Shear Strength (kPa)	SPT "N" #
VS	Very Soft	≤ 12	≤ 2
S	Soft	>12 to ≤ 25	>2 to ≤ 4
F	Firm	>25 to ≤ 50	>4 to 8
St	Stiff	>50 to ≤ 100	>8 to 15
VSt	Very Stiff	>100 to ≤ 200	>15 to 30
H	Hard	>200	>30
Fr	Friable	-	

DENSITY

Symbol	Term	Density Index %	SPT "N" #
VL	Very Loose	≤ 15	0 to 4
L	Loose	>15 to ≤ 35	4 to 10
MD	Medium Dense	>35 to ≤ 65	10 to 30
D	Dense	>65 to ≤ 85	30 to 50
VD	Very Dense	>85	Above 50

In the absence of test results, consistency and density may be assessed from correlations with the observed behaviour of the material.
SPT correlations are not stated in AS1726:2017, and may be subject to corrections for overburden pressure and equipment type.

MINOR COMPONENTS

Term	Assessment Guide	Proportion by Mass
Trace	Presence just detectable by feel or eye but soil properties little or no different to general properties of primary component	Coarse grained soils: ≤ 5% Fine grained soil: ≤ 15%
With	Presence easily detectable by feel or eye but soil properties little or no different to general properties of primary component	Coarse grained soils: 5 - 12% Fine grained soil: 15 - 30%
Prefix	Presence easily detectable by feel or eye in conjunction with the general properties of primary component	Coarse grained soils: >12% Fine grained soil: >30%

TERMS FOR ROCK MATERIAL STRENGTH AND WEATHERING

CLASSIFICATION AND INFERRED STRATIGRAPHY

Rock is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS1726 – 2017, Section 6.2 – Rock identification, description and classification.

ROCK MATERIAL STRENGTH CLASSIFICATION

Symbol	Term	Point Load Index, $Is_{(50)}$ (MPa) #	Field Guide
VL	Very Low	0.03 to 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 30 mm can be broken by finger pressure.
L	Low	0.1 to 0.3	Easily scored with a knife; indentations 1 mm to 3 mm show in the specimen with firm blows of pick point; has dull sound under hammer. A piece of core 150 mm long by 50 mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
M	Medium	0.3 to 1	Readily scored with a knife; a piece of core 150 mm long by 50 mm diameter can be broken by hand with difficulty.
H	High	1 to 3	A piece of core 150 mm long by 50 mm diameter cannot be broken by hand but can be broken with pick with a single firm blow; rock rings under hammer.
VH	Very High	3 to 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
EH	Extremely High	>10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

 # Rock Strength Test Results

▼ Point Load Strength Index, $Is_{(50)}$, Axial test (MPa)

● Point Load Strength Index, $Is_{(50)}$, Diametral test (MPa)

Relationship between rock strength test result ($Is_{(50)}$) and unconfined compressive strength (UCS) will vary with rock type and strength, and should be determined on a site-specific basis. However UCS is typically 20 x $Is_{(50)}$.

ROCK MATERIAL WEATHERING CLASSIFICATION

Symbol		Term	Field Guide
RS		Residual Soil	Soil developed on extremely weathered rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
XW		Extremely Weathered	Rock is weathered to such an extent that it has soil properties - i.e. it either disintegrates or can be remoulded, in water.
DW	HW	Distinctly Weathered	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores. In some environments it is convenient to subdivide into Highly Weathered and Moderately Weathered, with the degree of alteration typically less for MW.
	MW		
SW		Slightly Weathered	Rock slightly discoloured but shows little or no change of strength relative to fresh rock.
FR		Fresh	Rock shows no sign of decomposition or staining.

ABBREVIATIONS AND DESCRIPTIONS FOR ROCK MATERIAL AND DEFECTS

CLASSIFICATION AND INFERRED STRATIGRAPHY
Rock is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS1726 – 2017, Section 6.2 – Rock identification, description and classification.

ROCK MATERIAL DESCRIPTION

Layering	
Term	**Description**
Massive	No layering apparent
Indistinct	Layering just visible; little effect on properties
Distinct	Layering (bedding, foliation, cleavage) distinct; rock breaks more easily parallel to layering

Structure	
Term	**Spacing (mm)**
Thinly laminated	<6
Laminated	6 – 20
Very thinly bedded	20 – 60
Thinly bedded	60 – 200
Medium bedded	200 – 600
Thickly bedded	600 – 2,000
Very thickly bedded	> 2,000

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT TYPES

Defect Type	Abbr.	Description
Joint	JT	Surface of a fracture or parting, formed without displacement, across which the rock has little or no tensile strength. May be closed or filled by air, water or soil or rock substance, which acts as cement.
Bedding Parting	BP	Surface of fracture or parting, across which the rock has little or no tensile strength, parallel or sub-parallel to layering/ bedding. Bedding refers to the layering or stratification of a rock, indicating orientation during deposition, resulting in planar anisotropy in the rock material.
Foliation	FL	Repetitive planar structure parallel to the shear direction or perpendicular to the direction of higher pressure, especially in metamorphic rock, e.g. Schistosity (SH) and Gneissosity.
Contact	CO	The surface between two types or ages of rock.
Cleavage	CL	Cleavage planes appear as parallel, closely spaced and planar surfaces resulting from mechanical fracturing of rock through deformation or metamorphism, independent of bedding.
Sheared Surface	SSU	A near planar, curved or undulating surface which is usually smooth, polished or slickensided.
Sheared Seam/ Zone (Fault)	SS/SZ	Seam or zone with roughly parallel almost planar boundaries of rock substance cut by closely spaced (often <50 mm) parallel and usually smooth or slickensided joints or cleavage planes.
Crushed Seam/ Zone (Fault)	CS/CZ	Seam or zone composed of disoriented usually angular fragments of the host rock substance, with roughly parallel near-planar boundaries. The brecciated fragments may be of clay, silt, sand or gravel sizes or mixtures of these.
Extremely Weathered Seam/ Zone	XWS/ XWZ	Seam of soil substance, often with gradational boundaries, formed by weathering of the rock material in places.
Infilled Seam	IS	Seam of soil substance, usually clay or clayey, with very distinct roughly parallel boundaries, formed by soil migrating into joint or open cavity.
Schistocity	SH	The foliation in schist or other coarse grained crystalline rock due to the parallel arrangement of platy or prismatic mineral grains, such as mica.
Vein	VN	Distinct sheet-like body of minerals crystallised within rock through typically open-space filling or crack-seal growth.

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT SHAPE AND ROUGHNESS

Shape	Abbr.	Description	Roughness	Abbr.	Description
Planar	PR	Consistent orientation	Polished	POL	Shiny smooth surface
Curved	CU	Gradual change in orientation	Slickensided	SL	Grooved or striated surface, usually polished
Undulating	UN	Wavy surface	Smooth	SM	Smooth to touch. Few or no surface irregularities
Stepped	ST	One or more well defined steps	Rough	RO	Many small surface irregularities (amplitude generally <1mm). Feels like fine to coarse sandpaper
Irregular	IR	Many sharp changes in orientation	Very Rough	VR	Many large surface irregularities, amplitude generally >1mm. Feels like very coarse sandpaper

Orientation: **Vertical Boreholes –** The dip (inclination from horizontal) of the defect.
Inclined Boreholes – The inclination is measured as the acute angle to the core axis.

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT COATING

Coating	Abbr.	Description
Clean	CN	No visible coating or infilling
Stain	SN	No visible coating but surfaces are discoloured by staining, often limonite (orange-brown)
Veneer	VNR	A visible coating of soil or mineral substance, usually too thin to measure (< 1 mm); may be patchy

DEFECT APERTURE

Aperture	Abbr.	Description
Closed	-	Closed.
Open	OP	Without any infill material.
Infilled	-	Soil or rock i.e. clay, talc, pyrite, quartz, etc.

Appendix F – Calibration Documentation

EI Australia
Suite 6.01, 55 Miller Street
PYRMONT, NSW, 2009

ABN 33 102 449 507
E service@eiaustralia.com.au
W www.eiaustralia.com.au
T 02 9516 0722

CALIBRATION CERTIFICATE FOR PHOTO IONISATION DETECTOR

Instrument: Mini RAE 3000

Serial Number: 592-906667 - EI **PID02** ☐ **OR** 592-901345 - EI **PID03** ☑

Instrument Conditions: Good.

Calibration gas species: Isobutylene.

Calibration gas concentration: 100 ppm

Gas bottle number: Lot 846344 cyl 16.

This PID has been calibrated to Isobutylene gas with the span concentration displayed as 102 ppm at 100 ppm span setting (allowable range +/-10ppm from span setting).

The PID is initially zero calibrated in fresh air.

Remaining gas in bottle: > 250 psi (if reading is <250 psi, notify Equipment Manager to arrange new gas bottle order)

The above detector was calibrated in accordance with manufacturer's specifications.

Signed: Joel Pettingell

Date: 04-10-19

Time: 0700.

Appendix G – Chain of Custody and Sample Receipt Advice Forms

Sheet 1 of 6

Site: 7 Montore Rd, Minto

Project No: E24373

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM[A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos #	HM[A] /TRH/BTEX/PAHs	HM[A] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM[B] / PAH
TP101_0.1-0.2	1	J, ZLB	4/10/19			✓		✓															
TP102_0.1-0.2	2	ZLB	↓			↓								✓									
TP103_0.1-0.2	3	↓												✓									
TP104_0.2-0.4	4	J, ZLB						✓															
TP105_0.1-0.3	5	ZLB												✓									
TP106_0.2-0.4	6	↓												✓									
TP107_0.1-0.3	7	J, ZLB						✓															
TP108_0.1-0.3	8	ZLB												✓									
TP109_0.1-0.3	9	↓												✓									
TP110_0.1-0.4	10													✓									
TP111_0.2-0.5	11													✓									
TP112_0.2-0.5	12	↓	↓			↓								✓									

Comments

HM[A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM[B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

SGS EHS Alexandria Laboratory

SE198558 COC
Received: 08 – Oct – 2019

LABORATORY TURNAROUND
- [✓] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: TH & EW	Print: J.L
Signature:	Signature: J.L
Date: 8/10/19	Date: 8/10/19 4:45pm

Sampler's Comments:
Asbestos quantification

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 2 of 6

Site: 7 Montore Rd, Minto

Project No: E24373

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	Analysis: HM [A] /TRH/BTEX/PAHs, OCP/OP/PCB/Asbestos #	HM [A] /TRH/BTEX/PAHs	HM [A] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM [B] / PAH
TP113_0.1-0.4	13	J, ZLB	4/10/19			✓		✓															
TP114_0.1-0.4	14	ZLB	↓			↓								✓									
TP115_0.2-0.6	15	↓												✓									
TP116_0.1-0.5	16	J, ZLB						✓															
TP117_0.1-0.3	17	ZLB												✓									
TP118_0.4-0.8	18	↓												✓									
TP119_0.1-0.4	19	J, ZLB						✓															
TP120_0.1-0.4	20	ZLB												✓									
TP121_0.1-0.3	21	J, ZLB						✓															
TP122_0.2-0.5	22	ZLB												✓									
TP123_0.3-0.6	23	↓												✓									
TP124_0.5-0.9	24	J, ZLB	↓			↓		✓															

Comments

HM [A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [✓] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [ ]

Sampler's Name (EI):	Received by (SGS):
Print: TH & FW	Print: S.S
Signature:	Signature:
Date: 8/10/19	Date: 08/10/19 @ 4:45

Sampler's Comments:
Asbestos Quantification

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 3 of 6

Site: 7 Montore Rd, Minto

Project No: E24373

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM Δ /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos #	HM Δ /TRH/BTEX/PAHs	HM Δ /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM B / PAH
TP125_0.2-0.5	25	ZLB	4/10/19			✓								✓									
BH226_0.1-0.3	26	J, ZLB	↓			↓		✓															
7_0.1-0.3	27	ZLB												✓									
8_0.1-0.3	28	J, ZLB						✓															
9_0.1-0.3	29	J, ZLB												✓									
BH230_0.1-0.3	30	ZLB												✓									
1_0.2-0.5	31	~~ZLB~~ J, ZLB						✓															
2_0.2-0.5	32	ZLB												✓									
3_0.2-0.5	33	ZLB												✓									
4_0.2-0.6	34	J, ZLB						✓															
5_0.2-0.5	35	ZLB												✓									
6_0.2-0.5	36	↓	↓			↓								✓									

Comments

HM Δ
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: TH & FW	Print: Suba
Signature:	Signature:
Date: 8/10/19	Date: 8/10/19 @ 4:45

Sampler's Comments:
Asbestos Quantification

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Contamination | Remediation | Geotechnics
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 4 of 6

Site: 7 Montore Rd, Minto

Project No: E24373

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM [A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos #	HM [A] /TRH/BTEX/PAHs	HM [A] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM [B] / PAH
BH237_0.2-0.5	37	J, ZLB	4/10/19			✓		✓															
7_0.2-0.5	38	ZLB												✓									
9_0.2-0.5	39													✓									
BH240_0.1-0.4	40													✓									
1_0.2-0.5	41	J, ZLB						✓															
2_0.2-0.5	42	ZLB												✓									
3_0.2-0.5	43													✓									
4_0.2-0.5	44	J, ZLB						✓															
5_0.2-0.5	45	ZLB												✓									
6_0.2-0.5	46													✓									
7_0.2-0.5	47	J, ZLB						✓															
8_0.2-0.5	48	ZLB												✓									

Comments

HM [A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: TH & EW	Print: Suba
Signature:	Signature:
Date: 8/10/19	Date: 08/10/19 @ 4:45

Sampler's Comments:
Asbestos quantification

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Contamination | Remediation | Geotechnics
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 5 of 6

Site: 7 Montore Rd, Minto

Project No: E24273

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM[A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos #	HM[A] /TRH/BTEX/PAHs	HM[A] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM[B] / PAH
BH249_0.2-0.5	49	ZLB	4/10/19			✓								✓									
↓ 50_0.2-0.6	50	J, ZLB	↓			↓		✓															
51_0.2-0.6	51	ZLB												✓									
52_0.2-0.6	52	J, ZLB						✓															
53_0.2-0.6	53	ZLB												✓									
54_0.2-0.6	54	↓												✓									
55_0.2-0.6	55	J, ZLB						✓															
56_0.2-0.6	56	ZLB												✓									
↓ 57_0.2-0.6	57	J, ZLB	↓			↓		✓															
SP1-1	58	J, ZLB						↓															
SP1-2	59	↓																					
SP2-1	60	↓	↓			↓		↓															

Comments

HM[A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM[B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: TH & FW	Print: Suba
Signature:	Signature:
Date: 8/10/19	Date: 08/10/19 @ 4:45

Sampler's Comments:
Asbestos quantification

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 6 of 6

Site: 7 Montore Rd, Minto

Project No: E24373

Laboratory: **SGS Australia**
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM [A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM [A] /TRH/BTEX/PAHs	HM [A] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM [B] / PAH
SP2-2	61	SJZLB	4/10/19			✓		✓															
SP2-3	62	↓						✓															
QD1	63	J								✓													
QD2	64	J								✓													
QR1	65	S,P,VL								✓													
Trip Blank	66	VL									✓												
Trip Spike	67	VL									✓												

Comments

HM [A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [✓] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (SGS):
Print: TH & FW	Print: Suba
Signature:	Signature:
Date: 8/10/19	Date: 08/10/19 @ 4:45

Sampler's Comments:
Quantification

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE198558

CLIENT DETAILS

Contact	Emmanuel Woelders
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	emmanuel.woelders@eiaustralia.com.au
Project	**E24373 7 Montore Rd, Minto**
Order Number	**E24373**
Samples	67

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 8/10/2019
Report Due	Tue 15/10/2019
SGS Reference	**SE198558**

SUBMISSION DETAILS

This is to confirm that 67 samples were received on Tuesday 8/10/2019. Results are expected to be ready by COB Tuesday 15/10/2019.
Please quote SGS reference SE198558 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	64 Soil, 2 Sand, 1 Water
Date documentation received	8/10/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	7.4°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

SAMPLE RECEIPT ADVICE

SE198558

CLIENT DETAILS

Client EI AUSTRALIA

Project E24373 7 Montore Rd, Minto

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	TP101_0.1-0.2	29	14	26	11	7	10	11	7
004	TP104_0.2-0.4	29	14	26	11	7	10	11	7
007	TP107_0.1-0.3	29	14	26	11	7	10	11	7
013	TP113_0.1-0.4	29	14	26	11	7	10	11	7
016	TP116_0.1-0.5	29	14	26	11	7	10	11	7
019	TP119_0.1-0.4	29	14	26	11	7	10	11	7
021	TP121_0.1-0.3	29	14	26	11	7	10	11	7
024	TP124_0.5-0.9	29	14	26	11	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE198558

CLIENT DETAILS

Client EI AUSTRALIA

Project E24373 7 Montore Rd, Minto

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
026	BH226_0.1-0.3	29	14	26	11	7	10	11	7
028	BH228_0.1-0.3	29	14	26	11	7	10	11	7
031	BH231_0.2-0.5	29	14	26	11	7	10	11	7
034	BH234_0.2-0.6	29	14	26	11	7	10	11	7
037	BH237_0.2-0.5	29	14	26	11	7	10	11	7
041	BH241_0.2-0.5	29	14	26	11	7	10	11	7
044	BH244_0.2-0.5	29	14	26	11	7	10	11	7
047	BH247_0.2-0.5	29	14	26	11	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE198558

CLIENT DETAILS

Client EI AUSTRALIA

Project E24373 7 Montore Rd, Minto

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
050	BH250_0.2-0.6	29	14	26	11	7	10	11	7
052	BH252_0.2-0.6	29	14	26	11	7	10	11	7
055	BH255_0.2-0.6	29	14	26	11	7	10	11	7
057	BH257_0.2-0.6	29	14	26	11	7	10	11	7
058	SP1-1	29	14	26	11	7	10	11	7
059	SP1-2	29	14	26	11	7	10	11	7
060	SP2-1	29	14	26	11	7	10	11	7
061	SP2-2	29	14	26	11	7	10	11	7
062	SP2-3	29	14	26	11	7	10	11	7
063	QD1	-	-	-	-	7	10	11	7
064	QD2	-	-	-	-	7	10	11	7
066	Trip Blank	-	-	-	-	-	-	11	-
067	Trip Spike	-	-	-	-	-	-	11	-

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE198558

CLIENT DETAILS

Client EI AUSTRALIA

Project E24373 7 Montore Rd, Minto

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content
001	TP101_0.1-0.2	2	9	1	1
002	TP102_0.1-0.2	2	9	-	-
003	TP103_0.1-0.2	2	9	-	-
004	TP104_0.2-0.4	2	9	1	1
005	TP105_0.1-0.3	2	9	-	-
006	TP106_0.2-0.4	2	9	-	-
007	TP107_0.1-0.3	2	9	1	1
008	TP108_0.1-0.3	2	9	-	-
009	TP109_0.1-0.3	2	9	-	-
010	TP110_0.1-0.4	2	9	-	-
011	TP111_0.2-0.5	2	9	-	-
012	TP112_0.2-0.5	2	9	-	-
013	TP113_0.1-0.4	2	9	1	1
014	TP114_0.1-0.4	2	9	-	-
015	TP115_0.2-0.6	2	9	-	-
016	TP116_0.1-0.5	2	9	1	1
017	TP117_0.1-0.3	2	9	-	-
018	TP118_0.4-0.8	2	9	-	-
019	TP119_0.1-0.4	2	9	1	1
020	TP120_0.1-0.4	2	9	-	-
021	TP121_0.1-0.3	2	9	1	1
022	TP122_0.2-0.5	2	9	-	-
023	TP123_0.3-0.6	2	9	-	-
024	TP124_0.5-0.9	2	9	1	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE198558

CLIENT DETAILS

Client EI AUSTRALIA

Project E24373 7 Montore Rd, Minto

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content
025	TP125_0.2-0.5	2	9	-	-
026	BH226_0.1-0.3	2	9	1	1
027	BH227_0.1-0.3	2	9	-	-
028	BH228_0.1-0.3	2	9	1	1
029	BH229_0.1-0.3	2	9	-	-
030	BH230_0.1-0.3	2	9	-	-
031	BH231_0.2-0.5	2	9	1	1
032	BH232_0.2-0.5	2	9	-	-
033	BH233_0.2-0.5	2	9	-	-
034	BH234_0.2-0.6	2	9	1	1
035	BH235_0.2-0.5	2	9	-	-
036	BH236_0.2-0.5	2	9	-	-
037	BH237_0.2-0.5	2	9	1	1
038	BH238_0.2-0.5	2	9	-	-
039	BH239_0.2-0.5	2	9	-	-
040	BH240_0.1-0.4	2	9	-	-
041	BH241_0.2-0.5	2	9	1	1
042	BH242_0.2-0.5	2	9	-	-
043	BH243_0.2-0.5	2	9	-	-
044	BH244_0.2-0.5	2	9	1	1
045	BH245_0.2-0.5	2	9	-	-
046	BH246_0.2-0.5	2	9	-	-
047	BH247_0.2-0.5	2	9	1	1
048	BH248_0.2-0.5	2	9	-	-

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE198558

CLIENT DETAILS

Client EI AUSTRALIA

Project E24373 7 Montore Rd, Minto

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil	Mercury in Soil	Moisture Content
049	BH249_0.2-0.5	2	9	-	-
050	BH250_0.2-0.6	2	9	1	1
051	BH251_0.2-0.6	2	9	-	-
052	BH252_0.2-0.6	2	9	1	1
053	BH253_0.2-0.6	2	9	-	-
054	BH254_0.2-0.6	2	9	-	-
055	BH255_0.2-0.6	2	9	1	1
056	BH256_0.2-0.6	2	9	-	-
057	BH257_0.2-0.6	2	9	1	1
058	SP1-1	2	9	1	1
059	SP1-2	2	9	1	1
060	SP2-1	2	9	1	1
061	SP2-2	2	9	1	1
062	SP2-3	2	9	1	1
063	QD1	-	-	1	1
064	QD2	-	-	1	1
066	Trip Blank	-	-	-	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE198558

CLIENT DETAILS

Client EI AUSTRALIA

Project E24373 7 Montore Rd, Minto

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
065	QR1	1	7	10	11	7

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

Sheet 1 of 1

Site: 7 Montore St, Minto

Project No: E24373

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)
TP301_0.2-0.6	1	ZLB	14/11/19			✓	
TP302_0.1-0.3		"					
303_0.1-0.3							
304_0-0.2							
305_0.2-0.6							
306_0.2-0.6							
307_0.3-0.5							
308_0.2-0.4							
309_0.2-0.5							
310_0.1-0.3							
311_0.1-0.3							
312_0.3-0.6							
313_0.1-0.3							
314_0.1-0.3	14	✓	✓			✓	

Analysis

HM Δ /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM Δ /TRH/BTEX/PAHs	HM Δ /TRH/BTEX	TRH/BTEX/Lead	TRH/BTEX	PAHs	VOCs	Asbestos Quantification #	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	sPOCAS				TCLP PAHs	TCLP HM Δ	TCLP HM B
							✓									
							✓							SE199972		

Comments

HM Δ
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- [x] 1 Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other____

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Comments:
Asbestos as per NEPM (2013)

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jaR
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Sampler's Name (EI):

Print: EW
Signature:
Date: 14/11/19

Received by (SGS):

Print: J.L
Signature: J.L
Date: 14/11/19 12:45pm

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE199972

CLIENT DETAILS

Contact	Emmanuel Woelders
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	emmanuel.woelders@eiaustralia.com.au
Project	**E24373 7 Montore St, Minto**
Order Number	**E24373**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Thu 14/11/2019
Report Due	Thu 21/11/2019
SGS Reference	**SE199972**

SUBMISSION DETAILS

This is to confirm that 14 samples were received on Thursday 14/11/2019. Results are expected to be ready by COB Thursday 21/11/2019.
Please quote SGS reference SE199972 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	Client	Sample cooling method	None
Samples received in correct containers	Yes	Sample counts by matrix	14 Soil
Date documentation received	14/11/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	N/A
Sample temperature upon receipt	23.9°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

SAMPLE RECEIPT ADVICE

SE199972

CLIENT DETAILS

Client EI AUSTRALIA

Project E24373 7 Montore St, Minto

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Gravimetric Determination of Asbestos in Soil
001	TP301_0.2-0.6	2	9
002	TP302_0.1-0.3	2	9
003	TP303_0.1-0.3	2	9
004	TP304_0-0.2	2	9
005	TP305_0.2-0.6	2	9
006	TP306_0.2-0.6	2	9
007	TP307_0.3-0.7	2	9
008	TP308_0.2-0.4	2	9
009	TP309_0.2-0.5	2	9
010	TP310_0.1-0.3	2	9
011	TP311_0.1-0.3	2	9
012	TP312_0.3-0.6	2	9
013	TP313_0.1-0.3	2	9
014	TP314_0.1-0.3	2	9

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

Sheet 1 of 1

Site: 7 Montore Rd, Minto

Project No: E24373

Laboratory: Envirolab Services
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM[A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM[A] /TRH/BTEX/PAHs	HM[A] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Dewatering Suite	sPOCAS	PFAS				TCLP HM[B] / PAH
QT1	1	J	4/10/19			✓				✓													
QT2	2	J	↓			✓				✓													

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 227806
Date Received: 8/10/19
Time Received: 17:24
Received by: SR
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Comments

HM[A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM[B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / Turbidity NTU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table ☐

Sampler's Name (EI):	Received by (Envirolab)
Print: JH & EW	Print: Kevin
Signature:	Signature:
Date: 8/10/19	Date: 8/10/19

Sampler's Comments:

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	EI Australia
Attention	Joel Heininger, Emmanuel Woelders

Sample Login Details

Your reference	E24373, Minto
Envirolab Reference	227806
Date Sample Received	08/10/2019
Date Instructions Received	08/10/2019
Date Results Expected to be Reported	16/10/2019

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	2 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	14.7
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	Acid Extractable metalsin soil
QT1	✓	✓	✓
QT2	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Appendix H – Laboratory Analytical Reports

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Emmanuel Woelders
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	emmanuel.woelders@eiaustralia.com.au
Project	**E24373 7 Montore Rd, Minto**
Order Number	**E24373**
Samples	67

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE198558 R0**
Date Received	8/10/2019
Date Reported	16/10/2019

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Sample #7: Asbestos found in approx 15x6x3mm cement sheet fragments.
Sample #14: Asbestos found in approx 5x3x2mm cement sheet fragment.
Sample #15: Asbestos found in approx 4x3x2mm cement sheet fragment.
Sample #18: Asbestos found in approx 75 g cement sheet fragments x4.
Sample #23: Asbestos found as approx 30mm length rope material.
Sample #25: Asbestos found in approx 129 g cement sheet fragments.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin ..

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 11/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<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	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<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	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<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	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<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	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

VOC's in Soil [AN433] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<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	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	QD1 SOIL - 4/10/2019 SE198558.063	QD2 SOIL - 4/10/2019 SE198558.064	Trip Blank SAND - 4/10/2019 SE198558.066	Trip Spike SAND - 4/10/2019 SE198558.067
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	[101%]
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	[93%]
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	[84%]
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	[84%]
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	[84%]
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	-
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	-
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	-

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 11/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	QD1 SOIL - 4/10/2019 SE198558.063	QD2 SOIL - 4/10/2019 SE198558.064	Trip Blank SAND - 4/10/2019 SE198558.066
TRH C6-C9	mg/kg	20	<20	<20	-
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	-
TRH C6-C10	mg/kg	25	<25	<25	-
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	-

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 11/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	**400**	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	**1000**	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	**810**	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	**970**	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	**1200**	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	**1400**	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	**2200**	<210	<210	<210	<210

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	**280**
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	**850**
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	**750**
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	**740**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	**1100**
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	**1100**
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	**1900**

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	QD1 SOIL - 4/10/2019 SE198558.063	QD2 SOIL - 4/10/2019 SE198558.064
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	1.9	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	0.5	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	5.4	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	2.4	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	12	<0.1	<0.1	<0.1	0.2
Pyrene	mg/kg	0.1	10	<0.1	<0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	0.1	6.0	<0.1	<0.1	<0.1	0.1
Chrysene	mg/kg	0.1	4.4	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	6.6	<0.1	<0.1	<0.1	0.1
Benzo(k)fluoranthene	mg/kg	0.1	4.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	7.1	<0.1	<0.1	<0.1	0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	5.3	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	0.9	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	5.1	<0.1	<0.1	<0.1	0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	10	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	10	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	10	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	72	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	72	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	2.6
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.3
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.4
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	4.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	2.7
Fluoranthene	mg/kg	0.1	<0.1	0.1	<0.1	0.2	12
Pyrene	mg/kg	0.1	<0.1	0.1	<0.1	0.2	10
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	5.7
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	4.4
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.1	<0.1	0.1	7.3
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	2.9
Benzo(a)pyrene	mg/kg	0.1	<0.1	0.1	<0.1	0.1	7.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	5.3
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.9
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	5.0
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	10
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	10
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.2	10
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	1.1	70
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	1.1	70

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	0.3
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.7	2.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	0.4
Fluoranthene	mg/kg	0.1	<0.1	0.1	<0.1	1.7	3.4
Pyrene	mg/kg	0.1	<0.1	0.1	<0.1	2.1	3.2
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.8	1.0
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.8	0.9
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.8	1.5
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.6	0.6
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.9	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.6	1.2
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.7	1.2
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	1.2	1.9
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	1.3	1.9
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	1.2	1.9
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	10	17
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	10	17

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0.2	0.2	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	0.2	0.2	0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	0.2	0.3	0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	0.1	0.2	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.1	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	0.1	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	0.2	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	1.0	1.1	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	1.0	1.1	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0.2	0.2	0.2
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	0.4	0.4	0.5
Pyrene	mg/kg	0.1	<0.1	<0.1	0.4	0.4	0.5
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	0.2	0.2	0.2
Chrysene	mg/kg	0.1	<0.1	<0.1	0.2	0.2	0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.3	0.3	0.4
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.1	0.1	0.2
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	0.2	0.2	0.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	0.2	0.3	0.3
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	0.3	0.3	0.3
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	0.3	0.3	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	0.4	0.4	0.5
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	0.4	0.4	0.4
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	2.4	2.5	3.0
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	2.4	2.5	3.0

OC Pesticides in Soil [AN420] Tested: 11/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 11/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 11/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PCBs in Soil [AN420] Tested: 11/10/2019 (continued)

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 13/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
Arsenic, As	mg/kg	1	2	5	6	6	6
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	10	10	10	11	11
Copper, Cu	mg/kg	0.5	41	17	26	18	26
Lead, Pb	mg/kg	1	11	17	34	29	45
Nickel, Ni	mg/kg	0.5	15	7.9	10	9.1	11
Zinc, Zn	mg/kg	2	30	29	86	43	95

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
Arsenic, As	mg/kg	1	5	6	6	5	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	9.5	9.4	10	11	12
Copper, Cu	mg/kg	0.5	15	20	20	17	43
Lead, Pb	mg/kg	1	18	18	21	18	8
Nickel, Ni	mg/kg	0.5	7.3	11	11	9.2	16
Zinc, Zn	mg/kg	2	33	37	41	29	28

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
Arsenic, As	mg/kg	1	3	3	3	3	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.0	8.5	8.4	12	8.0
Copper, Cu	mg/kg	0.5	25	22	6.2	15	14
Lead, Pb	mg/kg	1	14	14	6	31	8
Nickel, Ni	mg/kg	0.5	13	6.3	6.7	11	6.7
Zinc, Zn	mg/kg	2	48	30	20	55	24

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
Arsenic, As	mg/kg	1	2	4	5	2	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	5.6	11	11	6.9	5.3
Copper, Cu	mg/kg	0.5	7.7	13	9.8	9.3	8.8
Lead, Pb	mg/kg	1	4	13	19	6	12
Nickel, Ni	mg/kg	0.5	4.6	7.2	5.6	4.9	5.0
Zinc, Zn	mg/kg	2	13	33	87	31	39

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 13/10/2019

(continued)

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Arsenic, As	mg/kg	1	4	6	5	5	5
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	8.2	12	9.1	11	8.6
Copper, Cu	mg/kg	0.5	16	21	19	22	21
Lead, Pb	mg/kg	1	17	23	25	29	23
Nickel, Ni	mg/kg	0.5	8.7	8.8	9.2	9.7	9.3
Zinc, Zn	mg/kg	2	75	48	66	67	58

PARAMETER	UOM	LOR	QD1 SOIL - 4/10/2019 SE198558.063	QD2 SOIL - 4/10/2019 SE198558.064
Arsenic, As	mg/kg	1	5	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	9.8	8.3
Copper, Cu	mg/kg	0.5	14	15
Lead, Pb	mg/kg	1	17	25
Nickel, Ni	mg/kg	0.5	7.0	7.9
Zinc, Zn	mg/kg	2	27	43

Mercury in Soil [AN312] Tested: 13/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	**0.05**

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	QD1 SOIL - 4/10/2019 SE198558.063	QD2 SOIL - 4/10/2019 SE198558.064
Mercury	mg/kg	0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 11/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016
% Moisture	%w/w	1	7.7	14.7	11.6	12.9	11.5

PARAMETER	UOM	LOR	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028
% Moisture	%w/w	1	12.7	13.2	18.8	12.1	5.3

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044
% Moisture	%w/w	1	13.9	16.4	25.5	13.9	38.2

PARAMETER	UOM	LOR	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057
% Moisture	%w/w	1	16.2	21.3	8.2	16.7	13.3

PARAMETER	UOM	LOR	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
% Moisture	%w/w	1	10.9	2.6	10.8	10.5	11.6

PARAMETER	UOM	LOR	QD1 SOIL - 4/10/2019 SE198558.063	QD2 SOIL - 4/10/2019 SE198558.064	Trip Blank SAND - 4/10/2019 SE198558.066
% Moisture	%w/w	1	15.0	12.8	<1.0

Fibre Identification in soil [AN602] Tested: 10/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP102_0.1-0.2 SOIL - 4/10/2019 SE198558.002	TP103_0.1-0.2 SOIL - 4/10/2019 SE198558.003	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP105_0.1-0.3 SOIL - 4/10/2019 SE198558.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP106_0.2-0.4 SOIL - 4/10/2019 SE198558.006	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP108_0.1-0.3 SOIL - 4/10/2019 SE198558.008	TP109_0.1-0.3 SOIL - 4/10/2019 SE198558.009	TP110_0.1-0.4 SOIL - 4/10/2019 SE198558.010
Asbestos Detected	No unit	-	No	Yes	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	**>0.01**	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP111_0.2-0.5 SOIL - 4/10/2019 SE198558.011	TP112_0.2-0.5 SOIL - 4/10/2019 SE198558.012	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP114_0.1-0.4 SOIL - 4/10/2019 SE198558.014	TP115_0.2-0.6 SOIL - 4/10/2019 SE198558.015
Asbestos Detected	No unit	-	No	No	No	Yes	Yes
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016	TP117_0.1-0.3 SOIL - 4/10/2019 SE198558.017	TP118_0.4-0.8 SOIL - 4/10/2019 SE198558.018	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP120_0.1-0.4 SOIL - 4/10/2019 SE198558.020
Asbestos Detected	No unit	-	No	No	Yes	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	**>0.01**	<0.01	<0.01

PARAMETER	UOM	LOR	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP122_0.2-0.5 SOIL - 4/10/2019 SE198558.022	TP123_0.3-0.6 SOIL - 4/10/2019 SE198558.023	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	TP125_0.2-0.5 SOIL - 4/10/2019 SE198558.025
Asbestos Detected	No unit	-	No	No	Yes	No	Yes
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	**>0.01**

PARAMETER	UOM	LOR	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH227_0.1-0.3 SOIL - 4/10/2019 SE198558.027	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028	BH229_0.1-0.3 SOIL - 4/10/2019 SE198558.029	BH230_0.1-0.3 SOIL - 4/10/2019 SE198558.030
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH232_0.2-0.5 SOIL - 4/10/2019 SE198558.032	BH233_0.2-0.5 SOIL - 4/10/2019 SE198558.033	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH235_0.2-0.5 SOIL - 4/10/2019 SE198558.035
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Fibre Identification in soil [AN602] Tested: 10/10/2019 (continued)

PARAMETER	UOM	LOR	BH236_0.2-0.5 SOIL - 4/10/2019 SE198558.036	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH238_0.2-0.5 SOIL - 4/10/2019 SE198558.038	BH239_0.2-0.5 SOIL - 4/10/2019 SE198558.039	BH240_0.1-0.4 SOIL - 4/10/2019 SE198558.040
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH242_0.2-0.5 SOIL - 4/10/2019 SE198558.042	BH243_0.2-0.5 SOIL - 4/10/2019 SE198558.043	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044	BH245_0.2-0.5 SOIL - 4/10/2019 SE198558.045
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH246_0.2-0.5 SOIL - 4/10/2019 SE198558.046	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH248_0.2-0.5 SOIL - 4/10/2019 SE198558.048	BH249_0.2-0.5 SOIL - 4/10/2019 SE198558.049	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH251_0.2-0.6 SOIL - 4/10/2019 SE198558.051	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH253_0.2-0.6 SOIL - 4/10/2019 SE198558.053	BH254_0.2-0.6 SOIL - 4/10/2019 SE198558.054	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH256_0.2-0.6 SOIL - 4/10/2019 SE198558.056	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP102_0.1-0.2 SOIL - 4/10/2019 SE198558.002	TP103_0.1-0.2 SOIL - 4/10/2019 SE198558.003	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP105_0.1-0.3 SOIL - 4/10/2019 SE198558.005
Total Sample Weight*	g	1	1065	1134	871	851	811
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP106_0.2-0.4 SOIL - 4/10/2019 SE198558.006	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP108_0.1-0.3 SOIL - 4/10/2019 SE198558.008	TP109_0.1-0.3 SOIL - 4/10/2019 SE198558.009	TP110_0.1-0.4 SOIL - 4/10/2019 SE198558.010
Total Sample Weight*	g	1	915	1048	948	815	928
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	0.198	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	0.019	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	0.019	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP111_0.2-0.5 SOIL - 4/10/2019 SE198558.011	TP112_0.2-0.5 SOIL - 4/10/2019 SE198558.012	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP114_0.1-0.4 SOIL - 4/10/2019 SE198558.014	TP115_0.2-0.6 SOIL - 4/10/2019 SE198558.015
Total Sample Weight*	g	1	868	1049	879	835	1059
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	0.0528	0.0300
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.006	0.003
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.006	0.003
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016	TP117_0.1-0.3 SOIL - 4/10/2019 SE198558.017	TP118_0.4-0.8 SOIL - 4/10/2019 SE198558.018	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP120_0.1-0.4 SOIL - 4/10/2019 SE198558.020
Total Sample Weight*	g	1	1043	992	1139	850	1006
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	75.5	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	0.99	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/10/2019 (continued)

PARAMETER	UOM	LOR	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP122_0.2-0.5 SOIL - 4/10/2019 SE198558.022	TP123_0.3-0.6 SOIL - 4/10/2019 SE198558.023	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	TP125_0.2-0.5 SOIL - 4/10/2019 SE198558.025
Total Sample Weight*	g	1	902	882	701	882	792
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	129
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	0.0625	<0.0001	0.365
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	2.4
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	0.009	<0.001	0.046
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	0.009	<0.001	0.046
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH227_0.1-0.3 SOIL - 4/10/2019 SE198558.027	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028	BH229_0.1-0.3 SOIL - 4/10/2019 SE198558.029	BH230_0.1-0.3 SOIL - 4/10/2019 SE198558.030
Total Sample Weight*	g	1	792	791	790	996	760
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH232_0.2-0.5 SOIL - 4/10/2019 SE198558.032	BH233_0.2-0.5 SOIL - 4/10/2019 SE198558.033	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH235_0.2-0.5 SOIL - 4/10/2019 SE198558.035
Total Sample Weight*	g	1	762	1070	941	871	833
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH236_0.2-0.5 SOIL - 4/10/2019 SE198558.036	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH238_0.2-0.5 SOIL - 4/10/2019 SE198558.038	BH239_0.2-0.5 SOIL - 4/10/2019 SE198558.039	BH240_0.1-0.4 SOIL - 4/10/2019 SE198558.040
Total Sample Weight*	g	1	786	610	975	785	954
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/10/2019 (continued)

PARAMETER	UOM	LOR	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH242_0.2-0.5 SOIL - 4/10/2019 SE198558.042	BH243_0.2-0.5 SOIL - 4/10/2019 SE198558.043	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044	BH245_0.2-0.5 SOIL - 4/10/2019 SE198558.045
Total Sample Weight*	g	1	**994**	**1015**	**937**	**605**	**792**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH246_0.2-0.5 SOIL - 4/10/2019 SE198558.046	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH248_0.2-0.5 SOIL - 4/10/2019 SE198558.048	BH249_0.2-0.5 SOIL - 4/10/2019 SE198558.049	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050
Total Sample Weight*	g	1	**1028**	**1004**	**690**	**934**	**980**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH251_0.2-0.6 SOIL - 4/10/2019 SE198558.051	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH253_0.2-0.6 SOIL - 4/10/2019 SE198558.053	BH254_0.2-0.6 SOIL - 4/10/2019 SE198558.054	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055
Total Sample Weight*	g	1	**1051**	**1096**	**1220**	**940**	**1063**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH256_0.2-0.6 SOIL - 4/10/2019 SE198558.056	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060
Total Sample Weight*	g	1	**881**	**872**	**1155**	**986**	**1070**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/10/2019 (continued)

PARAMETER	UOM	LOR	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Total Sample Weight*	g	1	**922**	**908**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-

VOCs in Water [AN433] Tested: 11/10/2019

PARAMETER	UOM	LOR	QR1 WATER - 4/10/2019 SE198558.065
Benzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
m/p-xylene	µg/L	1	<1
o-xylene	µg/L	0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5
Total BTEX	µg/L	3	<3
Naphthalene	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 11/10/2019

PARAMETER	UOM	LOR	QR1 WATER - 4/10/2019 SE198558.065
TRH C6-C9	µg/L	40	<40
Benzene (F0)	µg/L	0.5	<0.5
TRH C6-C10	µg/L	50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 10/10/2019

PARAMETER	UOM	LOR	QR1 WATER - 4/10/2019 SE198558.065
TRH C10-C14	µg/L	50	<50
TRH C15-C28	µg/L	200	<200
TRH C29-C36	µg/L	200	<200
TRH C37-C40	µg/L	200	<200
TRH >C10-C16	µg/L	60	<60
TRH >C16-C34 (F3)	µg/L	500	<500
TRH >C34-C40 (F4)	µg/L	500	<500
TRH C10-C36	µg/L	450	<450
TRH C10-C40	µg/L	650	<650
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 11/10/2019

PARAMETER	UOM	LOR	QR1 WATER - 4/10/2019 SE198558.065
Arsenic, As	µg/L	1	<1
Cadmium, Cd	µg/L	0.1	<0.1
Chromium, Cr	µg/L	1	<1
Copper, Cu	µg/L	1	<1
Lead, Pb	µg/L	1	<1
Nickel, Ni	µg/L	1	<1
Zinc, Zn	µg/L	5	<5

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 10/10/2019

PARAMETER	UOM	LOR	QR1 WATER - 4/10/2019 SE198558.065
Mercury	mg/L	0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS /ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602	The sample can be reported "no asbestos found at the reporting limit of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au.pv.sgsvr/en-gb/environment.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Emmanuel Woelders
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	emmanuel.woelders@eiaustralia.com.au
Project	**E24373 7 Montore Rd, Minto**
Order Number	**E24373**
Samples	62

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE198558 R0**
Date Received	08 Oct 2019
Date Reported	16 Oct 2019

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Sample #7: Asbestos found in approx 15x6x3mm cement sheet fragments.
Sample #14: Asbestos found in approx 5x3x2mm cement sheet fragment.
Sample #15: Asbestos found in approx 4x3x2mm cement sheet fragment.
Sample #18: Asbestos found in approx 75 g cement sheet fragments x4.
Sample #23: Asbestos found as approx 30mm length rope material.
Sample #25: Asbestos found in approx 129 g cement sheet fragments.

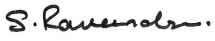
Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin ..

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head



Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE198558.001	TP101_0.1-0.2	Soil	1065g Sand, Soil, Rocks, Bitumen	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.002	TP102_0.1-0.2	Soil	1134g Sand, Soil, Rocks, Bitumen	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.003	TP103_0.1-0.2	Soil	871g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.004	TP104_0.2-0.4	Soil	851g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.005	TP105_0.1-0.3	Soil	811g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.006	TP106_0.2-0.4	Soil	915g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.007	TP107_0.1-0.3	Soil	1048g Clay, Sand, Soil, Rocks	04 Oct 2019	Amosite, Chrysotile & Crocidolite Asbestos Found Organic Fibres Detected	>0.01
SE198558.008	TP108_0.1-0.3	Soil	948g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.009	TP109_0.1-0.3	Soil	815g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found Synthetic Mineral Fibres Detected Organic Fibres Detected	<0.01
SE198558.010	TP110_0.1-0.4	Soil	928g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.011	TP111_0.2-0.5	Soil	868g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.012	TP112_0.2-0.5	Soil	1049g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.013	TP113_0.1-0.4	Soil	879g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.014	TP114_0.1-0.4	Soil	835g Clay, Sand, Rocks	04 Oct 2019	Chrysotile Asbestos Found Organic Fibres Detected	<0.01
SE198558.015	TP115_0.2-0.6	Soil	1059g Clay, Sand, Soil, Rocks	04 Oct 2019	Chrysotile Asbestos Found Organic Fibres Detected	<0.01
SE198558.016	TP116_0.1-0.5	Soil	1043g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Synthetic Mineral Fibres Detected Organic Fibres Detected	<0.01
SE198558.017	TP117_0.1-0.3	Soil	992g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.018	TP118_0.4-0.8	Soil	1139g Clay, Sand, Soil, Rocks	04 Oct 2019	Chrysotile & Crocidolite Asbestos Found Organic Fibres Detected	>0.01
SE198558.019	TP119_0.1-0.4	Soil	850g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.020	TP120_0.1-0.4	Soil	1006g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.021	TP121_0.1-0.3	Soil	902g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.022	TP122_0.2-0.5	Soil	882g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.023	TP123_0.3-0.6	Soil	701g Clay, Soil, Rocks	04 Oct 2019	Chrysotile Asbestos Found	<0.01

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE198558.024	TP124_0.5-0.9	Soil	882g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.025	TP125_0.2-0.5	Soil	792g Clay, Soil, Rocks	04 Oct 2019	Chrysotile Asbestos Found	>0.01
SE198558.026	BH226_0.1-0.3	Soil	792g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.027	BH227_0.1-0.3	Soil	791g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.028	BH228_0.1-0.3	Soil	790g Clay, Sand, Soil, Rocks, Bitumen	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.029	BH229_0.1-0.3	Soil	996g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.030	BH230_0.1-0.3	Soil	760g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.031	BH231_0.2-0.5	Soil	762g Clay, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.032	BH232_0.2-0.5	Soil	1070g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.033	BH233_0.2-0.5	Soil	941g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.034	BH234_0.2-0.6	Soil	871g Clay, Sand, Rocks, Concrete	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.035	BH235_0.2-0.5	Soil	833g Clay, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.036	BH236_0.2-0.5	Soil	786g Clay, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.037	BH237_0.2-0.5	Soil	610g Clay, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.038	BH238_0.2-0.5	Soil	975g Sand, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.039	BH239_0.2-0.5	Soil	785g Sand, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.040	BH240_0.1-0.4	Soil	954g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.041	BH241_0.2-0.5	Soil	994g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.042	BH242_0.2-0.5	Soil	1015g Sand, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.043	BH243_0.2-0.5	Soil	937g Sand, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.044	BH244_0.2-0.5	Soil	605g Clay, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.045	BH245_0.2-0.5	Soil	792g Clay, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE198558.046	BH246_0.2-0.5	Soil	1028g Clay, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.047	BH247_0.2-0.5	Soil	1004g Sand, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.048	BH248_0.2-0.5	Soil	690g Clay, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.049	BH249_0.2-0.5	Soil	934g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.050	BH250_0.2-0.6	Soil	980g Sand, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.051	BH251_0.2-0.6	Soil	1051g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.052	BH252_0.2-0.6	Soil	1096g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.053	BH253_0.2-0.6	Soil	1220g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.054	BH254_0.2-0.6	Soil	940g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.055	BH255_0.2-0.6	Soil	1063g Clay, Sand, Rocks, Cement Mixer	04 Oct 2019	No Asbestos Found	<0.01
SE198558.056	BH256_0.2-0.6	Soil	881g Clay, Sand, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.057	BH257_0.2-0.6	Soil	872g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Synthetic Mineral Fibres Detected Organic Fibres Detected	<0.01
SE198558.058	SP1-1	Soil	1155g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.059	SP1-2	Soil	986g Clay, Soil, Rocks	04 Oct 2019	No Asbestos Found	<0.01
SE198558.060	SP2-1	Soil	1070g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.061	SP2-2	Soil	922g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE198558.062	SP2-3	Soil	908g Clay, Sand, Soil, Rocks	04 Oct 2019	No Asbestos Found Organic Fibres Detected	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/10/2019

PARAMETER	UOM	LOR	TP101_0.1-0.2 SOIL - 4/10/2019 SE198558.001	TP102_0.1-0.2 SOIL - 4/10/2019 SE198558.002	TP103_0.1-0.2 SOIL - 4/10/2019 SE198558.003	TP104_0.2-0.4 SOIL - 4/10/2019 SE198558.004	TP105_0.1-0.3 SOIL - 4/10/2019 SE198558.005
Total Sample Weight*	g	1	1065	1134	871	851	811
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP106_0.2-0.4 SOIL - 4/10/2019 SE198558.006	TP107_0.1-0.3 SOIL - 4/10/2019 SE198558.007	TP108_0.1-0.3 SOIL - 4/10/2019 SE198558.008	TP109_0.1-0.3 SOIL - 4/10/2019 SE198558.009	TP110_0.1-0.4 SOIL - 4/10/2019 SE198558.010
Total Sample Weight*	g	1	915	1048	948	815	928
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	0.198	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	0.019	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	0.019	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP111_0.2-0.5 SOIL - 4/10/2019 SE198558.011	TP112_0.2-0.5 SOIL - 4/10/2019 SE198558.012	TP113_0.1-0.4 SOIL - 4/10/2019 SE198558.013	TP114_0.1-0.4 SOIL - 4/10/2019 SE198558.014	TP115_0.2-0.6 SOIL - 4/10/2019 SE198558.015
Total Sample Weight*	g	1	868	1049	879	835	1059
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	0.0528	0.0300
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.006	0.003
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	0.006	0.003
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP116_0.1-0.5 SOIL - 4/10/2019 SE198558.016	TP117_0.1-0.3 SOIL - 4/10/2019 SE198558.017	TP118_0.4-0.8 SOIL - 4/10/2019 SE198558.018	TP119_0.1-0.4 SOIL - 4/10/2019 SE198558.019	TP120_0.1-0.4 SOIL - 4/10/2019 SE198558.020
Total Sample Weight*	g	1	1043	992	1139	850	1006
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	75.5	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	0.99	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/10/2019 (continued)

PARAMETER	UOM	LOR	TP121_0.1-0.3 SOIL - 4/10/2019 SE198558.021	TP122_0.2-0.5 SOIL - 4/10/2019 SE198558.022	TP123_0.3-0.6 SOIL - 4/10/2019 SE198558.023	TP124_0.5-0.9 SOIL - 4/10/2019 SE198558.024	TP125_0.2-0.5 SOIL - 4/10/2019 SE198558.025
Total Sample Weight*	g	1	902	882	701	882	792
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	129
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	0.0625	<0.0001	0.365
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	2.4
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	0.009	<0.001	0.046
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	0.009	<0.001	0.046
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH226_0.1-0.3 SOIL - 4/10/2019 SE198558.026	BH227_0.1-0.3 SOIL - 4/10/2019 SE198558.027	BH228_0.1-0.3 SOIL - 4/10/2019 SE198558.028	BH229_0.1-0.3 SOIL - 4/10/2019 SE198558.029	BH230_0.1-0.3 SOIL - 4/10/2019 SE198558.030
Total Sample Weight*	g	1	792	791	790	996	760
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH231_0.2-0.5 SOIL - 4/10/2019 SE198558.031	BH232_0.2-0.5 SOIL - 4/10/2019 SE198558.032	BH233_0.2-0.5 SOIL - 4/10/2019 SE198558.033	BH234_0.2-0.6 SOIL - 4/10/2019 SE198558.034	BH235_0.2-0.5 SOIL - 4/10/2019 SE198558.035
Total Sample Weight*	g	1	762	1070	941	871	833
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH236_0.2-0.5 SOIL - 4/10/2019 SE198558.036	BH237_0.2-0.5 SOIL - 4/10/2019 SE198558.037	BH238_0.2-0.5 SOIL - 4/10/2019 SE198558.038	BH239_0.2-0.5 SOIL - 4/10/2019 SE198558.039	BH240_0.1-0.4 SOIL - 4/10/2019 SE198558.040
Total Sample Weight*	g	1	786	610	975	785	954
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/10/2019 (continued)

PARAMETER	UOM	LOR	BH241_0.2-0.5 SOIL - 4/10/2019 SE198558.041	BH242_0.2-0.5 SOIL - 4/10/2019 SE198558.042	BH243_0.2-0.5 SOIL - 4/10/2019 SE198558.043	BH244_0.2-0.5 SOIL - 4/10/2019 SE198558.044	BH245_0.2-0.5 SOIL - 4/10/2019 SE198558.045
Total Sample Weight*	g	1	**994**	**1015**	**937**	**605**	**792**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH246_0.2-0.5 SOIL - 4/10/2019 SE198558.046	BH247_0.2-0.5 SOIL - 4/10/2019 SE198558.047	BH248_0.2-0.5 SOIL - 4/10/2019 SE198558.048	BH249_0.2-0.5 SOIL - 4/10/2019 SE198558.049	BH250_0.2-0.6 SOIL - 4/10/2019 SE198558.050
Total Sample Weight*	g	1	**1028**	**1004**	**690**	**934**	**980**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH251_0.2-0.6 SOIL - 4/10/2019 SE198558.051	BH252_0.2-0.6 SOIL - 4/10/2019 SE198558.052	BH253_0.2-0.6 SOIL - 4/10/2019 SE198558.053	BH254_0.2-0.6 SOIL - 4/10/2019 SE198558.054	BH255_0.2-0.6 SOIL - 4/10/2019 SE198558.055
Total Sample Weight*	g	1	**1051**	**1096**	**1220**	**940**	**1063**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	BH256_0.2-0.6 SOIL - 4/10/2019 SE198558.056	BH257_0.2-0.6 SOIL - 4/10/2019 SE198558.057	SP1-1 SOIL - 4/10/2019 SE198558.058	SP1-2 SOIL - 4/10/2019 SE198558.059	SP2-1 SOIL - 4/10/2019 SE198558.060
Total Sample Weight*	g	1	**881**	**872**	**1155**	**986**	**1070**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 10/10/2019 (continued)

PARAMETER	UOM	LOR	SP2-2 SOIL - 4/10/2019 SE198558.061	SP2-3 SOIL - 4/10/2019 SE198558.062
Total Sample Weight*	g	1	922	908
ACM in >7mm Sample*	g	0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-

METHOD	METHODOLOGY SUMMARY
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au.pv.sgsvr/en-gb/environment.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Emmanuel Woelders
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	emmanuel.woelders@eiaustralia.com.au
Project	**E24373 7 Montore St, Minto**
Order Number	**E24373**
Samples	14

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE199972 R0**
Date Received	14 Nov 2019
Date Reported	21 Nov 2019

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Sample 5: Asbestos found in approx 20x10x4mm cement sheet fragment.
Sample 6: Asbestos found in approx 55x40x4mm cement sheet fragment.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin .

SIGNATORIES

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE199972.001	TP301_0.2-0.6	Soil	793g Clay,Sand,Soil, Rocks	14 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE199972.002	TP302_0.1-0.3	Soil	764g Clay,Rocks	14 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE199972.003	TP303_0.1-0.3	Soil	771g Clay,Rocks	14 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE199972.004	TP304_0-0.2	Soil	562g Clay,Soil,Rocks	14 Nov 2019	No Asbestos Found	<0.01
SE199972.005	TP305_0.2-0.6	Soil	906g Clay,Sand,Soil, Rocks	14 Nov 2019	Chrysotile Asbestos Found	>0.01
SE199972.006	TP306_0.2-0.6	Soil	759g Clay,Soil,Rocks	14 Nov 2019	Chrysotile & Crocidolite Asbestos Found	>0.01
SE199972.007	TP307_0.3-0.7	Soil	714g Clay,Soil,Rocks	14 Nov 2019	No Asbestos Found	<0.01
SE199972.008	TP308_0.2-0.4	Soil	843g Clay,Sand,Soil, Rocks	14 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE199972.009	TP309_0.2-0.5	Soil	683g Clay,Sand,Rock s,Cement Mixture	14 Nov 2019	No Asbestos Found	<0.01
SE199972.010	TP310_0.1-0.3	Soil	707g Clay,Sand,Rock s	14 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE199972.011	TP311_0.1-0.3	Soil	663g Clay,Sand,Rock s	14 Nov 2019	No Asbestos Found	<0.01
SE199972.012	TP312_0.3-0.6	Soil	773g Clay,Soil,Rocks	14 Nov 2019	No Asbestos Found	<0.01
SE199972.013	TP313_0.1-0.3	Soil	696g Clay,Soil,Rocks	14 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01
SE199972.014	TP314_0.1-0.3	Soil	784g Clay,Sand,Soil, Rocks	14 Nov 2019	No Asbestos Found Organic Fibres Detected	<0.01

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 20/11/2019

PARAMETER	UOM	LOR	TP301_0.2-0.6 SOIL - 14/11/2019 SE199972.001	TP302_0.1-0.3 SOIL - 14/11/2019 SE199972.002	TP303_0.1-0.3 SOIL - 14/11/2019 SE199972.003	TP304_0-0.2 SOIL - 14/11/2019 SE199972.004	TP305_0.2-0.6 SOIL - 14/11/2019 SE199972.005
Total Sample Weight*	g	1	**793**	**764**	**771**	**562**	**906**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	**2.21**
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	**0.04**
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP306_0.2-0.6 SOIL - 14/11/2019 SE199972.006	TP307_0.3-0.7 SOIL - 14/11/2019 SE199972.007	TP308_0.2-0.4 SOIL - 14/11/2019 SE199972.008	TP309_0.2-0.5 SOIL - 14/11/2019 SE199972.009	TP310_0.1-0.3 SOIL - 14/11/2019 SE199972.010
Total Sample Weight*	g	1	**759**	**714**	**843**	**683**	**707**
ACM in >7mm Sample*	g	0.01	**11.6**	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	**0.23**	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	TP311_0.1-0.3 SOIL - 14/11/2019 SE199972.011	TP312_0.3-0.6 SOIL - 14/11/2019 SE199972.012	TP313_0.1-0.3 SOIL - 14/11/2019 SE199972.013	TP314_0.1-0.3 SOIL - 14/11/2019 SE199972.014
Total Sample Weight*	g	1	**663**	**773**	**696**	**784**
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au.pv.sgsvr/en-gb/environment.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 227806

Client Details

Client	EI Australia
Attention	Joel Heininger, Emmanuel Woelders
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E24373, Minto**
Number of Samples	2 Soil
Date samples received	08/10/2019
Date completed instructions received	08/10/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

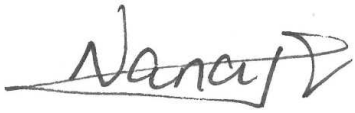
Date results requested by	16/10/2019
Date of Issue	11/10/2019

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

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

Results Approved By
Loren Bardwell, Senior Chemist
Steven Luong, Organics Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		227806-1	227806-2
Your Reference	UNITS	QT1	QT2
Date Sampled		04/10/2019	04/10/2019
Type of sample		Soil	Soil
Date extracted	-	09/10/2019	09/10/2019
Date analysed	-	10/10/2019	10/10/2019
TRH C_6 - C_9	mg/kg	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Total +ve Xylenes	mg/kg	<3	<3
Surrogate aaa-Trifluorotoluene	%	85	95

svTRH (C10-C40) in Soil			
Our Reference		227806-1	227806-2
Your Reference	UNITS	QT1	QT2
Date Sampled		04/10/2019	04/10/2019
Type of sample		Soil	Soil
Date extracted	-	09/10/2019	09/10/2019
Date analysed	-	10/10/2019	10/10/2019
TRH C_{10} - C_{14}	mg/kg	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	86	83

Acid Extractable metals in soil			
Our Reference		227806-1	227806-2
Your Reference	UNITS	QT1	QT2
Date Sampled		04/10/2019	04/10/2019
Type of sample		Soil	Soil
Date prepared	-	09/10/2019	09/10/2019
Date analysed	-	09/10/2019	09/10/2019
Arsenic	mg/kg	6	4
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	11	12
Copper	mg/kg	26	40
Lead	mg/kg	21	27
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	14	14
Zinc	mg/kg	38	78

Moisture			
Our Reference		227806-1	227806-2
Your Reference	UNITS	QT1	QT2
Date Sampled		04/10/2019	04/10/2019
Type of sample		Soil	Soil
Date prepared	-	09/10/2019	09/10/2019
Date analysed	-	10/10/2019	10/10/2019
Moisture	%	15	14

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	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.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	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.
Org-016	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.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			09/10/2019	[NT]	[NT]	[NT]	[NT]	09/10/2019	[NT]
Date analysed	-			10/10/2019	[NT]	[NT]	[NT]	[NT]	10/10/2019	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	112	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	112	[NT]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	[NT]	[NT]	106	[NT]
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	[NT]	[NT]	110	[NT]
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	114	[NT]
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	117	[NT]
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	97	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date extracted	-			09/10/2019	[NT]	[NT]	[NT]	[NT]	09/10/2019	[NT]
Date analysed	-			09/10/2019	[NT]	[NT]	[NT]	[NT]	09/10/2019	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	104	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	101	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	123	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	104	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	101	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	123	[NT]
Surrogate o-Terphenyl	%		Org-003	98	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	[NT]
Date prepared	-			09/10/2019	[NT]	[NT]	[NT]	[NT]	09/10/2019	[NT]
Date analysed	-			09/10/2019	[NT]	[NT]	[NT]	[NT]	09/10/2019	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	101	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]

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

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.

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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was 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.

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.

Appendix I – QA/QC Assessment

I1.1 Project QA/QC Protocols

Quality assurance comprises an assessment of the reliability of the field procedures and the laboratory results against standard industry practices, documented sampling and analysis plans or remedial action plans. Quality control measures comprise an integral component of the QA program. The QA/QC protocols followed during this investigation are presented in **Table I-1**. Refer also to **Table I-5** for a summary of the QC results.

Table I-1 QA/QC Protocols

Task	Description	Project Compliance
Field QA/QC		
General	Work undertaken following standard field procedures which are based on industry-accepted standard practices.	Soil samples were generally collected directly from the drill auger or excavator bucket. Soil samples were placed in 250 gram glass jars, which were filled to minimise headspace, and sealed using Teflon-coated lids. Asbestos samples were placed in zip lock and/or bulk bags.
	All fieldwork was supervised by a suitably qualified and experienced scientist or engineer.	Yes
Soil Screening with PID	The PID was serviced and calibrated as per manufacturer requirements. PID calibrated at the beginning of each day of fieldwork.	Yes See **Appendix F** for calibration documentation.
Equipment Decontamination	Sampling equipment decontaminated after the collection of each soil sample by washing with phosphate-free detergent (such as *Decon 90* or *Alconox*) and potable water, followed by a final distilled water rinse. One rinsate blank collected per day and analysed for the primary contaminants. DQO: all results non-detectable.	Yes One rinsate sample was collected during the soil investigations (QR1). All results were below the corresponding LOR (**Table I-5**), in compliance with the DQI.
Transport	Samples stored in a chilled (ice brick containing) chest and transported directly to the contracted laboratory under strict 'chain of custody' conditions.	Yes See **Appendix G** for COC and SRA forms.
Trip Blanks	Trip Blank samples prepared and analysed by the primary laboratory. DQO: analytical results below the laboratory LOR, indicating satisfactory sample transport and handling achieved (i.e. no cross contamination occurred).	One trip blank soil sample was prepared by the primary laboratory (SGS) and included in a sample chest. Analysed for BTEX, as part of the soil testing program. All results were below the corresponding laboratory LOR (**Table I-5**), in compliance with the DQI.
Trip Spikes	Trip spike samples prepared and analysed by the primary laboratory. DQO: recoveries 70-130%, indicating satisfactory sample transport and handling achieved (i.e. no significant loss of volatiles).	One trip spike soil sample was prepared by the primary laboratory (SGS) and included in a sample chest. Analysed for BTEX, as part of the soil testing program. Results were 84-101% (**Table I-5**), in compliance with the DQI.

Task	Description	Project Compliance
Field Duplicates	Field QC duplicates collected as follows: ▪ intra-laboratory (blind) duplicates at a rate of 1 in 20 primary samples (as per NEPM); and ▪ inter-laboratory (split) duplicates at a rate of 1 in 20 primary samples (as per NEPM). DQO: 30-50% RPD, as stated by AS4482.1–2005. RPDs that exceed this range considered acceptable where: ▪ Results are less than 10 times the LOR; ▪ Results are less than 20 times the LOR and the RPD is less than 50%; or ▪ Heterogeneous materials or volatile compounds are encountered. Non-compliance to be documented in the report and the sample re-analysed or a higher level conservatively adopted.	Two intra-laboratory and two inter-laboratory duplicates collected during the project, complying with the required frequency. QD1 and QD2 were intra-laboratory duplicates of TP104_0.2-0.4 and BH257_0.2-0.6, respectively, to provide a means of assessing the precision of the primary laboratory (SGS). QT1 and QT2 were inter-laboratory duplicates of TP104_0.2-0.4 and BH257_0.2-0.6, respectively, analysed by Envirolab (the secondary, independent laboratory), to provide a means of assessing the accuracy of the primary laboratory (SGS). Results summarised in **Table I-5**. Refer also to the laboratory reports in **Appendix H**. Most RPDs <50%. Where a RPD exceeded the acceptance limit, variability was due to low analyte concentrations and/or sample (fill) heterogeneity. The DQI was considered to have been satisfied.
Laboratory QA/QC		
Laboratory analysis	The laboratories selected are NATA accredited for the analyses commissioned and perform their own internal QA/QC programs.	Yes SGS - primary laboratory Envirolab - secondary laboratory Laboratory QA/QC reports are included in **Appendix H**. Refer also to **Appendix J** for laboratory QA/QC policies and DQOs.
	Appropriate detection limits used for the analyses undertaken.	Yes See laboratory reports in **Appendix H**. PQLs (or LORs) for all tested parameters also presented in **Appendix J**, **Tables QC3** and **QC4**.
Holding Times	Holding time is the maximum permissible period from collection of the sample to its extraction and/or analysis. All extraction and analyses to be completed within standard guidelines.	Mainly See laboratory reports in **Appendix H**.
Method Blanks	A method blank contains the reagents used to prepare a field sample for analysis. The purpose is to check for contamination in the reagents, thereby assessing potential bias (i.e. false positives) in the sample results. Each analytical method to include a method blank per batch of samples. DQO: non-detection of the analyte in question.	Yes All laboratory method blank results reported as <LOR. See laboratory reports in **Appendix H**. Refer also to **Appendix J**.

Task	Description	Project Compliance
Laboratory Duplicates	Laboratory duplicates are field samples, chosen at random by the laboratory, which undergo repeat analysis, as a means to assess analytical method precision. Normally performed at a frequency of 1 per 10 samples. DQO: as per Field Duplicates (prescribed above).	Yes All laboratory duplicate results <50% RPD. See laboratory reports in **Appendix H**.
Matrix Spikes / Matrix Spike Duplicates (MS/MSD)	MS/MSDs are field samples, chosen at random by the laboratory, to which a predetermined amount of analyte is added before testing. Normally performed at a frequency of 1 per 20 samples. DQO: recoveries 70-130%, with <50% RPD for MSDs.	Yes All laboratory MS / MDS results complied with the DQI. See laboratory reports in **Appendix H**.
Surrogate Spikes	Surrogate spikes provide a means of checking that no gross errors (analyte loss) occurred during the procedure. Normally performed at a frequency of 1 per 20 samples. DQO: recoveries 70-130%.	Yes All laboratory surrogate spikes complied with the DQI. See laboratory reports in **Appendix H**.
Laboratory Control Standards	A laboratory control standard is a standard reference material, including a stock solution used in preparing primary standards for method / instrument calibration. Normally performed at a frequency of 1 per 20 samples or at least one per analytical run. DQO: recoveries 70-130%.	Yes All laboratory control standards complied with the DQI. See laboratory reports in **Appendix H**.
Conclusion	QA/QC measures should either all comply with the required DQOs, or show variations that would have no significant effect on the quality of the data.	Yes. All DQIs considered to have been satisfied. Where non-compliance was observed, it could be explained by low analyte concentrations and/or sample (fill) heterogeneity.

I1.2 Calculation of Relative Percentage Difference (RPD)

RPD values were calculated using the following equation:

$$\boldsymbol{RPD} = \frac{|\boldsymbol{C_O} - \boldsymbol{C_R}|}{[(\boldsymbol{C_O} + \boldsymbol{C_R})/\boldsymbol{2}]} \times \boldsymbol{100}$$

Where: C_O = Concentration obtained for the primary sample; and
C_R = Concentration obtained for the duplicate or triplicate sample.

I2.1 Field QA/QC

The field QC samples collected during the ASI are summarised in **Table I-5**, included at the end of this appendix. **Table I-2** identifies the field (blind / split) duplicates.

Table I-2 Field QC Duplicates

Matrix	Primary QA Sample	Duplicate (Primary Lab)	Triplicate (Secondary Lab)	Total Duplicates
Soil	TP104_0.2-0.4	QD1	QT1	2
Soil	BH257_0.2-0.6	QD2	QT2	2

I2.2 Field Data Quality Indicators

A discussion of the field data quality indicators (DQIs) is presented in **Table I-3** below.

Table I-3 Field Data Quality Indicators

DQI	Item	Conformance/Comments
Completeness Percentage of useable data from sampling episode (data set).	Each critical location sampled	Yes
	SAQP appropriate and complied with	Yes
	Appropriate number of field duplicate samples taken	Yes
	Experienced sampler	Yes
	Field documentation correct	Yes
Comparability Confidence [expressed qualitatively] that data may be considered to be equivalent for each sampling and analytical event.	Same sampling method used on each occasion/location	Yes
	Experienced sampler	Yes
	Same type of samples collected (filtered, size, fractions)	Yes
Representativeness Confidence the data is representative of each media present on the site.	Appropriate media sampled according to SAQP	Yes
	Each media identified in SAQP sampled	Yes
Precision Quantitative measure of the variability (or reproducibility) of data.	SOPs appropriate and complied with and blind field duplicates analysed	Yes
Accuracy (bias) Quantitative measure of the closeness of reported data to the true value.	SOPs appropriate and complied with and split field duplicates analysed	Yes

I2.3 Conclusion for the Field QA/QC

All samples, including field QC samples, were transported to the primary and secondary laboratories under strict chain-of-custody conditions and appropriate copies of relevant documentation were included in the respective reports.

The overall completeness of documentation produced under the field program was considered to be adequate for the purposes of drawing valid conclusions regarding the environmental condition of the site.

Based on the results of the field QA/QC data, EI considered the field works program was appropriate and the results acceptable.

I2.4 Laboratory QA/QC

A discussion of the laboratory DQIs is presented in **Table I-4** below.

Table I-4 Laboratory Data Quality Indicators

DQI	Item	Conformance/Comments
Completeness (a measure of the amount of useable data (expressed as %) from a data collection activity)	All critical samples analysed according to SAQP and proposal	Yes
	All analytes analysed according to SAQP in proposal	Yes
	Appropriate methods and PQLs	Yes
	Sample documentation complete	Yes
	Sample holding times complied with	Part
Comparability (the confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event)	Sample analytical methods used (including clean-up)	Yes
	Sample PQLs (justify/ quantify if different)	Yes
	Same laboratories (justify/ quantify if different)	Yes
	Same units (justify/ quantify if different)	Yes
Representativeness (the confidence (expressed qualitatively) that data are representative of each media present on the site)	All key samples analysed according to SAQP in the proposal	Yes
Precision (a quantitative measure of the variability (or reproducibility) of data)	Analysis of laboratory duplicates	Yes
	Analysis of field duplicates	Yes
	Analysis of laboratory-prepared volatile trip spikes	Yes

DQI	Item	Conformance/Comments
Accuracy (bias) (a quantitative measure of the closeness of reported data to the true value)	Analysis of field blanks	Yes
	Analysis of rinsate blanks	Yes
	Analysis of method blanks	Yes
	Analysis of matrix spikes (MS)	Yes
	Analysis of matrix spike duplicates (MSD)	Yes
	Analysis of surrogate spikes	Yes
	Analysis of standard reference materials	Not applicable
	Analysis of laboratory control samples	Yes

Overall, it was considered that the laboratory data quality objectives for this project were achieved.

I2.5 Conclusion for the Laboratory QA/QC

Based on the laboratory QA/QC results, EI considered that the data set was valid and useable for interpretation purposes.

I2.6 Summary of Project QA/QC

The sampling methods (including sample preservation, transport and decontamination procedures) and laboratory methods followed during this investigation works were consistent with EI protocols and were found to meet the DQIs for this project. Based on the field and laboratory QA/QC results, EI considered that the data set was valid (i.e. complete, comparable, representative, precise and sufficiently accurate) and useable for interpretation purposes.

Table I-5 **Soil RPD values** **E24373 - Minto**

Sample identification	Description	Date	TRH				BTEX				Heavy Metals							
			F1	F2	F3	F4	Benzene	Toluene	Ethylbenzene	Xylene (total)	Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Nickel	Zinc
Intra-laboratory Duplicate - Initial Soil Investigation																		
TP104_0.2-0.4	Soil	4/10/2019	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	5	<0.3	10	17	17	<0.05	8	29
QD1	BFD of TP104_0.2-0.4		<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	5	<0.3	9.8	14	17	<0.05	7	27
RPD			*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*2.02*	*19.35*	*0.00*	*0.00*	*12.08*	*7.14*
Inter-laboratory Duplicate - Initial Soil Investigation																		
TP104_0.2-0.4	Soil	4/10/2019	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	5	<0.3	10	17	17	<0.05	8	29
QT1	BFD of TP104_0.2-0.4		<25	<50	<100	<100	<0.2	<0.5	<1	<3	6	<0.4	11	26	21	<0.1	14	38
RPD		-	*0.00*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*18.18*	*NA*	*9.52*	*41.86*	*21.05*	*NA*	**55.71**	*26.87*
Intra-laboratory Duplicate - Validation																		
BH257_0.2-0.6	Soil	4/10/2019	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	2	<0.3	5.3	9	12	<0.05	5	39
QD2	BFD of BH257_0.2-0.6		<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	3	<0.3	8.3	15	25	<0.05	8	43
RPD			*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*40.00*	*0.00*	*44.12*	**52.10**	**70.27**	*0.00*	*44.96*	*9.76*
Inter-laboratory Duplicate - Validation																		
BH257_0.2-0.6	Soil	4/10/2019	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	2	<0.3	5.3	9	12	<0.05	5	39
QT2	BFD of BH257_0.2-0.6		<25	<50	<100	<100	<0.2	<0.5	<1	<3	4	<0.4	12	40	27	<0.1	14	78
RPD		-	*0.00*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	**66.67**	*NA*	**77.46**	**127.87**	**76.92**	*NA*	**94.74**	**66.67**
Rinsate Blanks																		
QR1	Equipment Rinsate	4/10/2019	<50	<60	<500	<450	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.1	<1	<5
Trip Blanks																		
Trip Blank	Soil Trip Blank	4/10/2019	-	-	-	-	<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-
Trip Spikes																		
Trip Spilke	Soil Trip Spike	4/10/2019	-	-	-	-	[101%]	[93%]	[84%]	[84%] [1]	-	-	-	-	-	-	-	-

NOTE: All results are reported in mg/kg (soil) or µg/L (water)

66.67	RPD calculated by halving detection limit exceeds 30-50% range referenced from AS4482.1 (2005)
52.87	RPD exceeds 30-50% range referenced from AS4482.1 (2005)

F1 = TRH C6-C10 less the sum of BTEX
F2 = TRH >C10-C16 less naphthalene
F3 = TRH >C16-C34
F4 = TRH >C34-C40

[1] Value shown is the lowest recovery value reported for xylenes

eiaustralia
Contamination | Remediation | Geotechnical

Appendix J – Laboratory QA/QC Policies and DQOs

Table QC1 - Containers, Preservation Requirements and Holding Times - Soil			
Parameter	Container	Preservation	Maximum Holding Time
Acid digestible metals and metalloids - Total and TCLP (As,Cd.,Cu,Cr,Ni,Pb,Zn)	Glass with Teflon Lid	Nil	6 months
Mercury	Glass with Teflon Lid	Nil	28 days
TPH / BTEX / VOC / SVOC / CHC	Glass with Teflon Lid	4°C, zero headspace	14 days
PAHs (total and TCLP)	Glass with Teflon Lid	4°C [1]	14 days
Phenols	Glass with Teflon Lid	4°C [1]	14 days
OCPs, OPPs and total PCBs	Glass with Teflon Lid	4°C [1]	14 days
Asbestos	Sealed Plastic Bag	Nil	N/A

Table QC2 - Containers, Preservation Requirements and Holding Times - Water			
Parameter	Container Volume (mL)	Preservation	Maximum Holding Time
Heavy Metals	125mL Plastic	Field filtration 0.45μm HNO_3 / 4°C	6 months
Cyanide	125mL Amber Glass	pH > 12 NaOH / 4°C	6 months
TPH (C6-C9) / BTEX / VOCs SVOCs / CHCs	4 x 43mL Glass	HCl / 4°C [1]	14 days
TPH (C10-C36) / PAH / Phenolics OCP / OPP / TDS / pH	3 x 1L Amber Glass	None / 4°C [1]	28 days

Notes: [1] = Extraction within 14 days, Analysis within 40 days.

Table QC3 - Analytical Parameters, PQLs and Methods - Soil			
Parameter	**Unit**	**PQL**	**Method Reference**
Metals in Soil			
Arsenic - As[1]	mg / kg	1	USEPA 200.7
Cadmium - Cd[1]	mg / kg	0.5	USEPA 200.7
Chromium - Cr[1]	mg / kg	1	USEPA 200.7
Copper - Cu[1]	mg / kg	1	USEPA 200.7
Lead - Pb[1]	mg / kg	1	USEPA 200.7
Mercury - Hg[2]	mg / kg	0.1	USEPA 7471A
Nickel - Ni[1]	mg / kg	1	USEPA 200.7
Zinc - Zn[1]	mg / kg	1	USEPA 200.7
Total Petroleum Hydrocarbons (TPHs) in Soil			
C_6-C_9 fraction	mg / kg	25	USEPA 8260
C_{10}-C_{14} fraction	mg / kg	50	USEPA 8000
C_{15}-C_{28} fraction	mg / kg	100	USEPA 8000
C_{29}-C_{36} fraction	mg / kg	100	USEPA 8000
BTEX in Soil			
Benzene	mg / kg	1	USEPA 8260
Toluene	mg / kg	1	USEPA 8260
Ethylbenzene	mg / kg	1	USEPA 8260
m & p Xylene	mg / kg	2	USEPA 8260
o- Xylene	mg / kg	1	USEPA 8260
Other Organic Contaminants in Soil			
PAHs	mg / kg	0.05-0.2	USEPA 8270
CHCs	mg / kg	1	USEPA 8260
VOCs	mg / kg	1	USEPA 8260
SVOCs	mg / kg	1	USEPA 8260
OCPs	mg / kg	0.1	USEPA 8140, 8080
OPPs	mg / kg	0.1	USEPA 8140, 8080
PCBs	mg / kg	0.1	USEPA 8080
Phenolics	mg / kg	5	APHA 5530
Asbestos			
Asbestos	mg / kg	Presence / Absence	AS4964-2004

Notes:

1. Acid Soluble Metals by ICP-AES
2. Total Recoverable Mercury

Table QC4 - Analytical Parameters, PQLs and Methods - Groundwater

Parameter	Unit	PQL	Method
Heavy Metals			
Antimony - Sb	µg/L	1	USEPA 200.8
Arsenic - As	µg/L	1	USEPA 200.8
Beryllium - Be	µg/L	0.5	USEPA 200.8
Cadmium - Cd	µg/L	0.1	USEPA 200.8
Chromium - Cr	µg/L	1	USEPA 200.8
Cobalt - Co	µg/L	1	USEPA 200.8
Copper - Cu	µg/L	1	USEPA 200.8
Lead - Pb	µg/L	1	USEPA 200.8
Mercury - Hg	µg/L	0.5	USEPA 7471A
Molybdenum - Mo	µg/L	1	USEPA 200.8
Nickel - Ni	µg/L	1	USEPA 200.8
Selenium - Se	µg/L	1	USEPA 200.8
Silver - Ag	µg/L	1	USEPA 200.8
Tin (inorg.) - Sn	µg/L	1	USEPA 200.8
Nickel - Ni	µg/L	1	USEPA 200.8
Zinc - Zn	µg/L	1	USEPA 200.8
Total Petroleum Hydrocarbons (TPHs)			
C_6-C_9 fraction	µg/L	10	USEPA 8220A / 8000
C_{10}-C_{14} fraction	µg/L	50	USEPA 8000
C_{15}-C_{28} fraction	µg/L	100	USEPA 8000
C_{29}-C_{36} fraction	µg/L	100	USEPA 8000
BTEX			
Benzene	µg/L	1	USEPA 8220A
Toluene	µg/L	1	USEPA 8220A
Ethylbenzene	µg/L	1	USEPA 8220A
m- & p-Xylene	µg/L	2	USEPA 8220A
o-Xylene	µg/L	1	USEPA 8220A
Polyciclic Aromatic Hydrocarbons (PAHs)			
PAHs	µg/L	0.1	USEPA 8270
Benzo(a)pyrene	µg/L	0.01	USEPA 8270
OrganoChlorine Pesticides (OCPs)			
Aldrin	µg/L	0.001	USEPA 8081
Chlordane	µg/L	0.001	USEPA 8081
DDT	µg/L	0.001	USEPA 8081
Dieldrin	µg/L	0.001	USEPA 8081
Endosulfan	µg/L	0.001	USEPA 8081
Endrin	µg/L	0.001	USEPA 8081
Heptachlor	µg/L	0.001	USEPA 8081
Lindane	µg/L	0.001	USEPA 8081
Toxaphene	µg/L	0.001	USEPA 8081

Parameter	Unit	PQL	Method
Chlorinated Hydrocarbons (CHCs)			
1,2-dichlorobenzene	µg/L	1	USEPA 8260B
1,3-dichlorobenzene	µg/L	1	USEPA 8260B
1,4-dichlorobenzene	µg/L	1	USEPA 8260B
1,2,3-trichlorobenzene	µg/L	1	USEPA 8260B
1,2,4-trichlorobenzene	µg/L	1	USEPA 8260B
Hexachlorobutadeine	µg/L	1	USEPA 8260B
1,1,2-trichloroethane	µg/L	1	USEPA 8260B
Hexachloroethane	µg/L	10	USEPA 8270D
Other CHCs	µg/L	1	USEPA 8260B
Volatile Organic Compounds (VOCs)			
Aniline	µg/L	10	USEPA 8260B
2,4-dichloroaniline	µg/L	10	USEPA 8260B
3,4-dichloroaniline	µg/L	10	USEPA 8260B
Nitrobenzene	µg/L	50	USEPA 8260B
2,4-dinitrotoluene	µg/L	50	USEPA 8260B
2,4,6-trinitrotoluene	µg/L	50	USEPA 8260B
Phenolic Compounds			
Phenol	µg/L	10	USEPA 8041
2-chlorophenol	µg/L	10	USEPA 8041
4-chlorophenol	µg/L	10	USEPA 8041
2, 4-dichlorophenol	µg/L	10	USEPA 8041
2,4,6-trichlorophenol	µg/L	10	USEPA 8041
2,3,4,6-tetrachlorophenol	µg/L	10	USEPA 8041
Pentachlorophenol	µg/L	10	USEPA 8041
2,4-dinitrophenol	µg/L	10	USEPA 8041
Miscellaneous Parameters			
Total Cyanide	µg/L	5	APHA 4500C&E-CN
Fluoride	µg/L	10	APHA 4500 F-C
Salinity (TDS)	mg/L	1	APHA 2510
pH	units	0.1	APHA 4500H+
OrganoPhosphate Pesticides (OPPs)			
Azinphos Methyl	µg/L	0.01	USEPA 8141
Chloropyrifos	µg/L	0.01	USEPA 8141
Diazinon	µg/L	0.01	USEPA 8141
Dimethoate	µg/L	0.01	USEPA 8141
Fenitrothion	µg/L	0.01	USEPA 8141
Malathion	µg/L	0.01	USEPA 8141
Parathion	µg/L	0.01	USEPA 8141
Temephos	µg/L	0.01	USEPA 8141
Polychlorinated Biphenyls (PCBs)			
Individual PCBs	µg/L	0.01	USEPA 8081

Table QC5 - QC Sample Data Acceptance Criteria

QC Sample Type	Method of Assessment	Acceptable Range
Field QC		
Blind Duplicates and Split Samples	The assessment of split duplicate is undertaken by calculating the Relative Percent Difference (RPD) of the duplicate concentration compared with the primary sample concentration. The RPD is defined as: $RPD = 100 \times \frac{\lvert X_1 - X_2 \rvert}{\text{mean}(X1, X2)}$ Where: X_1 and X_2 are the concentrations of the primary and duplicate samples.	The acceptable range depends upon the levels detected: - 0-150% RPD (when the average concentration is <5 times the LOR/PQL) - 0-75% RPD (when the average concentration is 5 to 10 times the LOR/PQL) - 0-50% RPD (when the average concentration is >10 times the LOR/PQL)
Rinsate & Trip Blanks	Each blank is analysed as per the original samples.	Analytical Result <LOR/PQL
Laboratory prepared Trip Spike	The Trip Spike is analysed after returning from the field and the % recovery of the known spike is calculated.	70 - 130%
Laboratory QC		
Laboratory Duplicates	Assessment of Lab Duplicate RPD as per Blind Duplicates and Split Samples.	Lab Duplicate RPD < 15% (Inorganics) Lab Duplicate RPD < 30% (Organics) for sample results > 10 LOR
Surrogates Matrix Spikes Laboratory Control Samples	Assessment is undertaken by determining the percent recovery of the known surrogate spike (SS) or addition to the sample. $\%\ Recovery = 100 \times \frac{C - A}{B}$ Where: A = Concentration of analyte determined in the original sample; B = Added Concentration; and C = Calculated Concentration.	at least 2 SS recoveries to be within 70-130% subject to matrix effects (Organics) 80-120% (Inorganics / Metals) 60-140% (Organics) 10-140% (SVOC and Speciated Phenols) If the result is outside the above ranges, the result must be <3x Standard Deviation of the Historical Mean (calculated over the past 12 months).
Sample Matrix Spike Duplicates	Recovery RPD	<30% (Inorganics & Organics)
Calibration Check Standars	Continuous Calibration Verification (CCV)	CCV must be within ±15% (inorganics) CCV must be within ±25% (inorganics)
Reagent, Method & Calibration Check Blanks	Each blank is analysed as per the original samples.	Analytical Result <LOR/PQL

Note: PQL - Laboratory Practical Quantitation Limit (PQL) or the minimum detection limit for a particular analyte.
LOR = Limit of Reporting

SGS Environmental Services is accredited by NATA for Chemical Testing (Reg.No.2562) and Quality System compliance to ISO/IEC 17025. The QC parameters contained within are designed to meet NEPM 1999 requirements.

Quality Control samples included in any analytical run are listed below.

Reagent/Analysis Blank (BLK) **Method Blank (MB)**	Sample free reagents carried through the preparation/extraction/digestion procedure and analysed at the beginning of every sample batch analysis. A reagent blank is prepared and analysed with every batch of samples plus with each new batch of solvent prior to use.
Sample Matrix Spike (MS) & Matrix Spike Duplicate (MSD)	Sample replicates spiked with identical concentrations of target analyte(s). The spiking occurs during the sample preparation and prior to the extraction/digestion procedure. They are used to document the precision and bias of a method in a given sample matrix. Where there is not enough sample available to prepare a spiked sample, another known soil/sand or water may be used. A duplicate spiked sample is analysed at least every 20 samples.
Surrogate Spike (SS)	At least one but up to three surrogate compounds are added to all samples requiring analysis for organics prior to extraction. Used to determine the extraction efficiency. They are organic compounds which are similar to the target analyte(s) in chemical composition and behaviour in the analytical process, but which are not normally found in environmental samples. Where possible they are surrogate compounds recommended by the USEPA.
Control Matrix Spike (CMS)	To ensure spike recoveries can be determined for every batch of samples a control matrix is spiked with identical concentrations of target analyte(s) and then analysed. These results allow recoveries to be determined in the event that the matrix spikes are unusable (eg. matrix spikes performed on heavily contaminated samples). These are analysed at least every 20 samples.
Internal Standard (IS)	Added to all samples requiring analysis for organics (where relevant) after the extraction process; the compounds serve to give a standard of retention time and response, which is invariant from run-to-run with the instruments. Where possible they are standard compounds recommended by the USEPA.
Lab Duplicates (D)	A separate portion of a sample being analysed that is treated the same as the other samples in the batch. One duplicate is processed at least every 10 samples.
Lab Control Standards/Samples (LCS)	Prepared from a source independent of the calibration standards. At least one control standard is included in each run to confirm calibration validity. Thereafter they are analysed at least every one in 20 samples plus at the end of each analytical run. This data is not reported.
Continuous Calibration Verification (CCV) or **Calibration Check Standard & Blank**	A calibration check standard or CCV and blank are run after every 20 samples of an instrumental analysis run to assess analytical drift. Calibration Standards are checked old versus new with a criteria of ±10%

Quality Assurance Programs are listed below:

Statistical analysis of Quality Control data (SQC)	Quality control data is plotted on control charts using the APHA procedure with warning and control limits at 2 and 3 standard deviations respectively. See also QMS Procedure "Statistical Quality Control".
Certified Reference Materials (CRM/SRM)	Certified Reference Materials and Standards are regularly analysed. These materials/standards have certified reference values for various parameters.
Proficiency Testing	Regular proficiency test samples are analysed by our laboratories. SGS Environmental participates in a number of programs. Results and proficiency status are compiled and sent to participating laboratory post data interpretation. Failure to comply with acceptable values result in further investigations.
Inter-laboratory & Intra-laboratory Testing	SGS Environmental Services has schedules in the Quality Systems to participate in Inter/Intra laboratory testing conducted internally and by other parties.
Data Acceptance Criteria Unless otherwise specified in the method or method manual the following general criteria apply to all inorganic tests. All recoveries are to be reported to 3 significant figures.	Failure to meet the internal acceptance criteria will result in sample batch repeats dependent upon investigation outcomes. For data to be accepted: <u>Inorganics (water samples)</u> • For all inorganic analytes the Reagent & Method Blanks must be less than the LOR. • The Calibration Check Standards or Continuous Calibration Verification (CCV) must be within ±15%. • Control Standards must be 80-120% of the accepted value. • The Calibration Check Blanks must be less than the LOR. • Lab Duplicates RPD to be <15%*. Note: If client <u>field</u> duplicates do not meet this criteria it may indicate heterogeneity and shall be noted on the data reports for QC samples. • Sample (and if applicable Control) Matrix Spike♬ Duplicate recovery RPD to be <30%. • Where CRMs are used, results to be within ± 2 standard deviations of the expected value. <u>Inorganics (soil samples)</u> • For all inorganic analytes the Reagent & Method Blanks must be less than the LOR. • The Calibration Check Standards or Continuous Calibration Verification (CCV) must be within ±15%. • Control Standards must be 80-120% of the accepted value. • The Calibration Check Blanks must be less than the LOR. • Lab duplicate RPD to be <30%* for sample results greater than 10 times LOR. • Sample Matrix Spike Duplicate (MS♬/MSD) recovery RPD to be <30%. In the event that the matrix spike has been applied to samples whose matrix or contamination is problematic to the method then these acceptance criteria apply to the Control Matrix Spike (CMS/D). • Where CRMs are used, results to be within ± 2 standard deviations of the expected value.

Data Acceptance Criteria Unless otherwise specified in the method or method manual the following general criteria apply to all organic tests. All recoveries are to be reported to 3 significant figures.	Organics • Volatile & extractable Reagent & Method Blanks must contain levels less than or equal to LOR. • The Calibration Check Standards or Continuous Calibration Verification (CCV) must be within ±25%. Some analytes may have specific criteria. • Control Standards (LCS/CMS) and Certified Reference Materials (CRM) recoveries are to be within established control limits or as a default 60-140% unless compound specific limits apply. • Retention times are to vary by no more than 0.2 min. • **At least two of three** routine level soil sample Surrogate Spike (SS) recoveries are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as acceptance criterion. Any recoveries outside these limits will have comment. • Water sample Surrogates Spike (SS) recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion. Any recoveries outside these limits will have comment. • Lab Duplicates (D) must have a RPD <30%*. • Sample Matrix Spike Duplicate (MS♬/MSD) recovery RPD to be <30%. In the event that the matrix spike has been applied to samples whose matrix or contamination is problematic to the method then these acceptance criteria apply to the Control Matrix Spike (CMS/D).

*Only if results are at least 10 times the LOR otherwise no acceptance criteria for RPD's apply. Application of more stringent criteria shall be applied for clean water sample from water boards and any other nominated client contracts. Nominal 10xLOR criteria are dropped to 5xLOR where specified.
♬Matrix do not readily equate to definitive recovery due to inherent matrix interferences and thus do not have recovery compliance values set. As a guide inorganic recoveries should be between 70-130% and for organics 60-130%

Batch Structure Summary

An analytical batch is nominally considered as 20 samples or smaller. As a standard template the following should be **used as a guide** according to the above Quality Control Types:

1	MB	16	UNK_DUP
2	STD1	17	MS
3	STD2	18	MS_DUP
4	STD3	19	UNK 11
5	LCS	20	UNK 12
6	BLK	21	UNK 13
7	UNK 1	22	UNK 14
8	UNK 2	23	UNK 15
9	UNK 3	24	UNK 16
10	UNK 4	25	UNK 17
11	UNK 5	26	UNK 18
12	UNK 6	27	UNK 19
13	UNK 7	28	UNK 20 (SS if applicable)
14	UNK 8	29	UNK_DUP
15	UNK 9	30	CCV
16	UNK 10 (SS if applicable)	31	CRM / SRM / CMS / LCS

STATEMENT OF QA/QC PERFORMANCE

SE198558 R0

CLIENT DETAILS

Contact	Emmanuel Woelders
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	emmanuel.woelders@eiaustralia.com.au
Project	**E24373 7 Montore Rd, Minto**
Order Number	**E24373**
Samples	67

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE198558 R0**
Date Received	08 Oct 2019
Date Reported	16 Oct 2019

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Matrix Spike	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	3 items
	TRH (Total Recoverable Hydrocarbons) in Soil	3 items

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	64 Soil, 2 Sand, 1 W
Date documentation received	8/10/2019	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	7.4°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE198558 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Fibre Identification in soil — Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP102_0.1-0.2	SE198558.002	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP103_0.1-0.2	SE198558.003	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP105_0.1-0.3	SE198558.005	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP106_0.2-0.4	SE198558.006	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP108_0.1-0.3	SE198558.008	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP109_0.1-0.3	SE198558.009	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP110_0.1-0.4	SE198558.010	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP111_0.2-0.5	SE198558.011	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP112_0.2-0.5	SE198558.012	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP114_0.1-0.4	SE198558.014	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP115_0.2-0.6	SE198558.015	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP117_0.1-0.3	SE198558.017	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP118_0.4-0.8	SE198558.018	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP120_0.1-0.4	SE198558.020	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP122_0.2-0.5	SE198558.022	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP123_0.3-0.6	SE198558.023	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
TP125_0.2-0.5	SE198558.025	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH227_0.1-0.3	SE198558.027	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH229_0.1-0.3	SE198558.029	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH230_0.1-0.3	SE198558.030	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH232_0.2-0.5	SE198558.032	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH233_0.2-0.5	SE198558.033	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH235_0.2-0.5	SE198558.035	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH236_0.2-0.5	SE198558.036	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH238_0.2-0.5	SE198558.038	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH239_0.2-0.5	SE198558.039	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH240_0.1-0.4	SE198558.040	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH242_0.2-0.5	SE198558.042	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH243_0.2-0.5	SE198558.043	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH245_0.2-0.5	SE198558.045	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH246_0.2-0.5	SE198558.046	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH248_0.2-0.5	SE198558.048	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH249_0.2-0.5	SE198558.049	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH251_0.2-0.6	SE198558.051	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH253_0.2-0.6	SE198558.053	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH254_0.2-0.6	SE198558.054	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH256_0.2-0.6	SE198558.056	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
SP1-1	SE198558.058	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
SP1-2	SE198558.059	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
SP2-1	SE198558.060	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019

HOLDING TIME SUMMARY

SE198558 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Fibre Identification in soil (continued)

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SP2-2	SE198558.061	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019
SP2-3	SE198558.062	LB185040	04 Oct 2019	08 Oct 2019	03 Oct 2020	10 Oct 2019	03 Oct 2020	15 Oct 2019

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP102_0.1-0.2	SE198558.002	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP103_0.1-0.2	SE198558.003	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP105_0.1-0.3	SE198558.005	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP106_0.2-0.4	SE198558.006	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP108_0.1-0.3	SE198558.008	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP109_0.1-0.3	SE198558.009	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP110_0.1-0.4	SE198558.010	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP111_0.2-0.5	SE198558.011	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP112_0.2-0.5	SE198558.012	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP114_0.1-0.4	SE198558.014	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP115_0.2-0.6	SE198558.015	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP117_0.1-0.3	SE198558.017	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP118_0.4-0.8	SE198558.018	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP120_0.1-0.4	SE198558.020	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP122_0.2-0.5	SE198558.022	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP123_0.3-0.6	SE198558.023	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
TP125_0.2-0.5	SE198558.025	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH227_0.1-0.3	SE198558.027	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH229_0.1-0.3	SE198558.029	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH230_0.1-0.3	SE198558.030	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH232_0.2-0.5	SE198558.032	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH233_0.2-0.5	SE198558.033	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH235_0.2-0.5	SE198558.035	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH236_0.2-0.5	SE198558.036	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH238_0.2-0.5	SE198558.038	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH239_0.2-0.5	SE198558.039	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH240_0.1-0.4	SE198558.040	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH242_0.2-0.5	SE198558.042	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH243_0.2-0.5	SE198558.043	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH245_0.2-0.5	SE198558.045	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH246_0.2-0.5	SE198558.046	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH248_0.2-0.5	SE198558.048	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH249_0.2-0.5	SE198558.049	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH251_0.2-0.6	SE198558.051	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH253_0.2-0.6	SE198558.053	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH254_0.2-0.6	SE198558.054	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Gravimetric Determination of Asbestos in Soil (continued)

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH256_0.2-0.6	SE198558.056	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
SP1-1	SE198558.058	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
SP1-2	SE198558.059	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
SP2-1	SE198558.060	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
SP2-2	SE198558.061	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019
SP2-3	SE198558.062	LB185040	04 Oct 2019	08 Oct 2019	01 Apr 2020	10 Oct 2019	01 Apr 2020	15 Oct 2019

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE198558.065	LB184997	04 Oct 2019	08 Oct 2019	01 Nov 2019	10 Oct 2019	01 Nov 2019	11 Oct 2019

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185162	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
SP1-1	SE198558.058	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
SP1-2	SE198558.059	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
SP2-1	SE198558.060	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
SP2-2	SE198558.061	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
SP2-3	SE198558.062	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
QD1	SE198558.063	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019
QD2	SE198558.064	LB185163	04 Oct 2019	08 Oct 2019	01 Nov 2019	13 Oct 2019	01 Nov 2019	15 Oct 2019

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185146	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019

HOLDING TIME SUMMARY

SE198558 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Moisture Content (continued)

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH250_0.2-0.6	SE198558.050	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
SP1-1	SE198558.058	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
SP1-2	SE198558.059	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
SP2-1	SE198558.060	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
SP2-2	SE198558.061	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
SP2-3	SE198558.062	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
QD1	SE198558.063	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
QD2	SE198558.064	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019
Trip Blank	SE198558.066	LB185147	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	16 Oct 2019	15 Oct 2019

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-1	SE198558.058	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-2	SE198558.059	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-1	SE198558.060	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-2	SE198558.061	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-3	SE198558.062	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD1	SE198558.063	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD2	SE198558.064	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019

HOLDING TIME SUMMARY

SE198558 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH250_0.2-0.6	SE198558.050	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP1-1	SE198558.058	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP1-2	SE198558.059	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP2-1	SE198558.060	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP2-2	SE198558.061	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP2-3	SE198558.062	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
QD1	SE198558.063	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
QD2	SE198558.064	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP1-1	SE198558.058	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP1-2	SE198558.059	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP2-1	SE198558.060	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP2-2	SE198558.061	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
SP2-3	SE198558.062	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
QD1	SE198558.063	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019
QD2	SE198558.064	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	16 Oct 2019

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019

HOLDING TIME SUMMARY

SE198558 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH252_0.2-0.6	SE198558.052	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-1	SE198558.058	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-2	SE198558.059	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-1	SE198558.060	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-2	SE198558.061	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-3	SE198558.062	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD1	SE198558.063	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD2	SE198558.064	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185159	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
SP1-1	SE198558.058	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
SP1-2	SE198558.059	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
SP2-1	SE198558.060	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
SP2-2	SE198558.061	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
SP2-3	SE198558.062	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
QD1	SE198558.063	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019
QD2	SE198558.064	LB185160	04 Oct 2019	08 Oct 2019	01 Apr 2020	13 Oct 2019	01 Apr 2020	15 Oct 2019

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE198558.065	LB185091	04 Oct 2019	08 Oct 2019	01 Apr 2020	11 Oct 2019	01 Apr 2020	14 Oct 2019

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185144	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019

HOLDING TIME SUMMARY

SE198558 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH241_0.2-0.5	SE198558.041	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-1	SE198558.058	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-2	SE198558.059	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-1	SE198558.060	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-2	SE198558.061	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-3	SE198558.062	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD1	SE198558.063	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD2	SE198558.064	LB185145	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE198558.065	LB185061	04 Oct 2019	08 Oct 2019	11 Oct 2019	10 Oct 2019	19 Nov 2019	15 Oct 2019

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP113_0.1-0.4	SE198558.013	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-1	SE198558.058	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-2	SE198558.059	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-1	SE198558.060	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-2	SE198558.061	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-3	SE198558.062	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD1	SE198558.063	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD2	SE198558.064	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
Trip Blank	SE198558.066	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
Trip Spike	SE198558.067	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE198558.065	LB185127	04 Oct 2019	08 Oct 2019	11 Oct 2019	11 Oct 2019	20 Nov 2019	14 Oct 2019

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP101_0.1-0.2	SE198558.001	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP104_0.2-0.4	SE198558.004	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP107_0.1-0.3	SE198558.007	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019

HOLDING TIME SUMMARY

SE198558 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP113_0.1-0.4	SE198558.013	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP116_0.1-0.5	SE198558.016	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP119_0.1-0.4	SE198558.019	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP121_0.1-0.3	SE198558.021	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
TP124_0.5-0.9	SE198558.024	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH226_0.1-0.3	SE198558.026	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH228_0.1-0.3	SE198558.028	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH231_0.2-0.5	SE198558.031	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH234_0.2-0.6	SE198558.034	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH237_0.2-0.5	SE198558.037	LB185142	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH241_0.2-0.5	SE198558.041	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH244_0.2-0.5	SE198558.044	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH247_0.2-0.5	SE198558.047	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH250_0.2-0.6	SE198558.050	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH252_0.2-0.6	SE198558.052	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH255_0.2-0.6	SE198558.055	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
BH257_0.2-0.6	SE198558.057	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-1	SE198558.058	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP1-2	SE198558.059	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-1	SE198558.060	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-2	SE198558.061	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
SP2-3	SE198558.062	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD1	SE198558.063	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
QD2	SE198558.064	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
Trip Blank	SE198558.066	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019
Trip Spike	SE198558.067	LB185143	04 Oct 2019	08 Oct 2019	18 Oct 2019	11 Oct 2019	20 Nov 2019	15 Oct 2019

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE198558.065	LB185127	04 Oct 2019	08 Oct 2019	11 Oct 2019	11 Oct 2019	20 Nov 2019	14 Oct 2019

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	90
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	86
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	73
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	87
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	90
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	91
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	92
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	93
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	91
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	89
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	89
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	93
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	97
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	93
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	99
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	85
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	99
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	89
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	93
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	91
	SP1-1	SE198558.058	%	60 - 130%	92
	SP1-2	SE198558.059	%	60 - 130%	81
	SP2-1	SE198558.060	%	60 - 130%	85
	SP2-2	SE198558.061	%	60 - 130%	87
	SP2-3	SE198558.062	%	60 - 130%	88

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	92
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	96
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	98
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	96
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	98
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	100
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	98
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	96
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	96
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	94
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	98
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	98
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	110
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	98
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	98
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	98
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	102
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	88
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	94
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	94
	SP1-1	SE198558.058	%	60 - 130%	94
	SP1-2	SE198558.059	%	60 - 130%	94
	SP2-1	SE198558.060	%	60 - 130%	96
	SP2-2	SE198558.061	%	60 - 130%	94
	SP2-3	SE198558.062	%	60 - 130%	96
d14-p-terphenyl (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	102
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	106
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	108
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	104
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	106
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	104
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	102
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	100

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	BH226_0.1-0.3	SE198558.026	%	60 - 130%	100
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	104
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	110
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	108
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	118
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	116
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	104
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	100
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	106
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	94
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	98
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	96
	SP1-1	SE198558.058	%	60 - 130%	94
	SP1-2	SE198558.059	%	60 - 130%	96
	SP2-1	SE198558.060	%	60 - 130%	100
	SP2-2	SE198558.061	%	60 - 130%	100
	SP2-3	SE198558.062	%	60 - 130%	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP101_0.1-0.2	SE198558.001	%	70 - 130%	92
	TP104_0.2-0.4	SE198558.004	%	70 - 130%	96
	TP107_0.1-0.3	SE198558.007	%	70 - 130%	98
	TP113_0.1-0.4	SE198558.013	%	70 - 130%	96
	TP116_0.1-0.5	SE198558.016	%	70 - 130%	98
	TP119_0.1-0.4	SE198558.019	%	70 - 130%	100
	TP121_0.1-0.3	SE198558.021	%	70 - 130%	98
	TP124_0.5-0.9	SE198558.024	%	70 - 130%	96
	BH226_0.1-0.3	SE198558.026	%	70 - 130%	96
	BH228_0.1-0.3	SE198558.028	%	70 - 130%	94
	BH231_0.2-0.5	SE198558.031	%	70 - 130%	98
	BH234_0.2-0.6	SE198558.034	%	70 - 130%	98
	BH237_0.2-0.5	SE198558.037	%	70 - 130%	110
	BH241_0.2-0.5	SE198558.041	%	70 - 130%	98
	BH244_0.2-0.5	SE198558.044	%	70 - 130%	98
	BH247_0.2-0.5	SE198558.047	%	70 - 130%	98
	BH250_0.2-0.6	SE198558.050	%	70 - 130%	102
	BH252_0.2-0.6	SE198558.052	%	70 - 130%	88
	BH255_0.2-0.6	SE198558.055	%	70 - 130%	94
	BH257_0.2-0.6	SE198558.057	%	70 - 130%	94
	SP1-1	SE198558.058	%	70 - 130%	94
	SP1-2	SE198558.059	%	70 - 130%	94
	SP2-1	SE198558.060	%	70 - 130%	96
	SP2-2	SE198558.061	%	70 - 130%	94
	SP2-3	SE198558.062	%	70 - 130%	96
d14-p-terphenyl (Surrogate)	TP101_0.1-0.2	SE198558.001	%	70 - 130%	102
	TP104_0.2-0.4	SE198558.004	%	70 - 130%	106
	TP107_0.1-0.3	SE198558.007	%	70 - 130%	108
	TP113_0.1-0.4	SE198558.013	%	70 - 130%	104
	TP116_0.1-0.5	SE198558.016	%	70 - 130%	106
	TP119_0.1-0.4	SE198558.019	%	70 - 130%	104
	TP121_0.1-0.3	SE198558.021	%	70 - 130%	102
	TP124_0.5-0.9	SE198558.024	%	70 - 130%	100
	BH226_0.1-0.3	SE198558.026	%	70 - 130%	100
	BH228_0.1-0.3	SE198558.028	%	70 - 130%	104
	BH231_0.2-0.5	SE198558.031	%	70 - 130%	110
	BH234_0.2-0.6	SE198558.034	%	70 - 130%	108
	BH237_0.2-0.5	SE198558.037	%	70 - 130%	118
	BH241_0.2-0.5	SE198558.041	%	70 - 130%	116
	BH244_0.2-0.5	SE198558.044	%	70 - 130%	104
	BH247_0.2-0.5	SE198558.047	%	70 - 130%	100

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d14-p-terphenyl (Surrogate)	BH250_0.2-0.6	SE198558.050	%	70 - 130%	106
	BH252_0.2-0.6	SE198558.052	%	70 - 130%	94
	BH255_0.2-0.6	SE198558.055	%	70 - 130%	98
	BH257_0.2-0.6	SE198558.057	%	70 - 130%	96
	SP1-1	SE198558.058	%	70 - 130%	94
	SP1-2	SE198558.059	%	70 - 130%	96
	SP2-1	SE198558.060	%	70 - 130%	100
	SP2-2	SE198558.061	%	70 - 130%	100
	SP2-3	SE198558.062	%	70 - 130%	100
d5-nitrobenzene (Surrogate)	TP101_0.1-0.2	SE198558.001	%	70 - 130%	92
	TP104_0.2-0.4	SE198558.004	%	70 - 130%	94
	TP107_0.1-0.3	SE198558.007	%	70 - 130%	96
	TP113_0.1-0.4	SE198558.013	%	70 - 130%	94
	TP116_0.1-0.5	SE198558.016	%	70 - 130%	96
	TP119_0.1-0.4	SE198558.019	%	70 - 130%	96
	TP121_0.1-0.3	SE198558.021	%	70 - 130%	96
	TP124_0.5-0.9	SE198558.024	%	70 - 130%	94
	BH226_0.1-0.3	SE198558.026	%	70 - 130%	96
	BH228_0.1-0.3	SE198558.028	%	70 - 130%	92
	BH231_0.2-0.5	SE198558.031	%	70 - 130%	96
	BH234_0.2-0.6	SE198558.034	%	70 - 130%	96
	BH237_0.2-0.5	SE198558.037	%	70 - 130%	108
	BH241_0.2-0.5	SE198558.041	%	70 - 130%	97
	BH244_0.2-0.5	SE198558.044	%	70 - 130%	98
	BH247_0.2-0.5	SE198558.047	%	70 - 130%	96
	BH250_0.2-0.6	SE198558.050	%	70 - 130%	100
	BH252_0.2-0.6	SE198558.052	%	70 - 130%	90
	BH255_0.2-0.6	SE198558.055	%	70 - 130%	94
	BH257_0.2-0.6	SE198558.057	%	70 - 130%	94
	SP1-1	SE198558.058	%	70 - 130%	94
	SP1-2	SE198558.059	%	70 - 130%	98
	SP2-1	SE198558.060	%	70 - 130%	96
	SP2-2	SE198558.061	%	70 - 130%	96
	SP2-3	SE198558.062	%	70 - 130%	96

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	90
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	86
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	73
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	87
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	90
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	91
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	92
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	93
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	91
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	89
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	89
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	93
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	97
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	93
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	99
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	85
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	99
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	89
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	93
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	91
	SP1-1	SE198558.058	%	60 - 130%	92
	SP1-2	SE198558.059	%	60 - 130%	81
	SP2-1	SE198558.060	%	60 - 130%	85
	SP2-2	SE198558.061	%	60 - 130%	87

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PCBs in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	SP2-3	SE198558.062	%	60 - 130%	88

VOC's in Soil — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	79
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	86
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	80
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	85
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	81
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	80
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	86
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	86
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	77
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	81
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	85
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	79
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	72
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	78
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	65
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	73
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	72
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	74
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	74
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	72
	SP1-1	SE198558.058	%	60 - 130%	79
	SP1-2	SE198558.059	%	60 - 130%	78
	SP2-1	SE198558.060	%	60 - 130%	73
	SP2-2	SE198558.061	%	60 - 130%	74
	SP2-3	SE198558.062	%	60 - 130%	71
	QD1	SE198558.063	%	60 - 130%	75
	QD2	SE198558.064	%	60 - 130%	73
	Trip Blank	SE198558.066	%	60 - 130%	78
	Trip Spike	SE198558.067	%	60 - 130%	100
d4-1,2-dichloroethane (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	85
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	92
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	88
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	92
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	89
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	88
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	95
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	94
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	86
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	93
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	95
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	90
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	81
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	96
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	80
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	88
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	87
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	93
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	89
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	83
	SP1-1	SE198558.058	%	60 - 130%	104
	SP1-2	SE198558.059	%	60 - 130%	101
	SP2-1	SE198558.060	%	60 - 130%	93
	SP2-2	SE198558.061	%	60 - 130%	94
	SP2-3	SE198558.062	%	60 - 130%	88
	QD1	SE198558.063	%	60 - 130%	100
	QD2	SE198558.064	%	60 - 130%	93
	Trip Blank	SE198558.066	%	60 - 130%	103

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	Trip Spike	SE198558.067	%	60 - 130%	90
d8-toluene (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	83
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	92
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	87
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	90
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	87
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	86
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	94
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	92
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	84
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	90
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	93
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	87
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	78
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	92
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	78
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	90
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	88
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	90
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	92
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	87
	SP1-1	SE198558.058	%	60 - 130%	95
	SP1-2	SE198558.059	%	60 - 130%	96
	SP2-1	SE198558.060	%	60 - 130%	90
	SP2-2	SE198558.061	%	60 - 130%	91
	SP2-3	SE198558.062	%	60 - 130%	87
	QD1	SE198558.063	%	60 - 130%	90
	QD2	SE198558.064	%	60 - 130%	91
	Trip Blank	SE198558.066	%	60 - 130%	97
	Trip Spike	SE198558.067	%	60 - 130%	84

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE198558.065	%	40 - 130%	81
d4-1,2-dichloroethane (Surrogate)	QR1	SE198558.065	%	40 - 130%	103
d8-toluene (Surrogate)	QR1	SE198558.065	%	40 - 130%	101

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	79
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	86
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	80
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	85
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	81
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	80
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	86
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	86
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	77
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	81
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	85
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	79
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	72
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	78
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	65
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	73
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	72
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	74
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	74
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	72
	SP1-1	SE198558.058	%	60 - 130%	79
	SP1-2	SE198558.059	%	60 - 130%	78
	SP2-1	SE198558.060	%	60 - 130%	73

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	SP2-2	SE198558.061	%	60 - 130%	74
	SP2-3	SE198558.062	%	60 - 130%	71
	QD1	SE198558.063	%	60 - 130%	75
	QD2	SE198558.064	%	60 - 130%	73
d4-1,2-dichloroethane (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	85
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	92
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	88
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	92
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	89
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	88
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	95
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	94
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	86
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	93
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	95
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	90
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	81
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	96
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	80
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	88
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	87
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	93
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	89
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	83
	SP1-1	SE198558.058	%	60 - 130%	104
	SP1-2	SE198558.059	%	60 - 130%	101
	SP2-1	SE198558.060	%	60 - 130%	93
	SP2-2	SE198558.061	%	60 - 130%	94
	SP2-3	SE198558.062	%	60 - 130%	88
	QD1	SE198558.063	%	60 - 130%	100
	QD2	SE198558.064	%	60 - 130%	93
d8-toluene (Surrogate)	TP101_0.1-0.2	SE198558.001	%	60 - 130%	83
	TP104_0.2-0.4	SE198558.004	%	60 - 130%	92
	TP107_0.1-0.3	SE198558.007	%	60 - 130%	87
	TP113_0.1-0.4	SE198558.013	%	60 - 130%	90
	TP116_0.1-0.5	SE198558.016	%	60 - 130%	87
	TP119_0.1-0.4	SE198558.019	%	60 - 130%	86
	TP121_0.1-0.3	SE198558.021	%	60 - 130%	94
	TP124_0.5-0.9	SE198558.024	%	60 - 130%	92
	BH226_0.1-0.3	SE198558.026	%	60 - 130%	84
	BH228_0.1-0.3	SE198558.028	%	60 - 130%	90
	BH231_0.2-0.5	SE198558.031	%	60 - 130%	93
	BH234_0.2-0.6	SE198558.034	%	60 - 130%	87
	BH237_0.2-0.5	SE198558.037	%	60 - 130%	78
	BH241_0.2-0.5	SE198558.041	%	60 - 130%	92
	BH244_0.2-0.5	SE198558.044	%	60 - 130%	78
	BH247_0.2-0.5	SE198558.047	%	60 - 130%	90
	BH250_0.2-0.6	SE198558.050	%	60 - 130%	88
	BH252_0.2-0.6	SE198558.052	%	60 - 130%	90
	BH255_0.2-0.6	SE198558.055	%	60 - 130%	92
	BH257_0.2-0.6	SE198558.057	%	60 - 130%	87
	SP1-1	SE198558.058	%	60 - 130%	95
	SP1-2	SE198558.059	%	60 - 130%	96
	SP2-1	SE198558.060	%	60 - 130%	90
	SP2-2	SE198558.061	%	60 - 130%	91
	SP2-3	SE198558.062	%	60 - 130%	87
	QD1	SE198558.063	%	60 - 130%	90
	QD2	SE198558.064	%	60 - 130%	91

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued) — **Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE198558.065	%	40 - 130%	81
d4-1,2-dichloroethane (Surrogate)	QR1	SE198558.065	%	60 - 130%	103
d8-toluene (Surrogate)	QR1	SE198558.065	%	40 - 130%	101

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB184997.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB185162.001	Mercury	mg/kg	0.05	<0.05
LB185163.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB185144.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	89
LB185145.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	88

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB185144.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	98
		d14-p-terphenyl (Surrogate)	%	-	102
LB185145.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB185144.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	100
		2-fluorobiphenyl (Surrogate)	%	-	98
		d14-p-terphenyl (Surrogate)	%	-	102
LB185145.001		Naphthalene	mg/kg	0.1	<0.1
		2-methylnaphthalene	mg/kg	0.1	<0.1
		1-methylnaphthalene	mg/kg	0.1	<0.1
		Acenaphthylene	mg/kg	0.1	<0.1
		Acenaphthene	mg/kg	0.1	<0.1
		Fluorene	mg/kg	0.1	<0.1
		Phenanthrene	mg/kg	0.1	<0.1
		Anthracene	mg/kg	0.1	<0.1
		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB185145.001		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	98
		2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	98

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB185144.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	89
LB185145.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	88

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB185159.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0
LB185160.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB185091.001	Arsenic, As	µg/L	1	<1
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB185144.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110
LB185145.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB185061.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB185142.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	92
		d8-toluene (Surrogate)	%	-	92
		Bromofluorobenzene (Surrogate)	%	-	88
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB185143.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	107
		d8-toluene (Surrogate)	%	-	101
		Bromofluorobenzene (Surrogate)	%	-	82
	Totals	Total BTEX	mg/kg	0.6	<0.6

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB185127.001	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5
	Hydrocarbons	Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	104
		d8-toluene (Surrogate)	%	-	92
		Bromofluorobenzene (Surrogate)	%	-	90

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB185142.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	92
LB185143.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	107

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Volatile Petroleum Hydrocarbons in Water (continued) — **Method: ME-(AU)-[ENV]AN433**

Sample Number		Parameter	Units	LOR	Result
LB185127.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	104
		d8-toluene (Surrogate)	%	-	92
		Bromofluorobenzene (Surrogate)	%	-	90

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198568.009	LB184997.014	Mercury	µg/L	0.0001	<0.0001	0.0000	200	90

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.028	LB185162.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE198558.041	LB185162.019	Mercury	mg/kg	0.05	<0.05	<0.05	198	0
SE198558.061	LB185163.014	Mercury	mg/kg	0.05	<0.05	<0.05	178	0
SE198558.064	LB185163.018	Mercury	mg/kg	0.05	<0.05	<0.05	179	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.019	LB185146.011	% Moisture	%w/w	1	12.7	13.7	38	8
SE198558.037	LB185146.019	% Moisture	%w/w	1	25.5	23.5	34	8
SE198558.060	LB185147.011	% Moisture	%w/w	1	10.8	11.1	39	2
SE198558.066	LB185147.017	% Moisture	%w/w	1	<1.0	<1.0	200	0

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.028	LB185144.024		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.127	30	5
SE198558.060	LB185145.020		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.060	LB185145.020		p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.134	30	5
SE198558.062	LB185145.021		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.132	30	0

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.019	LB185144.024		Dichlorvos	mg/kg	0.5	<0.5	0.01	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0.03	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.01	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.01	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0.01	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0.04	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.49	30	2

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.019	LB185144.024	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.51	30	2
SE198558.060	LB185145.014		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Malathion	mg/kg	0.2	<0.2	<0.2	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
			Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.019	LB185144.024		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0.01	200	0
			Anthracene	mg/kg	0.1	<0.1	0.01	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0.01	200	0
			Pyrene	mg/kg	0.1	<0.1	0.02	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.02	200	0
			Chrysene	mg/kg	0.1	<0.1	0.01	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.02	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.02	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.01	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.01	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.01	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	0	200	0
				TEQ (mg/kg)	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	0.242	134	0
				TEQ (mg/kg)	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	0.121	175	0
				TEQ (mg/kg)	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.48	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.49	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.51	30	2
SE198558.060	LB185145.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	0.2	0.1	86	44
			Anthracene	mg/kg	0.1	<0.1	<0.1	173	0
			Fluoranthene	mg/kg	0.1	0.4	0.3	57	22
			Pyrene	mg/kg	0.1	0.4	0.3	58	22
			Benzo(a)anthracene	mg/kg	0.1	0.2	0.1	97	13
			Chrysene	mg/kg	0.1	0.2	0.1	99	21
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	0.2	72	8
			Benzo(k)fluoranthene	mg/kg	0.1	0.1	0.1	121	18
			Benzo(a)pyrene	mg/kg	0.1	0.2	0.2	77	14

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.060	LB185145.014		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	0.2	77	14
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.3	0.2	73	13
			Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	0.3	0.3	79	14
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	0.4	0.4	87	10
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	0.4	0.3	69	12
			Total PAH (18)	mg/kg	0.8	2.4	2.0	66	19
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	4
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.028	LB185144.024		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.127	30	5
SE198558.060	LB185145.020		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.134	30	5
SE198558.062	LB185145.021		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.132	30	0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.028	LB185159.014		Arsenic, As	mg/kg	1	2	2	86	15
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.5	12	12	34	7
			Copper, Cu	mg/kg	0.5	43	53	31	20
			Nickel, Ni	mg/kg	0.5	16	16	33	3
			Lead, Pb	mg/kg	1	8	9	42	18
			Zinc, Zn	mg/kg	2	28	27	37	1
SE198558.041	LB185159.019		Arsenic, As	mg/kg	1	3	3	61	9
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.5	12	11	34	9
			Copper, Cu	mg/kg	0.5	15	15	33	4
			Nickel, Ni	mg/kg	0.5	11	7.6	35	33
			Lead, Pb	mg/kg	1	31	26	34	17

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.041	LB185159.019	Zinc, Zn	mg/kg	2	55	52	34	6
SE198558.061	LB185160.014	Arsenic, As	mg/kg	1	5	4	52	26
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	11	8.3	35	24
		Copper, Cu	mg/kg	0.5	22	19	32	12
		Nickel, Ni	mg/kg	0.5	9.7	9.1	35	6
		Lead, Pb	mg/kg	1	29	26	34	12
		Zinc, Zn	mg/kg	2	67	59	33	13
SE198558.064	LB185160.018	Arsenic, As	mg/kg	1	3	5	55	37
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	8.3	9.7	36	16
		Copper, Cu	mg/kg	0.5	15	17	33	13
		Nickel, Ni	mg/kg	0.5	7.9	8.6	36	8
		Lead, Pb	mg/kg	1	25	24	34	3
		Zinc, Zn	mg/kg	2	43	51	34	17

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198604.001	LB185091.014	Arsenic, As	µg/L	1	0.032	0.045	200	0
		Cadmium, Cd	µg/L	0.1	0.013	0.012	200	0
		Chromium, Cr	µg/L	1	0.118	0.09	200	0
		Copper, Cu	µg/L	1	1.277	1.31	92	3
		Lead, Pb	µg/L	1	0.339	0.337	200	0
		Nickel, Ni	µg/L	1	0.975	0.984	117	0
		Zinc, Zn	µg/L	5	11.786	11.488	58	3
SE198623.001	LB185091.022	Arsenic, As	µg/L	1	<1	<1	200	0
		Cadmium, Cd	µg/L	0.1	1.0	1.0	25	1
		Chromium, Cr	µg/L	1	7	7	29	0
		Copper, Cu	µg/L	1	5	5	34	1
		Lead, Pb	µg/L	1	<1	<1	200	0
		Nickel, Ni	µg/L	1	3	3	47	1
		Zinc, Zn	µg/L	5	67	69	22	2

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.019	LB185144.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE198558.060	LB185145.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE198558.064	LB185145.019		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.064	LB185145.019	TRH F Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198605.001	LB185061.030		TRH C10-C14	µg/L	50	<50	0	200	0
			TRH C15-C28	µg/L	200	<200	0	200	0
			TRH C29-C36	µg/L	200	<200	0	200	0
			TRH C37-C40	µg/L	200	<200	0	200	0
			TRH C10-C36	µg/L	450	<450	0	200	0
			TRH C10-C40	µg/L	650	<650	0	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	0	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	0	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	0	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	0	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.019	LB185142.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	9.1	50	3
			d8-toluene (Surrogate)	mg/kg	-	8.6	8.9	50	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	8.2	50	2
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE198558.060	LB185143.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	9.8	50	5
			d8-toluene (Surrogate)	mg/kg	-	9.0	9.6	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.3	7.7	50	7
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198475.004	LB185127.021	Monocyclic Aromatic	Benzene	µg/L	0.5	0.87	0.75	92	15
			Toluene	µg/L	0.5	0.5	0.34	149	0
			Ethylbenzene	µg/L	0.5	1.6	1.52	62	5
			m/p-xylene	µg/L	1	0.61	0	200	0
			o-xylene	µg/L	0.5	0.3640544386	0.35	170	0
		Polycyclic	Naphthalene	µg/L	0.5	5.64	5.27	39	7
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.47	11.75	30	12
			d8-toluene (Surrogate)	µg/L	-	9.82	11.34	30	14
			Bromofluorobenzene (Surrogate)	µg/L	-	9.3	9.76	30	5

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.019	LB185142.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	9.1	30	3
			d8-toluene (Surrogate)	mg/kg	-	8.6	8.9	30	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.0	8.2	30	2
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198558.060	LB185143.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	9.8	30	5
			d8-toluene (Surrogate)	mg/kg	-	9.0	9.6	30	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.3	7.7	30	7
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE198475.004	LB185127.021		TRH C6-C10	µg/L	50	14.1557922743	42	200	0
			TRH C6-C9	µg/L	40	13.1278047168	36	193	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.9158256663	12.8	30	25
			d8-toluene (Surrogate)	µg/L	-	10.0450339811	9.06	30	10
			Bromofluorobenzene (Surrogate)	µg/L	-	10.5489018288	9.74	30	8
		VPH F Bands	Benzene (F0)	µg/L	0.5	0.87	0.72	93	19
			TRH C6-C10 minus BTEX (F1)	µg/L	50	10.2117378357	39.02	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185162.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	98
LB185163.002	Mercury	mg/kg	0.05	0.20	0.2	70 - 130	100

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185144.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	107
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	103
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	98
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	99
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	103
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	92
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	91
LB185145.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	89
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	95
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	93
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	86
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	88
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	76
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	93

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185144.002		Dichlorvos	mg/kg	0.5	1.5	2	60 - 140	74
		Diazinon (Dimpylate)	mg/kg	0.5	2.1	2	60 - 140	103
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	102
		Ethion	mg/kg	0.2	1.8	2	60 - 140	90
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
LB185145.002		Dichlorvos	mg/kg	0.5	1.4	2	60 - 140	69
		Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	60 - 140	95
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	101
		Ethion	mg/kg	0.2	1.5	2	60 - 140	76
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185144.002		Naphthalene	mg/kg	0.1	4.8	4	60 - 140	119
		Acenaphthylene	mg/kg	0.1	4.9	4	60 - 140	124
		Acenaphthene	mg/kg	0.1	4.6	4	60 - 140	115
		Phenanthrene	mg/kg	0.1	5.0	4	60 - 140	124
		Anthracene	mg/kg	0.1	4.8	4	60 - 140	121
		Fluoranthene	mg/kg	0.1	4.8	4	60 - 140	120
		Pyrene	mg/kg	0.1	4.9	4	60 - 140	123
		Benzo(a)pyrene	mg/kg	0.1	5.6	4	60 - 140	139
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	98
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
LB185145.002		Naphthalene	mg/kg	0.1	4.9	4	60 - 140	121
		Acenaphthylene	mg/kg	0.1	5.0	4	60 - 140	124
		Acenaphthene	mg/kg	0.1	4.7	4	60 - 140	117
		Phenanthrene	mg/kg	0.1	5.1	4	60 - 140	128
		Anthracene	mg/kg	0.1	4.9	4	60 - 140	123
		Fluoranthene	mg/kg	0.1	4.8	4	60 - 140	119
		Pyrene	mg/kg	0.1	5.0	4	60 - 140	125
		Benzo(a)pyrene	mg/kg	0.1	5.3	4	60 - 140	133
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185144.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	98
LB185145.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	83

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185159.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	102
	Cadmium, Cd	mg/kg	0.3	4.4	4.62	80 - 120	94
	Chromium, Cr	mg/kg	0.5	34	38.31	80 - 120	90
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	105
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	97	89.9	80 - 120	108
	Zinc, Zn	mg/kg	2	290	273	80 - 120	105
LB185160.002	Arsenic, As	mg/kg	1	310	318.22	80 - 120	98
	Cadmium, Cd	mg/kg	0.3	4.1	4.62	80 - 120	90
	Chromium, Cr	mg/kg	0.5	33	38.31	80 - 120	85
	Copper, Cu	mg/kg	0.5	290	290	80 - 120	99
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	98
	Lead, Pb	mg/kg	1	92	89.9	80 - 120	103
	Zinc, Zn	mg/kg	2	280	273	80 - 120	101

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185091.002	Arsenic, As	µg/L	1	20	20	80 - 120	101
	Cadmium, Cd	µg/L	0.1	22	20	80 - 120	108
	Chromium, Cr	µg/L	1	22	20	80 - 120	112
	Copper, Cu	µg/L	1	23	20	80 - 120	114
	Lead, Pb	µg/L	1	22	20	80 - 120	109
	Nickel, Ni	µg/L	1	21	20	80 - 120	107
	Zinc, Zn	µg/L	5	21	20	80 - 120	103

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185144.002		TRH C10-C14	mg/kg	20	47	40	60 - 140	118
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	100
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	90
	TRH F Bands	TRH >C10-C16	mg/kg	25	45	40	60 - 140	113
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	93
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90
LB185145.002		TRH C10-C14	mg/kg	20	48	40	60 - 140	120
		TRH C15-C28	mg/kg	45	45	40	60 - 140	113
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	103
	TRH F Bands	TRH >C10-C16	mg/kg	25	49	40	60 - 140	123
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	115
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	120

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185061.002		TRH C10-C14	µg/L	50	970	1200	60 - 140	81
		TRH C15-C28	µg/L	200	1100	1200	60 - 140	92
		TRH C29-C36	µg/L	200	1100	1200	60 - 140	90
	TRH F Bands	TRH >C10-C16	µg/L	60	1000	1200	60 - 140	87
		TRH >C16-C34 (F3)	µg/L	500	1200	1200	60 - 140	97
		TRH >C34-C40 (F4)	µg/L	500	530	600	60 - 140	88

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185142.002	Monocyclic	Benzene	mg/kg	0.1	4.2	5	60 - 140	85
	Aromatic	Toluene	mg/kg	0.1	4.3	5	60 - 140	87
		Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	88
		m/p-xylene	mg/kg	0.2	8.9	10	60 - 140	89
		o-xylene	mg/kg	0.1	4.5	5	60 - 140	89
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	10	70 - 130	91

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185142.002	Surrogates	d8-toluene (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	10	70 - 130	90
LB185143.002	Monocyclic	Benzene	mg/kg	0.1	4.7	5	60 - 140	94
	Aromatic	Toluene	mg/kg	0.1	4.8	5	60 - 140	95
		Ethylbenzene	mg/kg	0.1	4.7	5	60 - 140	93
		m/p-xylene	mg/kg	0.2	9.7	10	60 - 140	97
		o-xylene	mg/kg	0.1	4.8	5	60 - 140	97
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
		d8-toluene (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	10	70 - 130	97

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185127.002	Monocyclic	Benzene	µg/L	0.5	47	45.45	60 - 140	104
	Aromatic	Toluene	µg/L	0.5	38	45.45	60 - 140	84
		Ethylbenzene	µg/L	0.5	54	45.45	60 - 140	118
		m/p-xylene	µg/L	1	110	90.9	60 - 140	122
		o-xylene	µg/L	0.5	49	45.45	60 - 140	107
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.2	10	60 - 140	92
		d8-toluene (Surrogate)	µg/L	-	9.0	10	60 - 140	90
		Bromofluorobenzene (Surrogate)	µg/L	-	10.2	10	60 - 140	102

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185142.002		TRH C6-C10	mg/kg	25	74	92.5	60 - 140	80
		TRH C6-C9	mg/kg	20	64	80	60 - 140	81
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	10	70 - 130	91
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	10	70 - 130	90
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	47	62.5	60 - 140	76
LB185143.002		TRH C6-C10	mg/kg	25	72	92.5	60 - 140	78
		TRH C6-C9	mg/kg	20	63	80	60 - 140	79
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	10	70 - 130	97
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	44	62.5	60 - 140	70

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB185127.002		TRH C6-C10	µg/L	50	810	946.63	60 - 140	86
		TRH C6-C9	µg/L	40	720	818.71	60 - 140	87
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.1	10	60 - 140	81
		d8-toluene (Surrogate)	µg/L	-	8.1	10	60 - 140	81
		Bromofluorobenzene (Surrogate)	µg/L	-	9.9	10	60 - 140	99
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	520	639.67	60 - 140	81

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.065	LB184997.004	Mercury	mg/L	0.0001	0.0077	<0.0001	0.008	96

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.001	LB185162.004	Mercury	mg/kg	0.05	0.21	<0.05	0.2	101
SE198558.044	LB185163.004	Mercury	mg/kg	0.05	0.19	<0.05	0.2	90

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.001	LB185144.023		Hexachlorobenzene (HCB)	mg/kg	0.1		<0.1	-	-
			Alpha BHC	mg/kg	0.1		<0.1	-	-
			Lindane	mg/kg	0.1		<0.1	-	-
			Heptachlor	mg/kg	0.1		<0.1	0.2	96
			Aldrin	mg/kg	0.1		<0.1	0.2	88
			Beta BHC	mg/kg	0.1		<0.1	-	-
			Delta BHC	mg/kg	0.1		<0.1	0.2	84
			Heptachlor epoxide	mg/kg	0.1		<0.1	-	-
			o,p'-DDE	mg/kg	0.1		<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2		<0.2	-	-
			Gamma Chlordane	mg/kg	0.1		<0.1	-	-
			Alpha Chlordane	mg/kg	0.1		<0.1	-	-
			trans-Nonachlor	mg/kg	0.1		<0.1	-	-
			p,p'-DDE	mg/kg	0.1		<0.1	-	-
			Dieldrin	mg/kg	0.2		<0.2	0.2	80
			Endrin	mg/kg	0.2		<0.2	0.2	85
			o,p'-DDD	mg/kg	0.1		<0.1	-	-
			o,p'-DDT	mg/kg	0.1		<0.1	-	-
			Beta Endosulfan	mg/kg	0.2		<0.2	-	-
			p,p'-DDD	mg/kg	0.1		<0.1	-	-
			p,p'-DDT	mg/kg	0.1		<0.1	0.2	78
			Endosulfan sulphate	mg/kg	0.1		<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1		<0.1	-	-
			Methoxychlor	mg/kg	0.1		<0.1	-	-
			Endrin Ketone	mg/kg	0.1		<0.1	-	-
			Isodrin	mg/kg	0.1		<0.1	-	-
			Mirex	mg/kg	0.1		<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1		<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-		0.14	-	87
SE198558.041	LB185145.004		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	94
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	95
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	96
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	<0.2	<0.2	0.2	82
			Endrin	mg/kg	0.2	<0.2	<0.2	0.2	95
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.041	LB185145.004		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	80
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.14	-	90

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.004	LB185144.023		Dichlorvos	mg/kg	0.5		<0.5	2	71
			Dimethoate	mg/kg	0.5		<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5		<0.5	2	116
			Fenitrothion	mg/kg	0.2		<0.2	-	-
			Malathion	mg/kg	0.2		<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2		<0.2	2	121
			Parathion-ethyl (Parathion)	mg/kg	0.2		<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2		<0.2	-	-
			Methidathion	mg/kg	0.5		<0.5	-	-
			Ethion	mg/kg	0.2		<0.2	2	124
			Azinphos-methyl (Guthion)	mg/kg	0.2		<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7		<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-		0.5	-	102
			d14-p-terphenyl (Surrogate)	mg/kg	-		0.5	-	110
SE198558.041	LB185145.004		Dichlorvos	mg/kg	0.5	1.3	<0.5	2	63
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	2.4	<0.5	2	120
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.7	<0.2	2	130
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	2.3	<0.2	2	117
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	8.7	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	-	112
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	-	120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.004	LB185144.023	Naphthalene	mg/kg	0.1		<0.1	4	122
		2-methylnaphthalene	mg/kg	0.1		<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1		<0.1	-	-
		Acenaphthylene	mg/kg	0.1		<0.1	4	127
		Acenaphthene	mg/kg	0.1		<0.1	4	118
		Fluorene	mg/kg	0.1		<0.1	-	-
		Phenanthrene	mg/kg	0.1		<0.1	4	126
		Anthracene	mg/kg	0.1		<0.1	4	124
		Fluoranthene	mg/kg	0.1		<0.1	4	127
		Pyrene	mg/kg	0.1		<0.1	4	132
		Benzo(a)anthracene	mg/kg	0.1		<0.1	-	-
		Chrysene	mg/kg	0.1		<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1		<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1		<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1		<0.1	4	135
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1		<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1		<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1		<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2		<0.2	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.004	LB185144.023		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3		<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2		<0.2	-	-
			Total PAH (18)	mg/kg	0.8		<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-		0.5	-	100
			2-fluorobiphenyl (Surrogate)	mg/kg	-		0.5	-	102
			d14-p-terphenyl (Surrogate)	mg/kg	-		0.5	-	110
SE198558.041	LB185145.004		Naphthalene	mg/kg	0.1	5.6	<0.1	4	140
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	5.9	0.1	4	145 ⑨
			Acenaphthene	mg/kg	0.1	5.4	<0.1	4	135
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	6.3	0.7	4	141 ⑨
			Anthracene	mg/kg	0.1	6.0	0.2	4	144 ⑨
			Fluoranthene	mg/kg	0.1	6.7	1.7	4	126
			Pyrene	mg/kg	0.1	7.0	2.1	4	123
			Benzo(a)anthracene	mg/kg	0.1	0.3	0.8	-	-
			Chrysene	mg/kg	0.1	0.3	0.8	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	0.8	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.2	0.6	-	-
			Benzo(a)pyrene	mg/kg	0.1	5.6	0.9	4	117
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	0.6	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	0.3	0.7	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	5.7	1.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	5.8	1.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	5.7	1.2	-	-
			Total PAH (18)	mg/kg	0.8	50	10	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	-	112
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	-	112
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	-	120

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.001	LB185144.023		Arochlor 1016	mg/kg	0.2		<0.2	-	-
			Arochlor 1221	mg/kg	0.2		<0.2	-	-
			Arochlor 1232	mg/kg	0.2		<0.2	-	-
			Arochlor 1242	mg/kg	0.2		<0.2	-	-
			Arochlor 1248	mg/kg	0.2		<0.2	-	-
			Arochlor 1254	mg/kg	0.2		<0.2	-	-
			Arochlor 1260	mg/kg	0.2		<0.2	0.4	85
			Arochlor 1262	mg/kg	0.2		<0.2	-	-
			Arochlor 1268	mg/kg	0.2		<0.2	-	-
			Total PCBs (Arochlors)	mg/kg	1		<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-		0	-	85
SE198558.041	LB185145.004		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1260	mg/kg	0.2	0.3	<0.2	0.4	86
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	90

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.001	LB185159.004	Arsenic, As	mg/kg	1	52	2	50	99
		Cadmium, Cd	mg/kg	0.3	43	<0.3	50	87
		Chromium, Cr	mg/kg	0.5	55	10	50	90
		Copper, Cu	mg/kg	0.5	90	41	50	98
		Nickel, Ni	mg/kg	0.5	61	15	50	92
		Lead, Pb	mg/kg	1	59	11	50	96
		Zinc, Zn	mg/kg	2	74	30	50	89
SE198558.044	LB185160.004	Arsenic, As	mg/kg	1	53	2	50	101
		Cadmium, Cd	mg/kg	0.3	44	<0.3	50	88
		Chromium, Cr	mg/kg	0.5	52	8.0	50	87
		Copper, Cu	mg/kg	0.5	55	14	50	82
		Nickel, Ni	mg/kg	0.5	49	6.7	50	86
		Lead, Pb	mg/kg	1	49	8	50	82
		Zinc, Zn	mg/kg	2	65	24	50	83

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198533.001	LB185091.004	Arsenic, As	µg/L	1	26	2	20	121
		Cadmium, Cd	µg/L	0.1	21	<0.1	20	103
		Chromium, Cr	µg/L	1	21	<1	20	103
		Copper, Cu	µg/L	1	21	3	20	86
		Lead, Pb	µg/L	1	20	<1	20	103
		Nickel, Ni	µg/L	1	18	<1	20	87
		Zinc, Zn	µg/L	5	28	13	20	76

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE198558.001	LB185144.023		TRH C10-C14	mg/kg	20	<20	40	98
			TRH C15-C28	mg/kg	45	400	40	-373 ⑤
			TRH C29-C36	mg/kg	45	1000	40	-663 ⑤
			TRH C37-C40	mg/kg	100	810	-	-
			TRH C10-C36 Total	mg/kg	110	1400	-	-
			TRH C10-C40 Total (F bands)	mg/kg	210	2200	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	40	103
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	970	40	-795 ⑤
			TRH >C34-C40 (F4)	mg/kg	120	1200	-	-
SE198558.041	LB185145.020		TRH C10-C14	mg/kg	20	<20	40	125
			TRH C15-C28	mg/kg	45	<45	40	110
			TRH C29-C36	mg/kg	45	<45	40	110
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	40	125
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	83
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.041	LB185143.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	4.3	<0.1	5	86
			Toluene	mg/kg	0.1	4.4	<0.1	5	88
			Ethylbenzene	mg/kg	0.1	4.4	<0.1	5	88
			m/p-xylene	mg/kg	0.2	8.9	<0.2	10	89
			o-xylene	mg/kg	0.1	4.5	<0.1	5	90
		Polycyclic	Naphthalene	mg/kg	0.1	5.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.5	9.6	10	75
			d8-toluene (Surrogate)	mg/kg	-	8.1	9.2	10	81
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	7.8	10	87
		Totals	Total Xylenes	mg/kg	0.3	13	<0.3	-	-
			Total BTEX	mg/kg	0.6	27	<0.6	-	-
SE198656.001	LB185142.004	Monocyclic	Benzene	mg/kg	0.1	4.3	<0.1	5	86

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198656.001	LB185142.004	Monocyclic	Toluene	mg/kg	0.1	4.4	<0.1	5	88
		Aromatic	Ethylbenzene	mg/kg	0.1	4.5	<0.1	5	90
			m/p-xylene	mg/kg	0.2	9.1	<0.2	10	91
			o-xylene	mg/kg	0.1	4.6	<0.1	5	92
		Polycyclic	Naphthalene	mg/kg	0.1	4.7	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	9.3	10	91
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.3	10	92
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	8.8	10	89
		Totals	Total Xylenes	mg/kg	0.3	14	<0.3	-	-
			Total BTEX	mg/kg	0.6	27	<0.6	-	-

VOCs in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198475.002	LB185127.023	Monocyclic	Benzene	µg/L	0.5	44	0	45.45	97
		Aromatic	Toluene	µg/L	0.5	45	0.18214881280	45.45	98
			Ethylbenzene	µg/L	0.5	44	0	45.45	98
			m/p-xylene	µg/L	1	87	0	90.9	96
			o-xylene	µg/L	0.5	44	0	45.45	98
		Polycyclic	Naphthalene	µg/L	0.5	54	0	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.3	10.15	-	93
			d8-toluene (Surrogate)	µg/L	-	7.8	9.66	-	78
			Bromofluorobenzene (Surrogate)	µg/L	-	9.7	8.87	-	97

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198558.041	LB185143.004		TRH C6-C10	mg/kg	25	67	<25	92.5	72
			TRH C6-C9	mg/kg	20	64	<20	80	80
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.5	9.6	10	75
			d8-toluene (Surrogate)	mg/kg	-	8.1	9.2	10	81
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	7.8	-	87
		VPH F	Benzene (F0)	mg/kg	0.1	4.3	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	40	<25	62.5	64
SE198656.001	LB185142.004		TRH C6-C10	mg/kg	25	74	<25	92.5	80
			TRH C6-C9	mg/kg	20	65	<20	80	82
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	9.3	10	91
			d8-toluene (Surrogate)	mg/kg	-	9.2	9.3	10	92
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.9	8.8	-	89
		VPH F	Benzene (F0)	mg/kg	0.1	4.3	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	47	<25	62.5	76

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE198475.002	LB185127.022		TRH C6-C10	µg/L	50	910	3.15881597505	946.63	95
			TRH C6-C9	µg/L	40	780	2.95934392815	818.71	95
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.3	9.60267701252	-	93
			d8-toluene (Surrogate)	µg/L	-	7.8	10.2343243158	-	78
			Bromofluorobenzene (Surrogate)	µg/L	-	9.7	6.45871142065	-	97
		VPH F	Benzene (F0)	µg/L	0.5	44	0	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	640	2.97666716224	639.67	100

MATRIX SPIKE DUPLICATES

SE198558 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.

①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to Analytical Report comments for further information.