PLANNING PROPOSAL

LITHGOW LOCAL ENVIRONMENTAL PLAN 2014 (AMENDMENT No 3)

88 Pipers Flat Road Wallerawang

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INTRODUCTION

A planning proposal has been requested to be prepared by the proponent Mr David McLoughlan on behalf of the registered landowners. The planning proposal request has been prepared by Anthony Daintith Town Planning Pty Ltd. This request forms the basis of this planning proposal.

This request was considered by Council at its **Ordinary Meeting of 23 July 2018**. Council resolved unanimously the following:

Minute No 18-187

1. Council supports the preparation of a Planning Proposal for Lot Y DP 407106, being 88 Pipers Flat Road Wallerawang to amend Lithgow Local Environment Plan 2014 as follows:
    a. amend the land zone of the site from R5 Large Lot Residential to R2 Low Density Residential
    b. amend the lot size from 2ha to 800m²

   to enable the subdivision of the land for residential purposes.

2. The Planning Proposal documentation once prepared be forwarded to the Western Region office of NSW Department of Planning and Environment for a Gateway Determination.

3. Council advise NSW Department of Planning and Environment that it proposes to seek approval to use its delegated functions under S. 3.36(2)-(4) of the Act to make the plan following compliance with a Gateway Determination.

4. A **DIVISION** be called in accordance with the requirements of Section 375A (3) of the Local Government Act, 1993.

What is a Planning Proposal

A planning proposal is a document that explains the intended effect of a proposed local environmental plan (LEP) and sets out the justification for making that plan. It will be used and read by a wide audience including the general community as well as those who are responsible for deciding whether or not the proposal should proceed. As such it must be concise and accessible to its audience. It must also be technically competent - founded on an accurate assessment of the likely impacts of the proposal and supported where necessary by technical studies and investigations.

The preparation of a planning proposal is the first step in preparing a LEP. Throughout the course of preparing the proposed LEP, the planning proposal evolves. This is particularly the case for complex proposals in which the initial gateway determination will confirm the technical studies and consultation required to justify the proposal. As the studies and consultation are undertaken, relevant parts of the planning proposal will be updated, amended and embellished.

SITE DESCRIPTION

The subject site is Lot Y DP 407106, 88 Pipers Flat Road and has an area of 1.366ha. It is located on the western corner of Brays Lane and Pipers Flat Road Wallerawang to the west of the Wallerawang town centre as highlighted in **Figure 1** below:

Figure 1 Locality Plan

The site is a regular shaped allotment that slopes gently to the northwest and is generally cleared of vegetation with the exception of some scattered trees towards the northern boundary.

The site contains a number of existing buildings as shown in **Figure 2** below that are used by a group home for respite day activities.

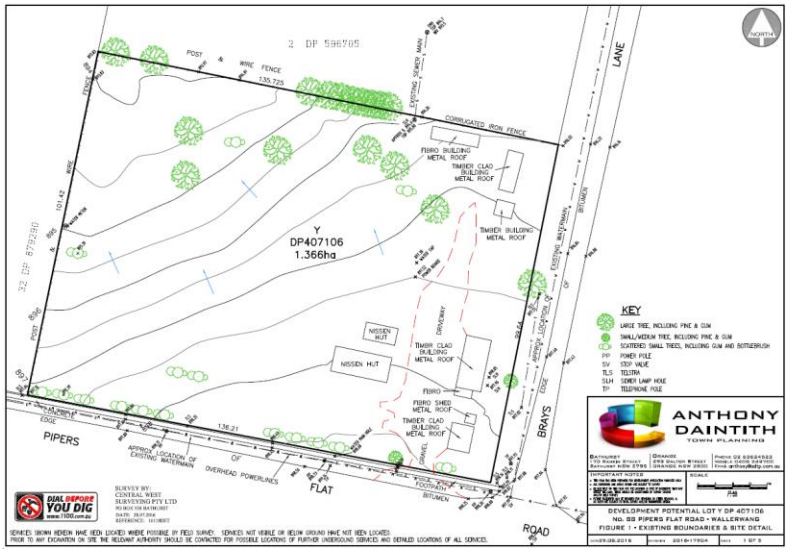


Figure 2 Site Detail

Photo 1: Subject land – looking west

Photo 2: Existing buildings

Photo 3: Northern portion of the site

Photo 4: Subject land

PART 1 OBJECTIVE OR INTENDED OUTCOMES

The objective of the Draft Planning Proposal is to amend Lithgow Local Environmental Plan to enable Lot Y DP 407106 to be further subdivided into residential allotments.

Figure 3 provides a proposed subdivision layout for the site that takes into account the servicing of each lot, the topography of the land and streetscape considerations to Pipers Flat Road.

To address the streetscape concerns along Pipers Flat Road (in particular the visual amenity of the town centre entry from the west, it is proposed to provide a vegetation buffer 3m wide as depicted on **Figure 3**.

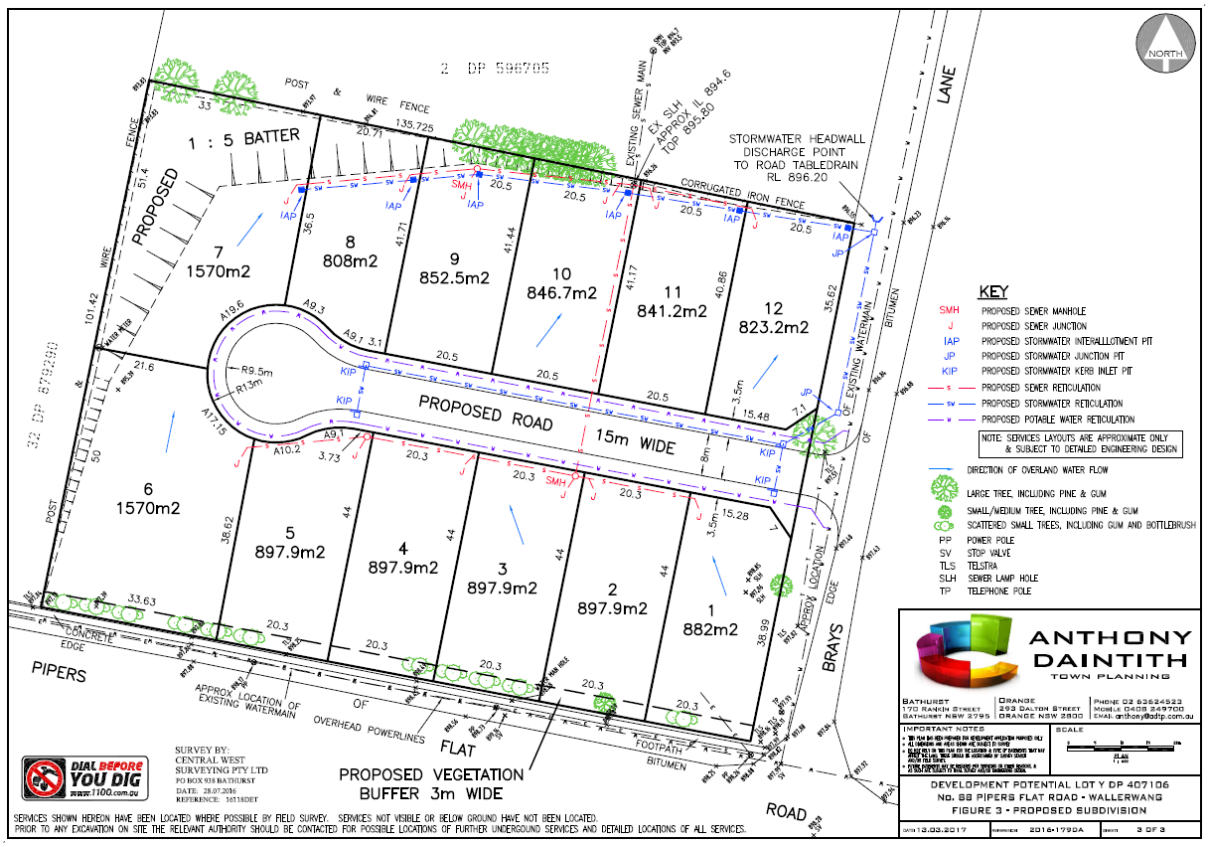


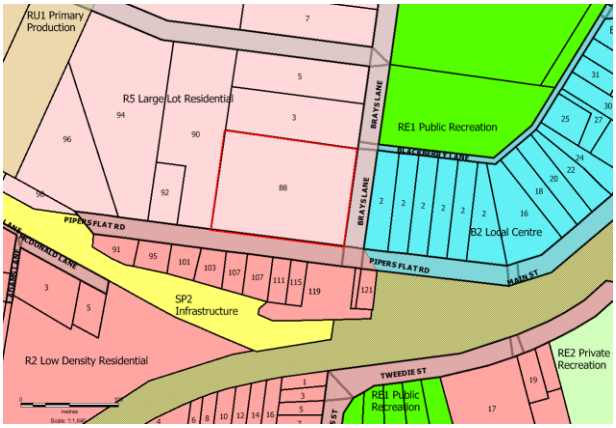
Figure 3: Potential Subdivision Layout

It is anticipated that each of the above proposed lots will be developed with single dwellings. They are not suited for higher density residential development and all but two proposed lots will be below the minimum lot size for dual occupancy and multi-dwelling housing in the proposed R2 Low Density Residential zone under Clause 4.1A of Lithgow Local Environmental Plan 2014.

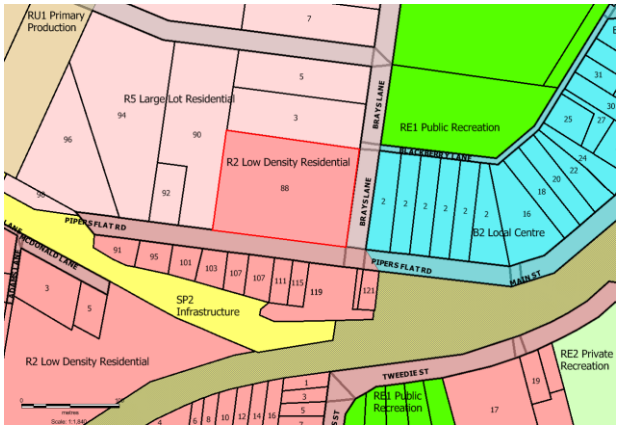
PART 2 EXPLANATION OF PROVISIONS

The Draft Planning Proposal seeks to amend Lithgow Local Environmental Plan to rezone the land from R5 Large Lot Residential to R2 Low Density Residential and change the applicable lot size from 2ha to 800m².

Figure 4 below shows the existing and proposed land use zones and development controls.

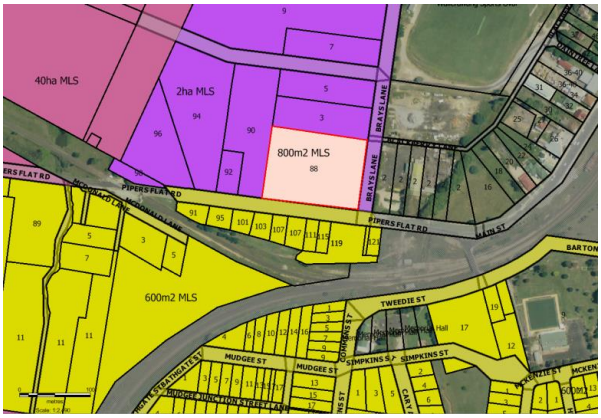


Current Zone



Proposed Zone

Current Lot Size (2ha)



Proposed Lot Size (800m²)

Figure 4 Existing and Proposed Zone and Lot Size

PART 3 JUSTIFICATION

Section A Need for Planning Proposal

Is the planning proposal a result of any strategic study or report?

The Planning Proposal is not the result of any strategic study or report. It has arisen as a private proposal for the development of the site and responds to a change in the supply and demand at the local level.

Supply and Demand for Land Wallerawang

In 2010, Mountain View Estate located to the south-west off Rydal Road Wallerawang was considered a sufficient standard residential supply over the life of the Lithgow Land Use Strategy (LUS) to meet the demand for housing that was estimated at approximately six 6 houses per year.

Since 2010, the take-up of housing lots within Wallerawang has taken place at a greater than predicted rate. Mountain View Estate has already sold out with re-selling only active in small numbers according to a local real estate agent. According to a local real estate agent the demand for housing lots within the area is not being met by current supply.

The LUS predicted that supply of residential land in the Mountain View Estate and other infill sites would take approximately 30 years to be exhausted. With significant take –up in 2013/14 and more recently 2016/17 the supply years have been substantially reduced.

The potential development yield of this site may provide a further two years of residential land supply before consideration may need to be given to other greenfield sites in the identified future urban areas beyond 2030 in the periodic review of the LUS and LEP scheduled for 19/20.

Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

A change in zoning and the applicable minimum lot size that apply to the land under Lithgow Local Environmental Plan 2014 is the only means of achieving the objectives of this proposal.

Section B Relationship to strategic planning framework

Is the planning proposal consistent with the objectives and actions of the applicable regional or sub-regional strategy (including Sydney Metropolitan Strategy and exhibited draft strategies)?

The applicable regional plan is the *Central West Orana Regional Plan.* The proposal is not inconsistent with the directions and actions of that Plan.

It is particularly consistent with the relevant *Direction 25 – Increase housing diversity and choice in particular Action 25.4 to locate higher density development close to town centres to capitalise on existing infrastructure and increase housing choice.*

Is the Planning Proposal consistent with a Council's local strategy or other local strategic plan?

The Planning Proposal is demonstratively consistent with the following key principles that underpin endorsed Lithgow Land Use Strategy 2010-2030:

LUS Growth Management Principle	**Guiding Principle**	**Comment**
GM1 Thresholds to Growth	Future development should strengthen the desired settlement hierarchy, support and maintain strong commercial centres, minimise urban sprawl and environmental footprints and maximise infrastructure and service efficiencies.	**Consistent** The development site reinforces the established settlement hierarchy by providing further housing opportunity in established town centres. The development site is an infill site located within the identified urban core of Wallerawang and has direct road and pedestrian links to the local commercial centre. The site can be serviced by existing infrastructure.
GM2 Land Use Suitability and Capability	Future development should be located on land that is suitable for the development and capable of supporting the proposed uses. Future development should avoid areas of environmental significance, significant natural and/or economic resource, potential hazard, high landscape or cultural	**Consistent** The development site is suitable for residential development. It is not affected by environmental or natural hazards or constraints.

	heritage value, or potential increased risk associated with impacts of climate change.	
GM3 Infrastructure Provision	Future development should only be permitted where it can be provided with adequate, cost effective physical and social infrastructure to match the expected population of each settlement area. Future development should not create the demand for the uneconomic provision of infrastructure. Future development should be designed and located to have well connected and accessible urban areas increasing the opportunity for public transport, cycling and walking for residents and visitors.	**Consistent** The development site can be fully serviced by existing head infrastructure and will not create the demand for uneconomic provision of infrastructure. The location of the site in close proximity to the commercial centre and local sporting areas promotes and encourages cycling and walking and less car dependency.

Is the planning proposal consistent with applicable State Environmental Planning Policies?

Relevant State Environmental Planning Policies ("SEPPs")

Council has reviewed all applicable State Environmental Planning Policies to determine the direct application and relevance to this Planning Proposal and has found that the proposal is consistent with all SEPPs and will not hinder the operation of those SEPPs during the development assessment phase.

The key relevant SEPP's are SEPP 55 Remediation of land and Sydney Drinking Water Catchment SEPP 2011.

The preliminary investigation report (Appendix 2) accompanying the Planning Proposal has indicated that the subject land is suitable for residential land use without further investigation consistent with *SEPP 55 Managing Land Contamination Planning Guidelines SEPP 55 – Remediation of Land.*

The site is within the Sydney Drinking Water Catchment and therefore any development resulting from the Planning Proposal will need to achieve a neutral or beneficial effect on water quality. Consultation with the Water NSW (Sydney Catchment Authority) prior to the issuing of the final Gateway Determination will determine the extent and timing of investigations such as MUSIC modelling that will be required.

Is the planning proposal consistent with applicable Ministerial Directions (S.9.1cf previous S117 directions)?

Relevant Ministerial Directions

Council assessment of the Planning Proposal indicates that it is consistent with the applicable Section 9.1 Planning Directions issued by the Minister for Planning in particular the following most relevant applicable directions:

Relevant Planning Direction	Comment
Direction 3.1 Residential Zones When this Direction applies (3) This Direction applies when a relevant planning authority (Council) prepares a planning proposal that will affect land within: (a) an existing or proposed residential zone (including the alteration of any existing residential zone boundary), (b) any other zone in which significant residential development is permitted or proposed to be permitted. What a relevant planning authority (Council) must do if this Direction applies (4) A planning proposal must include provisions that encourage the provision of housing that will: (a) broaden the choice of building types and locations available in the housing market, and (b) make more efficient use of existing infrastructure and services, and (c) reduce the consumption of land for	The Planning Proposal is consistent with this direction. The proposal will: • broaden the choice of new housing locations in the housing market of Wallerawang and in particular provide housing within close proximity to the town centre and sporting areas; • be capable of being serviced with existing infrastructure and services; • enable an infill site on the fringe of established urban development to be used to a higher capacity thereby reducing the consumption of land for housing; • provide opportunity for the site to be developed using good design principles; • be subject to Clause 7.10 of Lithgow Local Environmental Plan 2014 requiring essential services to be provided; and • increase the permissible housing density of the site which currently only allows for a maximum of two dwellings, one of

Relevant Planning Direction	Comment
housing and associated urban development on the urban fringe, and (d) be of good design. (5) A planning proposal must, in relation to land to which this direction applies: (a) contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it), and (b) not contain provisions which will reduce the permissible residential density of land.	which would be required to be dual occupancy.
Direction 3.4 Integrating Land Use Transport When this Direction applies: (3) This Direction applies when a relevant planning authority (Council) prepares a planning proposal that will, create, alter or remove a zone or provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes. What a relevant planning authority (Council) must do if this Direction applies: (4) A planning proposal must locate zones for urban purposes and include provisions that give effect to and are consistent with the aims, objectives and principles of: (a) Improving Transport choice- Guidelines for planning and development (DUAP 2001) and (b) The Right Place for Business and Services – Planning Policy (DUAP 2001).	The Planning Proposal through providing housing choice in close proximity and connectivity to the Wallerawang Town Centre and established sporting areas and public transport nodes will reduce car dependency for the residents and enable cycling or walking or public transport to be transport of choice. The access to Brays Lane provides opportunity for planned vehicular access to the development without negatively impacting upon the Main Road traffic route on Pipers Flat Road or the nearby major rail overhead bridge (Black Bridge).
Direction 5.2 Sydney Drinking Water Catchment When this Direction applies:	The site is located within the Sydney Water Drinking Catchment. It is not within a Special Area. The site is capable of being fully serviced. The

Relevant Planning Direction	Comment
(3) This Direction applies when a relevant planning authority (Council) prepares a planning proposal that applies to land within the Sydney drinking water catchment What a relevant planning authority must do if this Direction applies: (4) Planning Proposal must be prepared in accordance with the general principle that water quality within the Sydney drinking water catchment should be protected: (a) new development within the Sydney drinking water catchment must have a neutral or beneficial effect on water quality, and (b) future land use in the Sydney drinking water catchment should be matched to land and water capability….	proposed subdivision and development will be required to achieve a neutral or beneficial effect on water quality as part of the development assessment process. The Lithgow Strategic Land and Water Capability Assessment 2009 has identified that the land has high capability for the land use category ***4A Residential Sewered.*** Council will be required to consult with the Water NSW (Sydney Catchment Authority) and include a copy of any information received prior to a final Gateway Determination being made.

Section C Environmental, social and economic impact

Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal.

The site is not identified on the Lithgow Biodiversity Environmental Sensitive Areas mapping. It is generally clear of significant vegetation and has in the past been developed and used for a variety of urban purposes.

Therefore the likelihood for any ecological impact is negligible.

Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

The subject site has not been identified within the environmentally sensitive areas mapping for biodiversity or sensitive lands. It is, however, identified as having moderately high groundwater vulnerability. As the site will be fully serviced with water and sewer and stormwater it is not expected that the proposed use will negatively impact groundwater.

The site is also located to the south of the existing Wallerawang Wastewater Treatment Plant buffer zone and should not negatively impact upon the ordinary operations of the plant.

The site is not identified as being bush fire prone, flood liable or within a declared mine subsidence district.

The site is located within the Sydney Water Drinking Catchment and any future development must be able to demonstrate a neutral or beneficial effect on water quality in accordance with Sydney Drinking Water Catchment 2011 State Environmental Planning Policy. This matter will be addressed at the development assessment phase.

Has the planning proposal adequately addressed any social and economic effects?

The planning proposal is considered unlikely to result in adverse social or economic impacts (and impacts are negligible).

The development of the land for residential purposes will support and strengthen the existing commercial and community precincts of Wallerawang.

Section D State and Commonwealth interests

Is there adequate public infrastructure for the planning proposal?

The relative small scale of the proposal, resulting in less than 11 new residential lots (potential new population of 28 using the average household size of 2.56) is not significant enough to trigger any new or augmented state or commonwealth public infrastructure.

The site is currently serviced by essential water, sewer and electricity services and has two road frontages.

Any impact upon local essential infrastructure will be considered as part of the development assessment phase and mitigated through either development consent conditions or development servicing contributions.

What were the views of State and Commonwealth public authorities consulted in accordance with the Gateway determination?

Relevant state and government public authorities will be consulted as part of the process and/or considered prior to final Gateway Determination.

PART 4 MAPPING

The Planning Proposal will require amendment to the following maps of Lithgow Local Environmental Plan 2014 as indicated in **Figure 4**:

- Land Zoning Map LZN_002F
- Lot Size Map LSZ_002F

Council will prepare these maps in accordance with the *Standard Technical Requirements for Spatial Datasets and Maps- Version 2.10 August 2017* following the community consultation phase of the planning proposal.

PART 5 COMMUNITY CONSULTATION

The Gateway Determination will confirm community consultation requirements. It is likely that if this Planning Proposal is supported it would be a "low impact" proposal in accordance with Section 5.5.2 of *"A Guide to Preparing LEPs"* that would require exhibition for a period of not less than 14 days.

A "low impact" proposal is defined as "a planning proposal that, in the opinion of the person making the Gateway Determination is:

- Consistent with the pattern of surrounding land use zones/and or land uses;
- Consistent with the strategic planning framework;
- Presents no issues with regard to infrastructure servicing;
- Not a principal LEP;
- Does not re-classify public land."

It is proposed that the Planning Proposal will be publicly notified by:

- A notice in the Village Voice in each week of the exhibition
- Adjoining landowners
- Notification on Councils website
- Display at Councils customer service centre and libraries

Council will also notify the government agencies prior to and concurrently with the public exhibition period unless directed otherwise through the Gateway Determination. In particular Council will consult with Water NSW (Sydney Catchment Authority) and Roads and Maritime Services.

PART 6 PROJECT TIMELINE

An indicative timeline to complete the plan making process is outlined below:

Key Stages of Consultation and Approval	**Estimated Timeframe**
Stage 1 Submission of Draft Planning Proposal to Department Regional Office	July/August 2018
Stage 2 Gateway Determination	September/October 2018
Stage 3 Public Exhibition and Government Agency Consultation	October/November 2018

Stage 4 Review/consideration of submissions	November 2018
Stage 5 Council Report	November 2018
Stage 6 Plan Making and Legal Drafting – (Council delegated functions)	December/January 2018
Stage 7 Notification of the LEP	February 2019

APPENDIX LIST

Appendix 1

Copy of Report to Ordinary Meeting of Council held on 23 July 2018 and Minute 18-187

Appendix 2

Copy of Preliminary Contamination Investigation – Envirowest Consulting – March 2017

Appendix 3

Completed Delegations Checklist

Document Control

Version	Date	Description	Responsible Officer
1.0	17/09/18	Planning Proposal – Pre Gateway	Sherilyn Hanrahan

APPENDIX ONE

COUNCIL REPORT AND MINUTE

ITEM-4 ECDEV- 23/07/18- PLANNING PROPOSAL- 88 PIPERS FLAT ROAD WALLERAWANG

REPORT BY: DIRECTOR ENVIRONMENT AND ECONOMIC DEVELOPMENT

SUMMARY

A Draft Planning Proposal has been received for Lot Y DP 407106, being 88 Pipers Flat Road Wallerawang. The draft proposal seeks the following changes to the Lithgow Local Environmental Plan, 2014:

- to amend the land zone of the site from R5 Large Lot Residential to R2 Low Density Residential
- to amend the lot size from 2ha to 800m²

to enable the subdivision of the land for residential purposes.

The Draft Planning Proposal has been prepared by Anthony Daintith Town Planning on behalf of the landowners being Mr R and Mrs McLaughlan and Mr A and Mrs J Cinat.

This report recommends that Council support the preparation of a Planning Proposal under Section 3.33 of the Environmental Planning and Assessment Act, and refer such proposal to the Western Region office of NSW Department of Planning for Gateway Determination under Section 3.34 of the Act.

COMMENTARY

DISCLOSURE OF POLITICAL DONATIONS AND GIFTS

Under Section 10.4(4) of the Environmental Planning and Assessment Act a person who makes a relevant planning application including a planning proposal to a Council, is required to disclose the following reportable donations and gifts (if any) made by any person with a financial interest in the application within the period commencing two (2) years before the application is made and ending when the application is determined:

1. all reportable political donations made to any local councillor of that Council;
2. all gifts made to any local councillor employee of that Council.

No disclosure has been made in relation to this proposal.

LOCAL ENVIRONMENTAL PLAN MAKING PROCESS

- The plan making process normally involves the following key components:

- The preparation of a Planning Proposal. (A Planning Proposal is a document that explains the intended effect of a proposed local environmental plan (LEP) and sets out the justification for making that plan.)

- The issuing of a Gateway determination. (A Gateway Determination is assessed by the Regional office of the Department of Planning and Environment in the first instance and it specifies whether or not planning proposal is to proceed and if so, in what circumstances. The Gateway is a checkpoint for planning proposals before resources are committed to carrying out investigative research, preparatory work and consultation with agencies and the community.)

- Community and other consultation on the planning proposal (as required; exhibition periods are either 14 days for low impact proposals or 28 days for all other proposals)
- Finalising the planning proposal
- Drafting of the LEP legal instrument
- Making the plan
- Notifying the LEP on the NSW Government Legislation Website.

A flow chart detailing the LEP plan making process is provided in Attachment 1.

This report is concerned with the first stage of this process.

SITE DESCRIPTION

The subject site is Lot Y DP 407106 and has an area of 1.366ha. It is located on the western corner of Brays Lane and Pipers Flat Road Wallerawang to the west of the Wallerawang town centre as highlighted in Figure 1 below:

Figure 1 Locality Plan

The site is a regular shaped allotment that slopes gently to the northwest and is generally cleared of vegetation with the exception of some scattered trees towards the northern boundary.

The site contains a number of existing buildings as shown in Figure 2 below that are used by a group home for respite day activities.

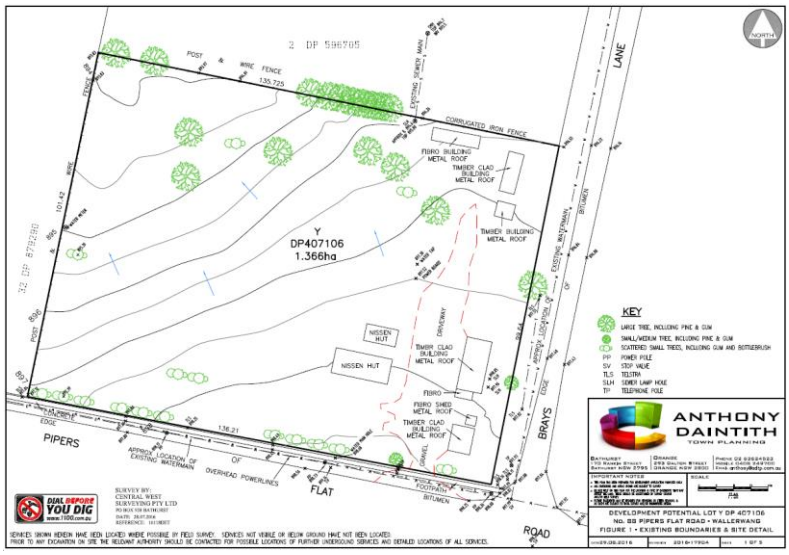


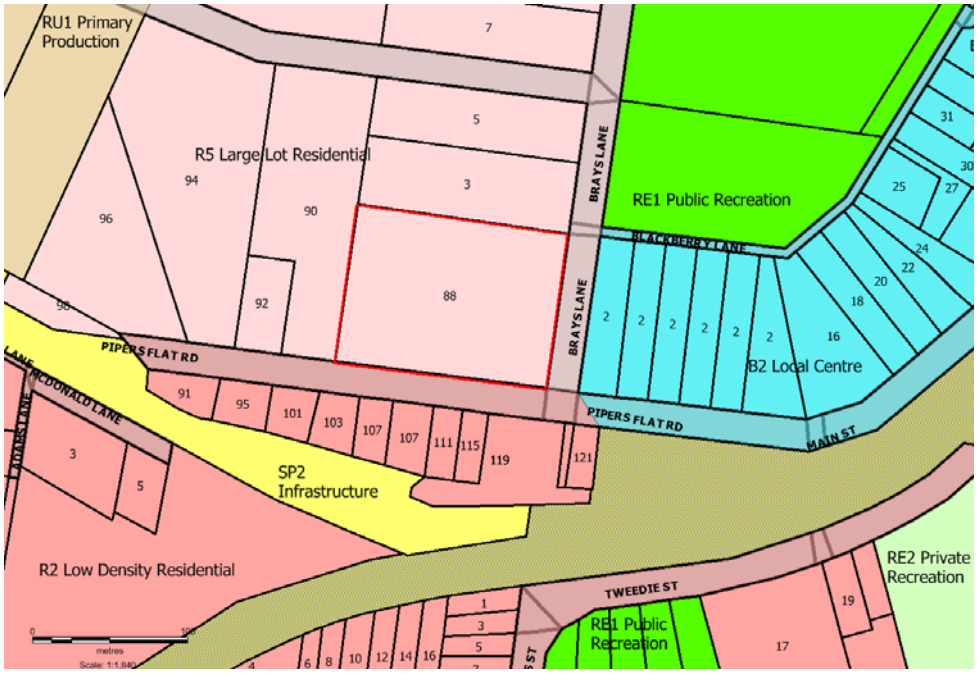
Figure 2 Site Detail

DRAFT PLANNING PROPOSAL INTENDED OUTCOMES AND EXPLANATION OF PROVISIONS

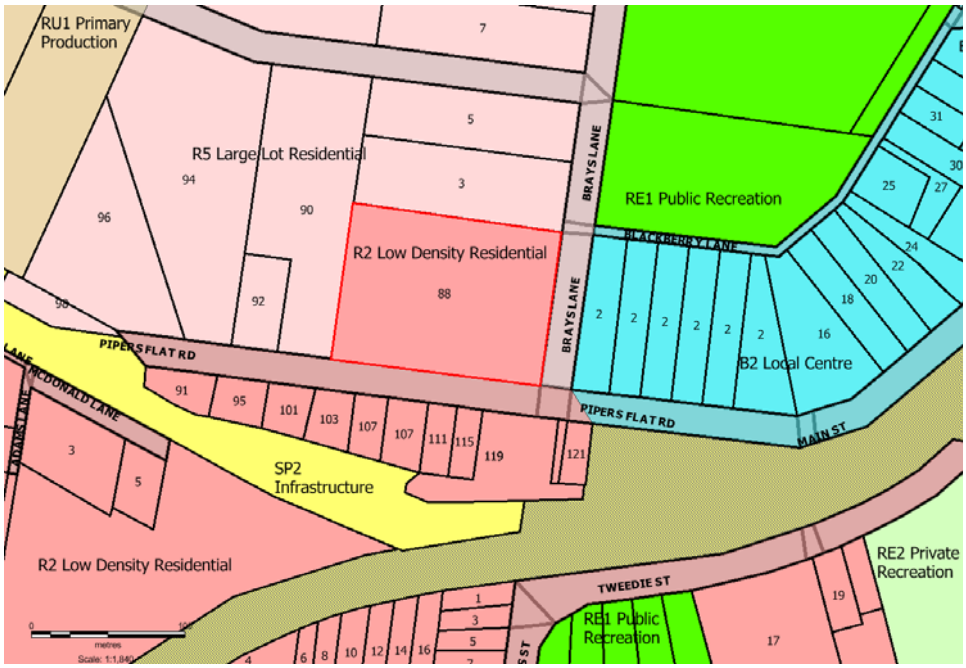
The objective of the Draft Planning Proposal is to amend Lithgow Local Environmental Plan to enable Lot Y DP 407106 to be further subdivided into residential allotments.

The Draft Planning Proposal seeks to amend the Lithgow Local Environmental Plan to rezone the land from R5 Large Lot Residential to R2 Low Density Residential and change the applicable lot size from 2ha to 800m². Figure 3 below shows the existing and proposed land use zones and development controls.

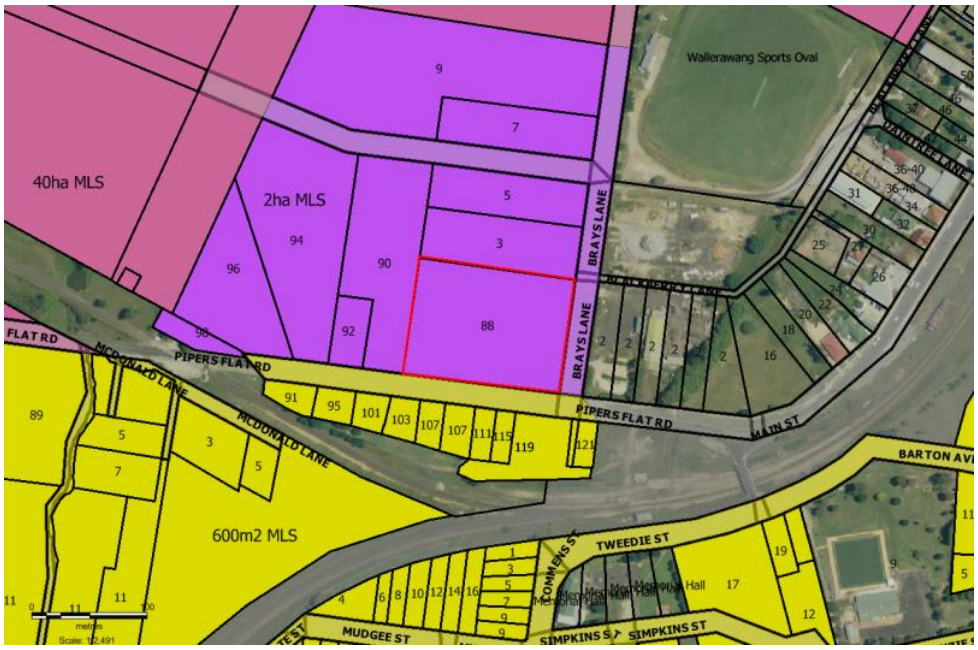
If supported as proposed, the proposal has the potential to enable approximately 12 new lots to be created at this location predominantly of a size to cater for single dwellings.



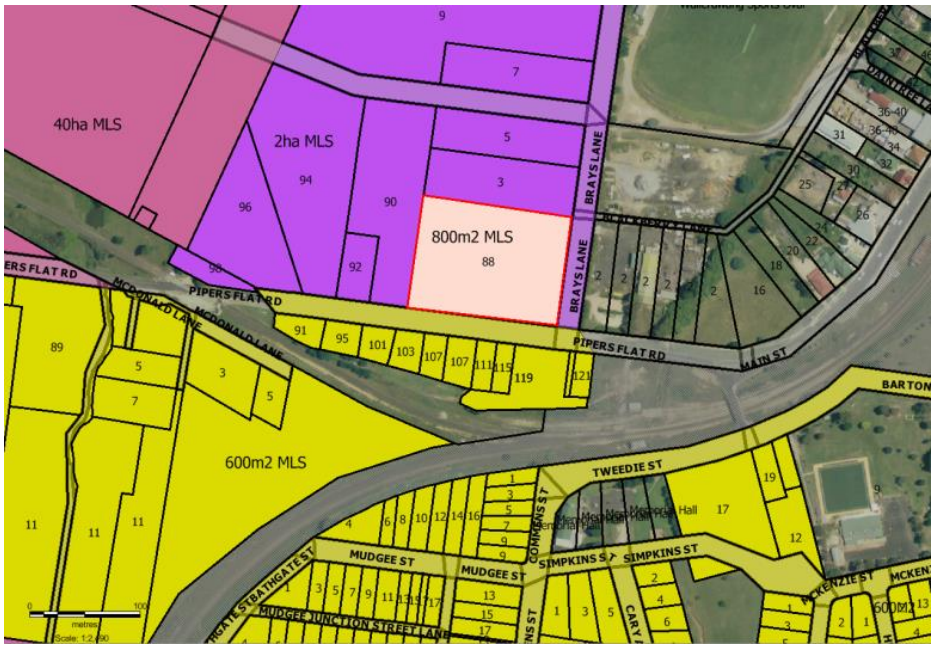
Current Zone



Proposed Zone



Current Lot Size (2ha)



Proposed Lot Size (800m²)

Figures 3 (above four maps) Existing and Proposed Zone and Lot Size

SITE SPECIFIC SUITABILITY/MERIT

Site Locality Context

The land is an infill site on the western fringe of the Wallerawang town centre and is surrounded by residential land use to the north and west, business/light industrial and public recreation land use to the east separated by Brays Lane. The proposed development of the site should not create nor increase land use conflict within the area.

The site is separated from the older residential areas of Wallerawang to the south by the Main Road and Main Western Rail Line. A new residential estate, "Mountain View Estate" is located to the south west of the site that has seen ongoing development activity since being released to the market.

Past Land use and Contamination

State Environmental Planning Policy 55 Remediation of Land requires consideration of contamination issues when rezoning land. If a rezoning allows a change of use that may increase the risk to health or the environment from contamination, then Council or the Planning Authority must be satisfied that the land is suitable for the all the proposed uses or can be remediated to make it suitable.

A preliminary contamination investigation in accordance with the *Managing Land Contamination Planning Guidelines SEPP 55 Remediation of Land* has been undertaken by Envirowest Consulting Pty Ltd to determine the contamination status of the land and its suitability for residential land use.

The investigation report has revealed that site has in the past been used as an electricity commission storage depot and contained possibly two underground storage tanks (UST) that have since been removed.

The report identified that the site is not listed on the EPA register of Contaminated Sites.

Ground penetrating radar was undertaken to determine the approximate location of the historic USTs. The location was identified south of the south eastern function room and was identified as being removed.

The contamination status of the site was assessed from a soil sampling and laboratory analysis program. Twenty five locations were sampled within the general site. The site was sampled for potential contaminants based on site inspections and historical land use.

The soil sampling program identified one sample containing levels of carcinogenic PAH slightly above the adopted threshold for human health. The carcinogenic PAH is expected to be contained within the gravel with coal/chitter layer. One sample contained levels of nickel slightly above the adopted threshold for human health. The 95% confidence interval of samples within each area was below the threshold for residential land use for carcinogenic PAH and nickel.

All other analytes were recorded less than the adopted thresholds for residential land use.

The report recommended no further investigation is necessary and the site is suitable for residential activities.

Council officers have reviewed this report and are satisfied that it meets the relevant sampling, analysis and reporting requirements. There is still potential that unidentified contamination can be found during excavation or as part of building demolition on the site. Should that occur, further investigation or validation may be required during the development phase.

Traffic Management

The site can be developed without creating further ribbon development along Main Road 531, Pipers Flat Road by constructing a new public road within the site intersecting with Brays Lane.

The new road design and intersection treatment with both Brays Lane and Pipers Flat Road will be a matter for the development assessment phase.

A pedestrian footpath runs parallel to Pipers Flat Road adjacent to the site linking it to the Wallerawang Town Centre.

Site Hazards and Constraints

The subject site has not been identified within the environmentally sensitive areas mapping for biodiversity or sensitive lands. It is, however, identified as having moderately high groundwater vulnerability. As the site will be fully serviced with water and sewer and stormwater it is not expected that the proposed use will negatively impact groundwater.

The site is also located to the south of the existing Wallerawang Wastewater Treatment Plant buffer zone and should not negatively impact upon the ordinary operations of the plant.

The site is not identified as being bush fire prone, flood liable or within a declared mine subsidence district.

The site is located within the Sydney Water Drinking Catchment and any future development must be able to demonstrate a neutral or beneficial effect on water quality in accordance with Sydney Drinking Water Catchment 2011 State Environmental Planning Policy. This matter will be addressed at the development assessment phase.

Essential Services/Infrastructure

Essential services of water, sewer, electricity, stormwater and telecommunications are all available in the vicinity of the site. Augmentation of reticulation or connection to these services will be addressed in the development assessment phase.

There will be minimal impact upon capacity of the head infrastructure systems increasing demand by approximately thirty (30) equivalent persons at full build out of lots created.

JUSTIFICATION OF PLANNING PROPOSAL AND RELATIONSHIP TO STRATEGIC FRAMEWORK

Need for Planning Proposal

The Planning Proposal is not the result of any strategic study or report. It has arisen as a private proposal for the development of the site.

A change in zoning and the applicable minimum lot size is the only means of achieving the objectives of this proposal.

Central West Orana Regional Plan

The proposal is not inconsistent with the Directions and Actions of the Central West and Orana Regional Plan.

It is consistent with the relevant *Direction 25 – Increase housing diversity and choice* in particular Action 25.4 to *locate higher density development close to town centres to capitalise on existing infrastructure and increase housing choice.*

Planning Directions

Preliminary assessment of the Planning Proposal indicates that it is consistent with the applicable Section 9.1 Planning Directions issued by the Minister for Planning in particular the following most relevant directions:

Relevant Planning Direction	Comment
Direction 3.1 Residential Zones	The Planning Proposal is consistent with this direction. The proposal will: • broaden the choice of new housing locations in the housing market of Wallerawang and in particular provide housing within close proximity to the town centre and sporting areas; • be capable of being serviced with existing infrastructure and services; • enable an infill site on the fringe of established urban development to be used to a higher capacity thereby reducing the consumption of land for housing; • provide opportunity for the site to be developed using good design principles; • be subject to Clause 7.10 of Lithgow Local Environmental Plan 2014 requiring essential services to be provided; and • increase the permissible housing density of the site which currently only allows for a

	maximum of two dwellings, one of which would be required to be dual occupancy.
Direction 3.4 Integrating Land Use Transport	The Planning Proposal through providing housing choice in close proximity and connectivity to the Wallerawang Town Centre and established sporting areas and public transport nodes will reduce car dependency for the residents and enable cycling or walking or public transport to be transport of choice. The access to Brays Lane provides opportunity for planned vehicular access to the development without negatively impacting upon the Main Road traffic route on Pipers Flat Road or the nearby major rail overhead bridge (Black Bridge).
Direction 5.2 Sydney Drinking Water Catchment	The site is located within the Sydney Water Drinking Catchment. The site is capable of being fully serviced. The proposed subdivision and development will be required to achieve a neutral or beneficial effect on water quality as part of the development assessment process. The Lithgow Strategic Land and Water Capability Assessment 2009 has identified that the land has high capability for the land use category 4A Residential Sewered. Council will be required to consult with Water NSW (formerly Sydney Catchment Authority) and include a copy of any information received prior to a final Gateway Determination being made.

State Environmental Planning Policies

Preliminary assessment of the Planning Proposal indicates that it is generally consistent with all applicable and relevant State Environmental Planning Policies (SEPP's).

The key relevant SEPP's are SEPP 55 Remediation of land and Sydney Drinking Water Catchment SEPP 2011.

The preliminary investigation report accompanying the Planning Proposal has indicated that the subject land is suitable for residential land use without further investigation consistent with *SEPP 55 Managing Land Contamination Planning Guidelines SEPP 55 – Remediation of Land.*

The site is within the Sydney Drinking Water Catchment and therefore any development resulting from the Planning Proposal will need to achieve a neutral or beneficial effect on water quality. Consultation with the Water NSW (Sydney Catchment Authority) prior to the issuing of the final Gateway Determination will determine the extent and timing of investigations such as MUSIC modelling that will be required.

Lithgow Land Use Strategy 2010-2030 (LUS)

Supply and Demand for Land Wallerawang

In 2010, Mountain View Estate located to the south-west off Rydal Road Wallerawang was considered a sufficient standard residential supply over the life of the LUS to meet the demand for housing that was estimated at approximately six 6 houses per year.

Since 2010, the take-up of housing lots within Wallerawang has taken place at a greater than predicted rate. Mountain View Estate has already sold out with re-selling only active in small numbers according to a local real estate agent. According to a local real estate agent the demand for housing lots within the area is not being met by current supply.

The LUS predicted that supply of residential land in the Mountain View Estate and other infill sites would take approximately 30 years to be exhausted. With significant take –up in 2013/14 and more recently 2016/17 the supply years have been substantially reduced.

The potential development yield of this site may provide a further two years of residential land supply before consideration may need to be given to other greenfield sites in the identified future urban areas beyond 2030 in the periodic review of the LUS and LEP scheduled for 19/20.

LUS Growth Management and Sustainability Principles

The Lithgow Land Use Strategy 2010-2030 recommended that the subject site be zoned R5 Large Lot Residential to reflect the development pattern of land to the immediate west and north of the site and to prevent further land use conflict and ribbon growth development along Main Road 531. The R5 zoning also supported the strategy to consolidate standard urban residential lands to the south of Pipers Flat Road and the Main Western Rail Line.

The Planning Proposal represents a shift in this localised strategy; however it is not materially inconsistent with the planning framework of the LUS as set out in the growth management and sustainability principles.

The Planning Proposal is consistent with the growth management and sustainability and residential land use planning principles of the endorsed local Lithgow Land Use Strategy 2010-2030. The site is already zoned residential and the proposed change to zoning and minimum lots size to increase the development yield of the site is in response to changing land supply and development demand drivers in the localised centre of Wallerawang experienced since the development of the LUS in 2010.

The proposed R2 Low Density Residential zone and minimum lot of 800m² whilst providing increased density above that of the R5 zone, still reflects that the site is on the periphery, and is physically separated from, the established standard residential areas of Wallerawang that enjoy a 600m² minimum lot size. It is considered that this density will enable the development to be designed so as to not add to land use conflict with the developed adjoining R5 lands by limiting development to single and secondary dwellings.

The Planning Proposal is demonstratively consistent with the following key principles:

LUS Growth Management Principle	Guiding Principle	Comment
GM1 Thresholds to Growth	Future development should strengthen the desired settlement hierarchy, support and maintain strong commercial centres, minimise urban sprawl and environmental footprints and maximise infrastructure and service efficiencies.	**Consistent** The development site reinforces the established settlement hierarchy by providing further housing opportunity in established town centres. The development site is an infill site located within the identified urban core of Wallerawang and has direct road and pedestrian links to the local commercial centre. The site can be serviced by existing infrastructure.

GM2 Land Use Suitability and Capability	Future development should be located on land that is suitable for the development and capable of supporting the proposed uses. Future development should avoid areas of environmental significance, significant natural and/or economic resource, potential hazard, high landscape or cultural heritage value, or potential increased risk associated with impacts of climate change.	**Consistent** The development site is suitable for residential development. It is not affected by environmental or natural hazards or constraints.
GM3 Infrastructure Provision	Future development should only be permitted where it can be provided with adequate, cost effective physical and social infrastructure to match the expected population of each settlement area. Future development should not create the demand for the uneconomic provision of infrastructure. Future development should be designed and located to have well connected and accessible urban areas increasing the opportunity for public transport, cycling and walking for residents and visitors.	**Consistent** The development site can be fully serviced by existing head infrastructure and will not create the demand for uneconomic provision of infrastructure. The location of the site in close proximity to the commercial centre and local sporting areas promotes and encourages cycling and walking and less car dependency.

COMMUNITY AND GOVERNMENT AUTHORITY CONSULTATION

The Gateway Determination will confirm community consultation requirements. It is likely that if this Planning Proposal is supported it would be a "low impact" proposal in accordance with Section 5.5.2 of *"A Guide to Preparing LEPs"* that would require exhibition for a period of not less than 14 days. Should public exhibition fall over a holiday period the exhibition period would be extended to take into account public holidays accordingly.

A "low impact" proposal is defined as "a planning proposal that, in the opinion of the person making the Gateway Determination is:

- Consistent with the pattern of surrounding land use zones/and or land uses;
- Consistent with the strategic planning framework;
- Presents no issues with regard to infrastructure servicing;
- Not a principal LEP;
- Does not re-classify public land."

It is proposed that the Planning Proposal will be publicly notified by:

- A notice in the Village Voice in each week of the exhibition

- Adjoining landowners
- Notification on Councils website
- Display at Councils customer service centre and libraries

Council will also notify the government agencies concurrently with the public exhibition period unless directed otherwise through the Gateway Determination. In particular Council will consult with Water NSW and Roads and Maritime Services.

TIMELINE TO COMPLETE PLAN MAKING PROCESS

An indicative timeline to complete the plan making process is outlined below:

Key Stages of Consultation and Approval	Estimated Timeframe
Stage 1 Submission of Draft Planning Proposal to Department Regional Office	July 2018
Stage 2 Gateway Determination	August/September 2018
Stage 3 Public Exhibition and Government Agency Consultation	October 2018
Stage 4 Review/consideration of submissions	November 2018
Stage 5 Council Report	November 2018
Stage 6 Plan Making and Legal Drafting – (Council delegated functions)	December/January 2018
Stage 7 Notification of the LEP	February 2019

USE OF DELEGATED POWERS TO MAKE LOCAL ENVIRONMENTAL PLAN

Following a Gateway Determination some plan making powers (S. 3.36(2)-(4) statutory steps of the process) may be delegated back to Council to finalise should Council request it or where the matters are determined to be of local planning significance as determined by the Gateway. This would increase Councils involvement and decision making in the process and streamline the administrative processing and making of the plan.

As this Planning Proposal is a spot rezoning of local significance and is not materially inconsistent with the endorsed local strategy being Lithgow Land Use Strategy 2010-2030, it is recommended that Council indicate that is will be seeking to use its delegated plan making powers to finalise the plan following Gateway Determination.

RECORDING OF VOTING ON PLANNING MATTERS

Under Section 375A of the Local Government Act, 1993 a division is required to be called whenever a motion for a planning decision is put at a meeting of the council or a council committee.

A Planning Proposal is a planning decision for the purposes of this provision.

POLICY IMPLICATIONS
Nil

FINANCIAL IMPLICATIONS

- Budget approved – N/A
- Cost centre – N/A
- Expended to date – N/A
- Future potential impact – The staff costs of administering the Planning Proposal will be met by the applicable fee/charge of $15,000.00 paid by the proponent.

LEGAL IMPLICATIONS
Nil

The Planning Proposal is required to be undertaken in accordance with Part 3 of the Environmental Planning and Assessment Act, 1979.

ATTACHMENTS

1. Local Environmental Plan Making Process Flowchart – Please note the chart references the Pre-March 2018 EP & A Act, 1979 numbering.

RECOMMENDATION

THAT

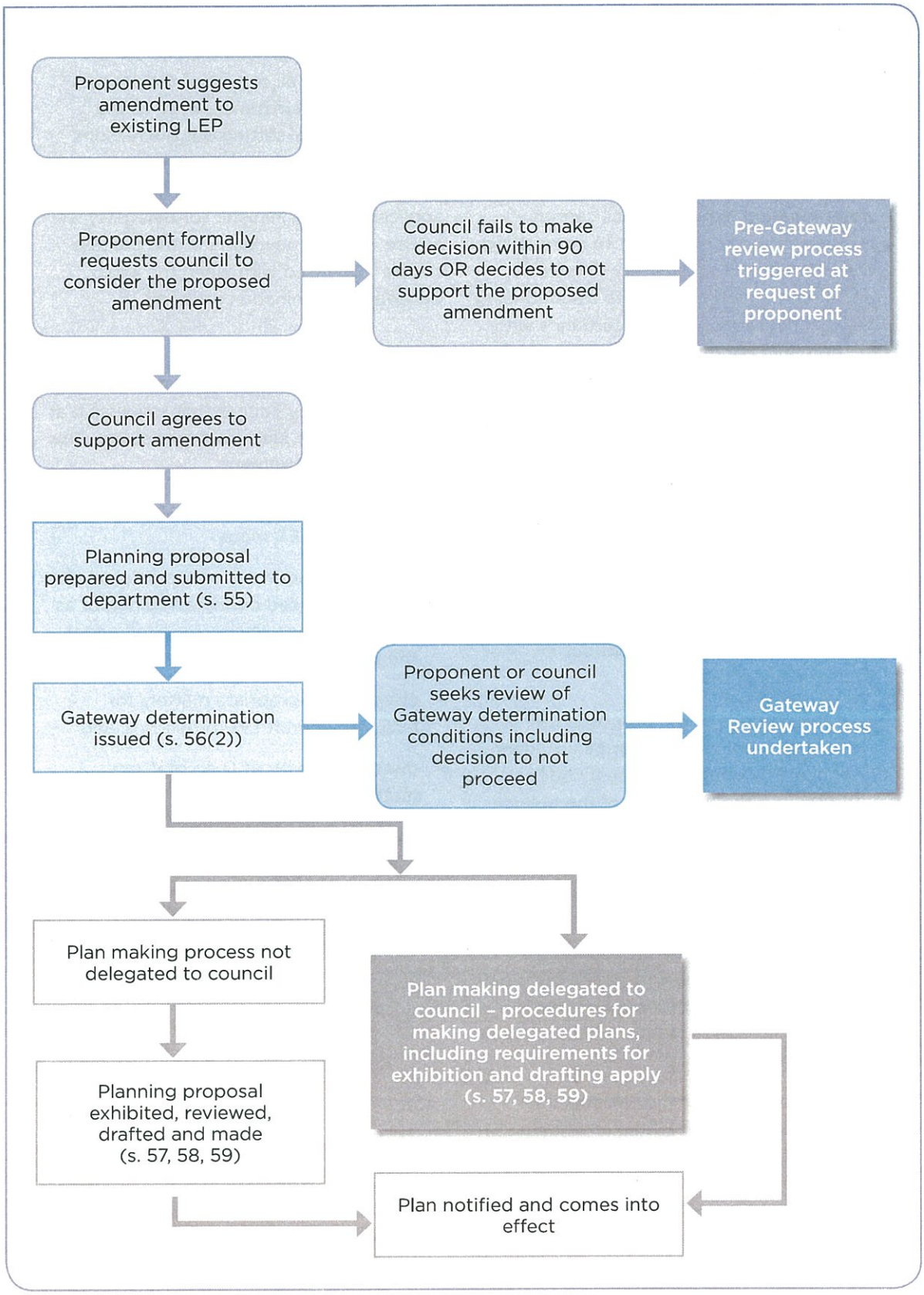
1. Council supports the preparation of a Planning Proposal for Lot Y DP 407106, being 88 Pipers Flat Road Wallerawang to amend Lithgow Local Environment Plan 2014 as follows:
   a. amend the land zone of the site from R5 Large Lot Residential to R2 Low Density Residential;
   b. amend the lot size from 2ha to 800m²;
   to enable the subdivision of the land for residential purposes.

2. The Planning Proposal documentation once prepared be forwarded to the Western Region office of NSW Department of Planning and Environment for a Gateway Determination.

3. Council advise NSW Department of Planning and Environment that it proposes to seek approval to use its delegated functions under S. 3.36(2)-(4) of the Act to make the plan following compliance with a Gateway Determination.

4. A **DIVISION** be called in accordance with the requirements of Section 375A(3) of the Local Government Act, 1993.

Attachment 1 – LEP plan making process



ITEM-4 **ECDEV- 23/07/18- PLANNING PROPOSAL- 88 PIPERS FLAT ROAD WALLERAWANG**

18 – 187 RESOLVED

THAT

1. Council supports the preparation of a Planning Proposal for Lot Y DP 407106, being 88 Pipers Flat Road Wallerawang to amend Lithgow Local Environment Plan 2014 as follows:
   a. amend the land zone of the site from R5 Large Lot Residential to R2 Low Density Residential;
   b. amend the lot size from 2ha to 800m²;
   to enable the subdivision of the land for residential purposes.
2. The Planning Proposal documentation once prepared be forwarded to the Western Region office of NSW Department of Planning and Environment for a Gateway Determination.
3. Council advise NSW Department of Planning and Environment that it proposes to seek approval to use its delegated functions under S. 3.36(2)-(4) of the Act to make the plan following compliance with a Gateway Determination.
4. A **DIVISION** be called in accordance with the requirements of Section 375A(3) of the Local Government Act, 1993.

MOVED: Councillor M Statham **SECONDED:** Councillor S Ring

CARRIED - Unanimously

A **DIVISION** was called in accordance with the requirements of Section 375A(3) of the Local Government Act, 1993.

Divisions

FOR
Councillor S Lesslie
Councillor W McAndrew
Councillor C Coleman
Councillor D Goodsell
Councillor D Goodwin
Councillor S Ring
Councillor J Smith
Councillor M Statham
Councillor R Thompson

AGAINST
Nil

APPENDIX TWO

PRELIMINARY CONTAMINATION INVESTIGATION

Preliminary Contamination Investigation

88 Pipers Flat Road, Wallerawang NSW

Ref: R7863c
Date: 1 March 2017

Envirowest Consulting *Pty Ltd* ABN 18 103 955 246
• 9 Cameron Place, PO Box 8158, Orange NSW 2800 • Tel (02) 6361 4954 •
• Fax (02) 6360 3960 • Email admin@envirowest.net.au • Web www.envirowest.net.au •

Environmental
Geotechnical
Asbestos
Services

Client:	Anthony Daintith Town Planning PO Box 1975 Orange NSW 2800
Assessor:	Ashleigh Pickering BSc Environmental Scientist
Checked by:	Leah Desborough BNatRes (Hons) Senior Environmental Scientist
Authorising Officer:	Greg Madafiglio PhD Senior Environmental Scientist
Interested authorities:	Lithgow City Council
Report number:	R7863c
Date:	1 March 2017

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Executive summary

Background

Rezoning of Lot Y DP407106, 88 Pipers Flat Road, Wallerawang NSW from R5 – Large Lot Residential to R2 – Low Density Residential is proposed. The site is currently being used for residential land-use in the eastern section and vacant in the western section of the site. Historical land-use of the site was an electricity commission storage depot. Historical activities may potentially have resulted in contamination of the site. An investigation of the site is required to determine the soil contamination status and suitability for residential land-use.

Objectives of the investigation

A preliminary site investigation was conducted in accordance with the contaminated land management planning guidelines State Environmental Planning Policy No. 55 (SEPP 55) to determine the soil contamination status and suitability for residential land-use at 88 Pipers Flat Road, Wallerawang NSW.

Investigation and conclusions

An inspection of the site was made on 25 January 2017. The site is approximately 1.4 hectares in area.

The eastern section of the site is currently being used as a respite centre. Infrastructure remaining on the site includes two buildings containing function rooms with kitchen used for respite care and two large aluminium igloo sheds used for associated storage. Two dwelling units were identified in the north eastern corner of the site with a laundry room and showers to the west. The dwelling units and laundry room/showers are not in use.

The site was historically used as a depot for the Electrical Commission for the Wallerawang Power Plant. Aerial photographs indicate the site was used for general storage of materials and equipment across the surface.

Ground penetrating radar (GPR) was undertaken to determine the approximate location of a historic UST potentially located on the site. The location of the historic UST was identified south of the south eastern function room although was noted to have been previously removed.

The contamination status of the site was assessed from a soil sampling and laboratory analysis program. The site was separated into the general site area and the historic UST. Twenty-five locations were sampled within the general site area by constructing boreholes to a depth of 500mm or to natural soil. Soil samples were collected from each borehole at depths of 100mm and 500mm or at representative layers. The samples were analysed for heavy metals, total recoverable hydrocarbons (TRH C6-C40), polycyclic aromatic hydrocarbons (PAH), organochlorine pesticides (OCP), organophosphate pesticides (OPP), polychlorinated biphenyls (PCB), benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN).

Five locations were sampled within the area of the historic UST. Soil samples were collected from the approximate depth of the historic UST, at the base below fill material and within the fill material used to backfill the pit. The samples were analysed for the contaminants of concern including TRH, BTEXN and lead. The material used to backfill the pit was analysed for heavy metals, TRH, PAH, OCP, OPP, PCB and BTEXN.

Surface cover on-site included native grasses with weeds across the western section of the site. A gravel driveway runs north to south in the eastern section of the site. Coal/chitter was identified within the gravel driveway surface. Natural soil on the site comprised brown silty sand topsoil with organics overlaying brown, yellowish brown and strong brown silty clay to fine sandy clay with increasing gravel and weathered rock.

The soil sampling program identified one sample (BH24 – 100) containing levels of carcinogenic PAH slightly above the adopted threshold for human health. The carcinogenic PAH is expected to be contained within the gravel with coal/chitter layer. One sample (BH20 – 100) contained levels of nickel slightly above the adopted threshold for human health. The 95% confidence interval of samples within each area was below the threshold for residential land-use for carcinogenic PAH and nickel.

All other analytes were recorded less than the adopted thresholds for residential land-use.

Recommendations

No further investigation is necessary and the site is suitable for residential activities.

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1. Introduction

Rezoning of Lot Y DP407106, 88 Pipers Flat Road, Wallerawang NSW from R5 – Large Lot Residential to R2 – Low Density Residential is proposed. Historical land-use of the site was an electricity commission storage depot. Historical activities may potentially have resulted in contamination of the site. An investigation of the site is required to determine the soil contamination status and suitability for residential land-use.

2. Scope of work

Envirowest Consulting Pty Ltd was commissioned by Anthony Daintith Town Planning to undertake a preliminary contamination investigation, in accordance with the contaminated land management planning guidelines, from the *Contaminated Land Management Act 1997* and the *State Environmental Policy No. 55 (SEPP 55)*, at 88 Pipers Flat Road, Wallerawang NSW. The objective was to identify past potentially contaminating activities, identify potential contamination types, discuss the site condition, provide a detailed assessment of site contamination and assess the need for further investigation or suitability for residential land-use.

3. Site identification

Address	88 Pipers Flat Road Wallerawang NSW
Client	Anthony Daintith Town Planning
Deposited plans	Lot Y DP407106
Locality map	Figure 1
Site plan	Figure 2
Photographs	Figure 8
Area	Approximately 1.4 hectares

4. Site history

4.1 Zoning

The site is zoned R5 – Large Lot Residential under the Lithgow Local Environmental Plan (2014).

4.2 Land-use

The site is currently used as for respite care in the eastern section and the western section is vacant.

4.3 Summary of council records

The site has been identified within a groundwater vulnerable area and is within the Sydney Water Catchment area.

4.4 Sources of information

- Site inspection 25 January 2017 by Envirowest Consulting Pty Ltd
- Interview with current owner
- NSW EPA records of public notices under the CLM Act 1997
- Soil and geological maps
- Historical photographs 1955, 1968, 1984, 2006, 2014 and 2016
- NSW Planning and Environment planning viewer

4.5 Chronological list of site uses

Year	Visual observations on Site	Surrounding area
1955	Four buildings still located on the site are visible on the eastern boundary of the site. A track runs from the east through the site and towards the north. The area north of the site appears to form part of a larger lot with the site.	The area to the north of the site appears to have a similar land-use. Several buildings are visible within this area. Land to the east and west appear to be vacant. Development is visible south of the site.
1968	The site appears to continue to form part of a larger lot extending to the north. Two igloo sheds are visible west of the existing buildings. Car tracks are visible running across the site. The western section of the site appears to be used as a depot for general storage of material across the surface. Several small trees are evident on the northern boundary of the site.	Land to the east also appears to be used as part of the depot and for storage of supplies. The area to the west of the site appears vacant.
1988	The site remains part of a larger lot to the north. The buildings remain with the addition of one on the northern boundary in the eastern section. The area in the western section of the site appears to have been cleaned up with less material across the surface. Trees on the northern boundary appear larger.	Storage containers are visible to the west of the site. Land to the north appears to have been cleaned up although remains used as a depot. Land to the east of the site appears to have continued use for a depot.
2006	The site has been cleared up and no longer appears to be used as a depot. The same buildings remain in the eastern section of the site. The area in the western section appears vacant with grass surface with some bare areas. The site appears to be no longer part of the larger lot previously identified.	Area to the north of the site appears to be used for residential dwellings and a small area remaining for depot usage including a power pole yard. Residential dwellings are located south and west of the site.
2014	No obvious changes are evident on the site.	The pole yard storage area north of the site has been concreted. The area to the west of the site still appears to be used as a depot/storage area with stockpiles evident in the northern area. Residential land is evident to the south and west of the site.

The 1975 topographic map based on the 1970 aerial photograph shows the site as forming a larger lot to the north with several buildings across the eastern section of the site.

The site is currently owned by Scottish, Australian, Italian and Scottish (SAIS) and is being used as a respite centre. The current owner (SAIS) reported the site being previously used as part of the electricity commission storage depot.

4.6 Buildings and infrastructure

Several buildings have been identified:

- Two large aluminium igloos used for general storage (evident from 1968) with an earth floor
- Two large function rooms and kitchen located in the south eastern corner used for respite care (evident from 1955)
- A shower and laundry room located on the northern boundary (evident from 1988)
- Two dwelling units and associated bathrooms in the north eastern corner (evident from 1955)

4.7 Potential Contaminants

Based on historical activities and site inspection, potential contaminants have been identified as;

- Heavy metals (arsenic, cadmium, chromium, copper, nickel, lead, zinc, mercury)
- Polycyclic aromatic hydrocarbons (PAH)
- Total recoverable hydrocarbons (TRH C6-C40)
- Benzene, toluene, ethylbenzene, xylenes, and naphthalene (BTEXN)
- Organochlorine and organophosphate pesticides (OCP and OPP)
- Polychlorinated biphenyls

4.9 Relevant complaint history

None known

4.10 Contaminated site register

The site is not listed on the NSW EPA register of contaminated sites.

4.11 Investigation history

No previous investigations are known to have been undertaken on the site.

4.12 Neighbouring land-use

North – Residential and Wallerawang pole yard beyond
South – Residential and Wallerawang depot
East – Depot used for storage
West – Residential and rural residential

Historical and present neighbouring land-uses are not expected to impact on the site.

4.13 Integrity assessment

The site history was obtained from a site inspection and history review. The information is consistent with the current site condition and to the best of the assessor's knowledge is accurate.

5. Site condition and environment

5.1 Surface cover

Surface cover on-site included native grasses with weeds across the western section of the site. A gravel driveway runs north to south in the eastern section of the site. Eucalypts are located in the northern section of the site and small shrubs were identified in the southern section.

5.2 Topography

The site is a lower slope with a level slope of 0 to 1% west.

5.3 Soils and geology

The site is within the Cullen Bullen Soil Landscape (King 1994).Soils comprise shallow to moderately deep and moderately well-drained yellow solodic and yellow pozolic soils on lower slopes. The natural soil material on the site consisted of brown silty clay with organics over pale brown to orange silty clay to fine sandy clay with increasing weathered rock.

The site is underlain by Illawarra Coal Measures and the Berry Formation. Parent material include shale and sandstone in addition to conglomerate, limestone, dolomite, claystone, mudstone, coal and torbanite (King 1994).

5.4 Hydrology

5.4.1 Surface water

The soil is expected to have a low permeability. Surface water flows west into Adams Creek approximately 250m west of the site.

5.4.2 Groundwater

Seven groundwater bores were identified within 500m of the site. The closest bore is approximately 120m north west of the site. The remainder of the bores are located approximately 300m east of the site. The bores were licensed for stock, domestic and monitoring purposes. The bores have standing water levels from 2m and water bearing zones from 3m in shale and siltstone.

5.5 Evidence of contamination checklist

Site layout showing industrial processes	Nil
Sewer and service plans	Underground services are located along Pipers Flat Road and Brays Road and run directly alongside the lot.
Manufacturing processes	Nil
Underground and above ground tanks	An underground storage tank is known to have been historically located in the south eastern corner of the site.
Product spills and loss history	None known
Discharges to land, water and air	None known
Disposal locations, presence of drums, wastes and fill materials	The site appears to have historically been used as a depot of the electricity commission including storage of general equipment and materials. Gravel including coal was identified across the surface of the driveway.
Surface staining	A small area of surface staining was identified within the southern aluminium igloo.
Visible signs of plant stress, bare areas	Bare areas of vegetation were identified across the western section of the site.
Odours	Nil
Ruins	The buildings in the north eastern section of the site including shower and laundry and dwelling huts are no longer used.
Other	Nil

6. Data Quality Objectives

6.1 State the problem

A change of land-use is proposed from rural-residential to residential. The property has historically been used as part of the electricity commission depot. The site requires investigation to ensure suitability for the proposed land-use.

6.2 Identify the decision

The proposed land-use is residential and the levels of contaminants should be less than the thresholds listed in Section 10. The decision problem is, do the levels of potential contaminants exceed the assessment criteria listed in Section 10.

6.3 Identify the inputs decision

Investigation of the site is required to identify any potential contaminants from historical land-use.

6.4 Define the boundaries of the study

The investigation area is Lot Y DP407106, 88 Pipers Flat Road, Wallerawang NSW.

6.5 Develop a decision rule

The guidelines for soil were the residential land-use health investigation levels (HIL), health screening levels (HSL), ecological investigation levels (EIL) and ecological screening levels (ESL) (Section 9).

6.6 Specify acceptable limits on the decision errors.

The 95% upper confidence limit of average levels of samples collected is less than the threshold levels.

6.7 Optimize the design for obtaining data

Soil sampling was undertaken as described in Section 8.2.

Quality assurance and quality control objective and indicators are described in Section 8.

7. Sampling analysis plan and sampling methodology

7.1 Sampling strategy

7.1.1 Sampling design

A stratified sampling pattern was adopted to assess the probable location of contamination across the site. The site was separated into the general site area and the expected location of the historic underground storage tank (UST).

A systematic sampling pattern was adopted to assess the general site area and historic UST.

A judgmental sampling pattern was adopted to assess potential hotspot locations within the general site area.

7.1.2 Sampling locations

Discrete soil samples were collected from the general site area on an approximate 30m grid pattern. One discrete soil sample was collected from an identified potential hotspot area within a storage shed.

Discrete soil samples were collected on an approximate 2m grid pattern from the wall locations, base and backfill material of the historic UST.

7.1.3 Sampling density

The sampling density within the general site area can detect a potential hot spot with a radius of 17.7 metres at a 95% level of confidence.

The sampling density within the historic UST can detect a potential hot spot with a radius of 1.2 metres at a 95% level of confidence.

7.1.4 Sampling depth

Boreholes within the general site area were constructed to a depth of 1000mm or to natural soil. Samples were taken at 100mm and 500mm. Any heavy metals present are generally immobile and expected to be contained in the 0-100mm soil layer which was a target sampling depth.

Boreholes within the historic UST area were constructed up to a depth of 2.8 metres or drill refusal which is expected to be below the depth of historic tank pit.

7.2 Analytes

The soil samples within the general site area were evaluated for TRH (C6-C40), PAH, BTEXN, OCP, OPP, PCB, arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury as these were identified as the contaminants of concern possibly present as a result of previous activities (Table 1). One sample was analysed for trivalent and hexavalent chromium.

The soil samples collected from the walls and base of the historic UST pit were analysed for TRH (C6-C40), BTEXN and lead. The sample collected from within the backfill material was analysed for TRH (C6-C40), PAH, BTEXN, OCP, OPP, PCB, arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury due to the unknown source of the fill.

7.3 Sampling methods

Soil samples were taken using an EVH truck mounted drill. Soil was taken at each individual sampling location below the vegetated and detrital layer.

Discrete samples were directly transferred to solvent rinsed glass using a stainless steel spade.

Tools were decontaminated between sampling locations to prevent cross contamination by: brushing to remove caked or encrusted material, washing in detergent and tap water, rinsing in an organic solvent, rinsing with clean tap water and allowing to air dry or using a clean towel.

Table 1. Schedule of samples and analysis

Sample ID	Depth	Description	Analysis undertaken
BH1-100	0-100mm	Natural	Arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), nickel (Ni), zinc (Zn), mercury (Hg), total recoverable hydrocarbons TRH(C6-C40), polycyclic aromatic hydrocarbons (PAH), benzene, toluene, ethylbenzene, xylene and naphthalene (BTEXN), polychlorinated biphenyl (PCB), organochlorine pesticides (OCP) organophosphate pesticides (OPP)
BH2-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH3-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH4-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH5-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH6-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH7-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH8-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH9-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH10-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH11-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH12-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH13-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH14-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH15-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH16-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH16-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH17-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH17-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH18-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH18-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH19-100	0-100mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH19-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH20-100	0-100mm	Fill	As, Cd, Cr (total), Cr (VI) Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH20-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH21-100	0-100mm	Fill	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH21-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH22-100	0-100mm	Fill	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH22-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH23-100	0-100mm	Fill	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH23-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH24-100	0-100mm	Fill	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH24-500	400-500mm	Natural	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH25-100	0-100mm	Fill	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH25-500	400-500mm	Natural	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP
BH26-2100	2000-2100mm	Natural	TRH(C6-C40), BTEXN, Pb
BH27-2700	2600-2700mm	Natural	TRH(C6-C40), BTEXN, Pb
BH28-2000	1900-2000mm	Fill	TRH(C6-C40), BTEXN, Pb
BH28-2100	2000-2100mm	Natural	TRH(C6-C40), BTEXN, Pb
BH29-2000	1900-2000mm	Natural	TRH(C6-C40), BTEXN, Pb
BH30-2100	2000-2100mm	Natural	TRH(C6-C40), BTEXN, Pb
BH31-20	0-20mm	Natural	As, Cd, Cr, Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP

8. Quality assurance and quality control

8.1 Sampling design

The sampling program is intended to provide data as to the presence and levels of contaminants. Discrete soil samples across the general site area were collected on a systematic grid pattern of 30 metres. This sampling density will enable the detection of an area with an elevated concentration on a radius of 17.7 metres with a 95% confidence level.

Discrete soil samples within the historic UST were collected from the approximate walls, base and backfill material on a systematic pattern.

The number of sampling locations is greater than the recommended density in the EPA sampling guidelines.

8.2 Field

The collection of samples was undertaken in accordance with accepted standard protocols (NEPC 1999). All samples within the general site area were analysed for TRH (C6-C40), BTEXN, PAH, PCB, OCP, OPP, arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury.

The walls and base samples within the historic UST area were analysed for TRH (C6-C40), BTEXN and lead. The backfill material of thank historic tank pit was analysed for TRH (C6-C40), BTEXN, PAH, PCB, OCP, OPP, arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury.

Sampling equipment was decontaminated between each sampling event. The appropriate storage conditions and duration were observed between sampling and analysis. A chain of custody form accompanied the samples to the laboratory (Appendix 2).

A single sampler was used to collect the samples using standard methods. Soil collected was a fresh sample from a hand shovel. After collection the samples were immediately placed in new glass sampling jars and placed in a cooler.

Three intra-laboratory samples were collected. The frequency of field duplicates is greater than the NEPC (1999) recommendation of 5%. No field blank, rinsate, trip blank or matrix spikes were submitted for analysis. Some samples from all batches did not contain contaminants which confirm the absence of cross contamination during transport and storage.

A field sampling log is presented in Appendix 3.

8.3 Laboratory

Chemical analysis was conducted by SGS Laboratories, Alexandria, which is NATA accredited for the tests undertaken. The laboratory has quality assurance and quality control programs in place, which include internal replication and analysis of spike samples and recoveries.

Method blanks, matrix duplicates and laboratory control samples were within acceptance criteria. The quality assurance and quality control report is presented together with the laboratory report as Appendix 2.

8.4 Data evaluation

The laboratory quality control report indicates the data variability is within acceptable industry limits. The data is considered representative and usable for the purposes of the investigation. Data quality indicators are presented in Appendix 1.

9. Conceptual site model

Potential contamination sources, exposure pathways and receptors are presented below.

Contamination source	Potential exposure pathways	Receptors
Metals	Direct contact (ingestion and absorption)	*On-site* Residential
Carcinogenic PAH		Site workers
	Indirect contact (inhalation)	Terrestrial environment
		Off-site Residential Rural Terrestrial environment

10. Assessment criteria

The proposed land-use of the site is residential. The laboratory results were assessed against the proposed land-use of residential. The health-based investigation levels of contaminants in the soil for residential sites, for the substances for which criteria are available, are listed in Table 2, as recommended in the NEPC (1999).

The NEPC (1999) provides health screening levels (HSL) for hydrocarbons in soil. The HSLs have been developed to be protective of human health for soil types, depths below surface and apply to exposure to hydrocarbons through the predominant vapour exposure pathway. The appropriate HSL for the site is listed in Table 2. TRH>C16 have physical properties which make the TRH fractions non-volatiles and therefore these TRH fractions are not limiting for vapour intrusion.

Ecological investigation levels (EIL) have been developed for the protection of terrestrial ecosystems for selected metals and organic substances in the soil in the guideline (NEPC 1999). Ecological screening levels (ESL) assess the risk to terrestrial ecosystems from petroleum hydrocarbons in the soil. The EILs and ESLs consider the properties of the soil and contaminants and the capacity of the local ecosystem to accommodate increases in contaminant levels.

EILs vary with land-use and apply to contaminants up to 2m depth below the surface. The EILs for residential land-use are listed in Table 2.

ESLs are dependent on land-use, soil types and are applicable to contaminants up to 2m below the surface. The appropriate ESL for the site is residential as listed in Table 2.

Management limits have been developed to assess petroleum hydrocarbons following evaluation of human health and ecological risks (NEPC 1999). Management units are applicable as screening levels after consideration of relevant ESLs and HSLs. The appropriate management limit for the site is listed in Table 2.

Table 2. Investigation levels – residential land-use (mg/kg) (NEPC 1999)

Analyte	HIL Residential A	HSL Residential/ clay soil			EIL Residential	ESL Residential / fine soil	Management limits for TRH in fine soil / Residential
		0m to <1m	1m to <2m	2m to <4m			
Arsenic	100	-	-	-	100	-	-
Cadmium	20	-	-	-	-	-	-
Chromium (total)	-	-	-	-	-	-	-
Chromium (VI)	100	-	-	-	-		
Copper	6,000	-	-	-	-	-	-
Lead	300	-	-	-	1,100	-	-
Nickel	400	-	-	-	170	-	-
Zinc	7,400	-	-	-	400	-	-
Mercury	40	-	-	-	-	-	-
TRH (C6-C10)	-	50	90	150	-	180	800
TRH (C10-C16)	-	NL	NL	NL	-	120	1,000
TRH (>C16-C34)	-	NA	NA	NA	-	1,300	3,500
TRH (>C34-C40)	-	NA	NA	NA	-	5,600	10,000
Benzene	-	0.7	1	2	-	65	-
Toluene	-	480	NL		-	105	-
Ethylbenzene	-	NL	NL		-	125	-
Xylenes	-	110	310	NL	-	45	-
Naphthalene	-	5	NL	NL	170	-	-
Benzo(a)pyrene	-	-	-		-	0.7	-
Total PAH	300	-	-		-	-	-
Carcinogenic PAH	3	-	-	-	-	-	-
OCP (DD's)	240	-	-	-	100	-	-
OPP (Chlorpyrifos)	160	-	-	-	-	-	-

NL= No limit, NA= Not applicable

11. Results and discussion

11.1 General site area

Surface cover on-site included native grasses with weeds across the western section of the site. A gravel driveway runs north to south in the eastern section of the site. Coal/chitter was identified within the gravel driveway surface. Natural soil on the site comprised brown silty sand topsoil with organics overlaying brown, yellowish brown and strong brown silty clay to fine sandy clay with increasing gravel and weathered rock. Fill was not identified in the general site area.

The laundry room, shower block and the small dwelling units in the north eastern corner of the site are not currently in use. Two buildings located in the south eastern corner of the site are currently being used for respite care. The two aluminium igloo sheds located to the west of these buildings were being used for storage by the respite care. The remainder of the site is currently vacant.

One sample (BH20-100) contained levels of nickel (510mg/kg) slightly above the adopted threshold for human health (400mg/kg) (Table 3). The 95% confidence interval for topsoil samples was below the adopted residential land-use.

One sample (BH24-100) contained levels of carcinogenic PAH's (3.4mg/kg) slightly above the adopted threshold for human health (3mg/kg) (Table 4). The carcinogenic PAH is expected to be contained within the gravel with coal/chitter. The 95% upper confidence interval for samples collected from the driveway was below the adopted residential land-use for human health. The 95% confidence interval of

the samples collected within the driveway area exceeded the ecological screening level for carcinogenic PAH. The carcinogenic PAH are expected to be associated with the coal/chitter identified on the surface of the driveway.

The levels of all substances analysed in the soil samples (Table 3 and 4) collected from the general site area were not detected or at environmental background levels and **below** the adopted residential land-use thresholds (NEPC 1999).

Table 3. Soil analysis results general site area– metals (mg/kg)

Sample I.D.	Location (Figure 3)	Depth (m)	Arsenic	Cadmium	Chromium (total)	Chromium (VI)	Copper	Lead	Nickel	Zinc	Mercury
BH1-100	BH1	0.1	ND	ND	3	-	5	8	1*	14	ND
BH2-100	BH2	0.1	ND	0.3	6	-	11	110	2*	190	ND
BH3-100	BH3	0.1	ND	ND	7	-	7	30	2*	64	ND
BH4-100	BH4	0.1	ND	ND	5	-	9	60	2*	110	ND
BH5-100	BH5	0.1	ND	ND	6	-	7	78	2*	110	ND
BH6-100	BH6	0.1	ND	0.4	7	-	10	45	2*	91	ND
BH7-100	BH7	0.1	ND	0.5	8	-	14	40	3*	430	ND
BH8-100	BH8	0.1	ND	0.4	8	-	17	55	5*	150	ND
BH9-100	BH9	0.1	ND	ND	5	-	10	28	2*	57	ND
BH10-100	BH10	0.1	ND	ND	4	-	4	13	1*	220	ND
BH11-100	BH11	0.1	ND	ND	6	-	3	9	1*	130	ND
BH12-100	BH12	0.1	ND	ND	4	-	8	21	2*	160	ND
BH12-500	BH13	0.1	ND	ND	6	-	4	6	2*	18	ND
BH13-100	BH13	0.1	ND	ND	6	-	6	7	1	9	ND
BH14-100	BH14	0.1	ND	ND	5	-	11	17	2*	80	ND
BH15-100	BH15	0.1	ND	ND	4	-	7	26	2*	76	ND
BH16-100	BH16	0.1	ND	0.3	5	-	4	18	1*	24	ND
BH16-500	BH16	0.5	ND	ND	11	-	3	9	3	16	ND
BH17-100	BH17	0.1	ND	ND	4	-	8	28	2*	68	ND
BH17-500	BH17	0.5	ND	ND	5	-	2	5	1	5	ND
BH18-100	BH18	0.1	ND	ND	4	-	8	49	2*	120	ND
BH18-500	BH18	0.5	ND	ND	9	-	3	7	2	7	ND
BH19-100	BH19	0.1	ND	ND	4	-	9	59	2*	210	ND
BH19-500	BH19	0.5	ND	ND	9	-	4	15	2	51	ND
BH20-100	BH20	0.1	ND	ND	390	ND	76	36	510*	72	ND
BH20-500	BH20	0.5	ND	ND	5	-	5	11	2	20	ND
BH21-100	BH21	0.1	ND	ND	3	-	7	6	1	4	ND
BH21-500	BH21	0.5	ND	ND	4	-	3	5	2	4	ND
BH22-100	BH22	0.1	ND	ND	4	-	8	9	1	5	ND
BH22-500	BH22	0.5	ND	ND	6	-	2	4	1	2	ND
BH23-100	BH23	0.1	ND	ND	4	-	8	7	1	5	ND
BH23-400	BH23	0.4	ND	ND	17	-	3	14	2	5	ND
BH24-100	BH24	0.1	ND	ND	6	-	26	150	4	260	ND
BH24-500	BH24	0.5	ND	1.1	13	-	3	6	1	4	ND
BH25-100	BH25	0.1	ND	ND	4	-	9	26	2	63	ND
BH25-500	BH25	0.5	ND	0.3	5	-	2	5	1	4	ND
Upper 95% Confidence interval			-	-	-	-	-	-	*77*	-	-
HIL A – Residential			*100*	*20*	-	*100*	*6,000*	*300*	*400*	*7,400*	*40*
EIL – Urban Residential			*100*	-	-	-	-	*1,100*	*170*	*590*	-

ND – not detected, HIL – health investigation level, EIL – ecological investigation level, ESL – ecological screening level, *- upper confidence interval calculated from * samples only based on similar characteristic of area

Table 4. Soil analysis results general site area – hydrocarbons (mg/kg)

Sample I.D	Location (Figure 3)	Depth (m)	TRH (C6-C10)	TRH (C10-C16)	TRH (C16-C34)	TRH (C34-C40)	Benzene	Toluene	Ethyl benzene	Xylenes	Naphthalene	PAH	Carcinogenic PAH
BH1-100	BH1	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.7	0.6
BH2-100	BH2	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6	0.4
BH3-100	BH3	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	0.3
BH4-100	BH4	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	0.3
BH5-100	BH5	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
BH6-100	BH6	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH7-100	BH7	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	ND
BH8-100	BH8	0.1	ND	ND	400	ND	ND	ND	ND	ND	ND	1.8	ND
BH9-100	BH9	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	0.3
BH10-100	BH10	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.5	0.4
BH11-100	BH11	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND
BH12-100	BH12	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
BH12-500	BH12	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH13-100	BH13	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.0	0.5
BH14-100	BH14	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH15-100	BH15	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH16-100	BH16	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH16-500	BH16	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH17-100	BH17	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH17-500	BH17	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH18-100	BH18	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH18-500	BH18	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH19-100	BH19	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH19-500	BH19	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH20-100	BH20	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH20-500	BH20	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH21-100	BH21	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND*
BH21-500	BH21	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH22-100	BH22	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	0.3*
BH22-500	BH22	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH23-100	BH23	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND*
BH23-400	BH23	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH24-100	BH24	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	34	3.4*
BH24-500	BH24	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH25-100	BH25	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND*
BH25-500	BH25	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH31-20	BH31	0.02	ND	ND	94	ND	ND	ND	ND	ND	ND	-	-
Upper 95% Confidence interval			*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*2.1*
HSL A – Residential clay soil		*0m to <1m*	*50*	*280*	*NA*	*NA*	*0.7*	*480*	*NL*	*110*	*NL*	*300*	*3*
EIL – Residential			*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*170*	*-*	*-*
ESL – Residential			*180*	*120*	*1,300*	*5,600*	*65*	*105*	*125*	*45*	*-*	*-*	*0.7*
Management limits– residential			*800*	*1,000*	*5,000*	*10,000*	*-*	*-*	*-*	*-*	*-*	*-*	*-*

ND – not detected, HSL – health screening level, EIL – ecological investigation level, ESL – ecological screening level, *- upper confidence interval calculated from * samples only based on similar characteristic of area

A historic UST was identified with a ground penetrating radar south of the existing function rooms. The historic UST had been removed and the pit backfilled. Boreholes were constructed in the approximate location of the pit walls and through the backfill material to the base.

The levels of all substances analysed in the soil samples (Table 5) collected from the general site area were not detected or at environmental background levels and below the adopted residential land-use thresholds (NEPC 1999).

Table 5. Soil analysis results historic UST – hydrocarbons (mg/kg)

Sample I.D	Location (Figure 3)	Depth (m)	TRH (C6-C10)	TRH (C10-C16)	TRH (C16-C34)	TRH (C34-C40)	Benzene	Toluene	Ethyl benzene	Xylenes	Naphthalene	Lead
BH26-2100	BH26	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH27-2700	BH27	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH28-2000	BH28	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH28-2100	BH28	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH29-2000	BH29	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH30-2100	BH30	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HSL A – Residential clay		*0m to <1m*	*50*	*280*	*NA*	*NA*	*0.7*	*480*	*NL*	*110*	*NL*	*300*
		1m to <2m	*90*	*NL*	*NA*	*NA*	*1*	*NL*	*NL*	*310*	*NL*	*-*
		2m to <3m	*150*	*NL*	*NA*	*NA*	*2*	*NL*	*NL*	*NL*	*NL*	*-*
EIL – Residential			*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*170*	*1,100*
ESL – Residential			*180*	*120*	*1,300*	*5,600*	*65*	*105*	*125*	*45*	*-*	*-*
Management limits– residential			*800*	*1,000*	*5,000*	*10,000*	*-*	*-*	*-*	*-*	*-*	*-*

ND – not detected, HSL – health screening level, EIL – ecological investigation level, ESL – ecological screening level, NL – non limiting, NA – not applicable

12. Site characterisation

12.1 Environmental contamination

Carcinogenic PAH were detected slightly above the adopted ecological screening levels within the gravel driveway area.

12.2 Chemical degradation production

Carcinogenic PAH slowly breakdown over time.

12.3 Exposed population

12.3.1 Human Health

The levels were below the adopted threshold for human health. No impact on human health is expected.

12.3.2 Environmental

The levels of carcinogenic PAH were slightly above the adopted threshold within the gravel driveway area. The carcinogenic PAH is contained within the surface of the gravel driveway and is not mobile. No flora or fauna is expected to be impacted within this area.

13. Conclusions and recommendations

13.1 Summary

An inspection of the site was made on 25 January 2017. The site is approximately 1.4 hectares in area.

The eastern section of the site is currently being used as a respite centre. Infrastructure remaining on the site includes two buildings containing function rooms with kitchen used for respite care and two large aluminium igloo sheds used for associated storage. Two dwelling units were identified in the north eastern corner of the site with a laundry room and showers to the west. The dwelling units and laundry room/showers are not in use.

The site was historically used as a depot for the Electrical Commission for the Wallerawang Power Plant. Aerial photographs indicate the site was used for general storage of materials and equipment across the surface.

Ground penetrating radar (GPR) was undertaken to determine the approximate location of a historic UST potentially located on the site. The location of the historic UST was identified south of the south eastern function room although was noted to have been previously removed.

The contamination status of the site was assessed from a soil sampling and laboratory analysis program. The site was separated into the general site area and the historic UST. Twenty-five locations were sampled within the general site area by constructing boreholes to a depth of 500mm or to natural soil. Soil samples were collected from each borehole at depths of 100mm and 500mm or at representative layers. The samples were analysed for heavy metals, total recoverable hydrocarbons (TRH C6-C40), polycyclic aromatic hydrocarbons (PAH), organochlorine pesticides (OCP), organophosphate pesticides (OPP), polychlorinated biphenyls (PCB), benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN).

Five locations were sampled within the area of the historic UST. Soil samples were collected from the approximate depth of the historic UST, at the base below fill material and within the fill material used to backfill the pit. The samples were analysed for the contaminants of concern including TRH, BTEXN and lead. The material used to backfill the pit was analysed for heavy metals, TRH, PAH, OCP, OPP, PCB and BTEXN.

Surface cover on-site included native grasses with weeds across the western section of the site. A gravel driveway runs north to south in the eastern section of the site. Coal/chitter was identified within the gravel driveway surface. Natural soil on the site comprised brown silty sand topsoil with organics overlaying brown, yellowish brown and strong brown silty clay to fine sandy clay with increasing gravel and weathered rock.

The soil sampling program identified one sample (BH24 – 100) containing levels of carcinogenic PAH slightly above the adopted threshold for human health. The carcinogenic PAH is expected to be contained within the gravel with coal/chitter layer. One sample (BH20 – 100) contained levels of nickel slightly above the adopted threshold for human health. The 95% confidence interval of samples within each area was below the threshold for residential land-use for carcinogenic PAH and nickel.

All other analytes were recorded less than the adopted thresholds for residential land-use.

13.2 Assumptions in reaching the conclusions

It is assumed the sampling sites are representative of the site. An accurate history has been obtained and typical management practices were adopted.

13.3 Extent of uncertainties

The analytical data relate only to the locations sampled. Soil conditions can vary both laterally and vertically and it cannot be excluded that unidentified contaminants may be present. The sampling density was designed to detect a hot spot in the field area within a radius of approximately 17.7 metres and with a 95% level of confidence.

13.4 Suitability for proposed use of the site

The site is suitable for residential activities.

13.5 Limitations and constraints on the use of the site

No constraints are recommended.

13.6 Recommendation for further work

No further investigation is necessary and the site is suitable for residential activities.

14. Report limitations and intellectual property

This report has been prepared for the use of the client to achieve the objectives given the clients requirements. The level of confidence of the conclusion reached is governed by the scope of the investigation and the availability and quality of existing data. Where limitations or uncertainties are known, they are identified in the report. No liability can be accepted for failure to identify conditions or issues which arise in the future and which could not reasonably have been predicted using the scope of the investigation and the information obtained.

The investigation identifies the actual subsurface conditions only at those points where samples are taken, when they are taken. Data derived through sampling and subsequent laboratory testing is interpreted by geologists, engineers or scientists who then render an opinion about overall subsurface conditions, the nature and extent of the contamination, its likely impact on the proposed development and appropriate remediation measures. Actual conditions may differ from those inferred to exist, because no professional, no matter how well qualified, and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock or time. The actual interface between materials may be far more gradual or abrupt than a report indicates. Actual conditions in areas not sampled may differ from predictions. It is thus important to understand the limitations of the investigation and recognise that we are not responsible for these limitations.

This report, including data contained and its findings and conclusions, remains the intellectual property of Envirowest Consulting Pty Ltd. A licence to use the report for the specific purpose identified is granted for the persons identified in that section after full payment for the services involved in preparation of the report. This report should not be used by persons or for purposes other than those stated and should not be reproduced without the permission of Envirowest Consulting Pty Ltd.

15. References

DEC (2006) *Contaminated Sites: Guidelines for the NSW Site Auditors Scheme* (NSW Department of Environment and Conservation, Chatswood)

Environment.nsw.gov.au, 'Espade | NSW Environment & Heritage' Version 2. N.p., 2015. Web. 14 February 2017.

Environment Protection Authority (1995) *Contaminated sites: Sampling Design Guidelines* (NSW Environment Protection Authority, Chatswood)

King, D. P. (1994) *Soil Landscapes of Katoomba 1:100,000 Sheet* (Soil Conservation Service of NSW, Sydney)

NEPC (1999 revised 2013) *National Environment Protection (Assessment of Site Contamination) Measure 1999* (National Environment Protection Council Service Corporation, Adelaide)

Figures

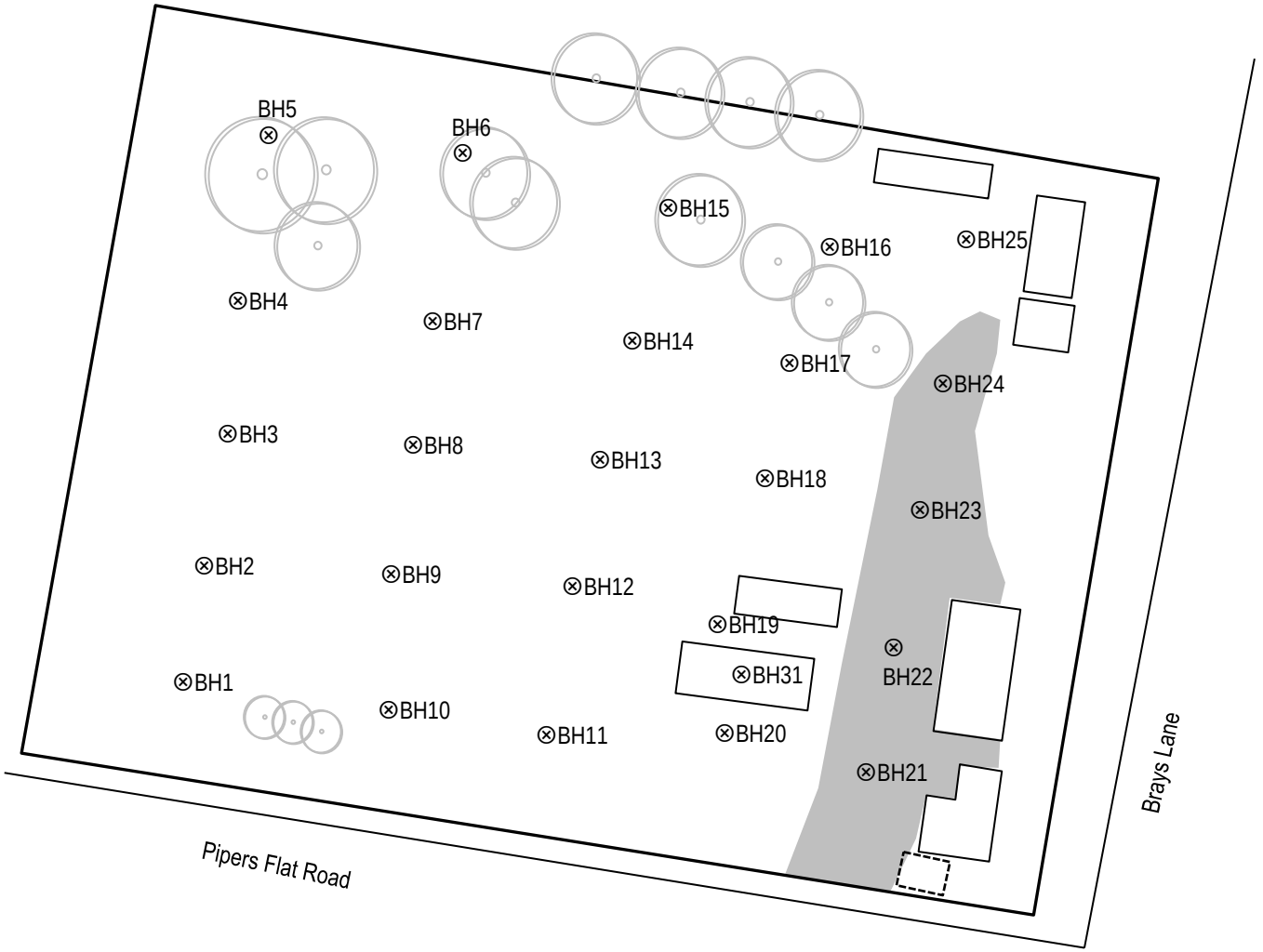
Figure 1. Locality map
Figure 2. Aerial photograph
Figure 3. Site plan and sampling locations– General area
Figure 4. Historic UST area and sampling locations
Figure 5. Historical aerial photograph (1955)
Figure 6. Historical aerial photograph (1968)
Figure 7. Historical aerial photograph (1988)
Figure 8. Photographs of the site

North

Investigation area

Figure 1: Locality map		
Lot Y DP407106, 88 Pipers Flat Road NSW		
	Envirowest Consulting Pty Ltd	
Job: R7863c	Drawn by: AP	Date: 16/02/2017

Figure 2: Aerial photograph		
Lot Y DP407106, 88 Pipers Flat Road NSW		
	Envirowest Consulting Pty Ltd	
Job: R7863c	Drawn by: AP	Date: 16/02/2017



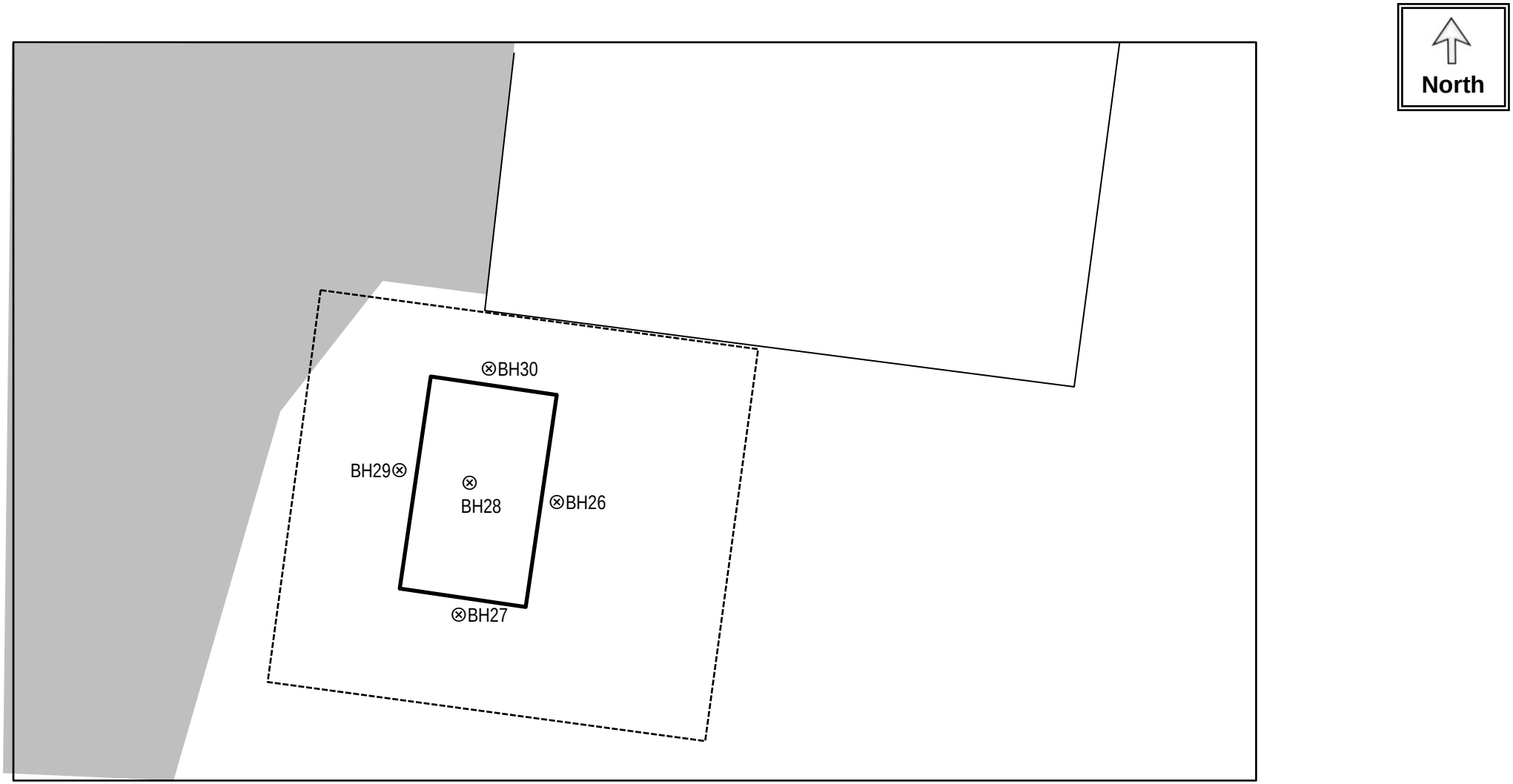
Legend

- Lot boundary
- Gravel driveway
- Existing infrastructure
- Sample location
- Tree
- Historic UST area (See Figure 4)

Approximate Scale 1: 1000

0 10 20 40m

Figure 3: Site plan and sampling locations – General site area		
Lot Y DP407106, 88 Pipers Flat Road NSW		
	Envirowest Consulting Pty Ltd	
Job: R7849c	Drawn by: AP	Date: 16/02/2017



Legend

⊗ Sample location

Driveway

Existing infrastructure

Historic UST area

Historic UST

Approximate Scale 1: 100

0 1 2 4m

Figure 4: Historic UST area and sampling locations		
Lot Y DP407106, 88 Pipers Flat Road NSW		
	Envirowest Consulting Pty Ltd	
Job: R7849c	Drawn by: AP	Date: 16/02/2017

North

Site boundary

Figure 5: Historical aerial photograph (1955)		
Lot Y DP407106, 88 Pipers Flat Road NSW		
	Envirowest Consulting Pty Ltd	
Job: R7849c	Drawn by: AP	Date: 27/02/2017

North

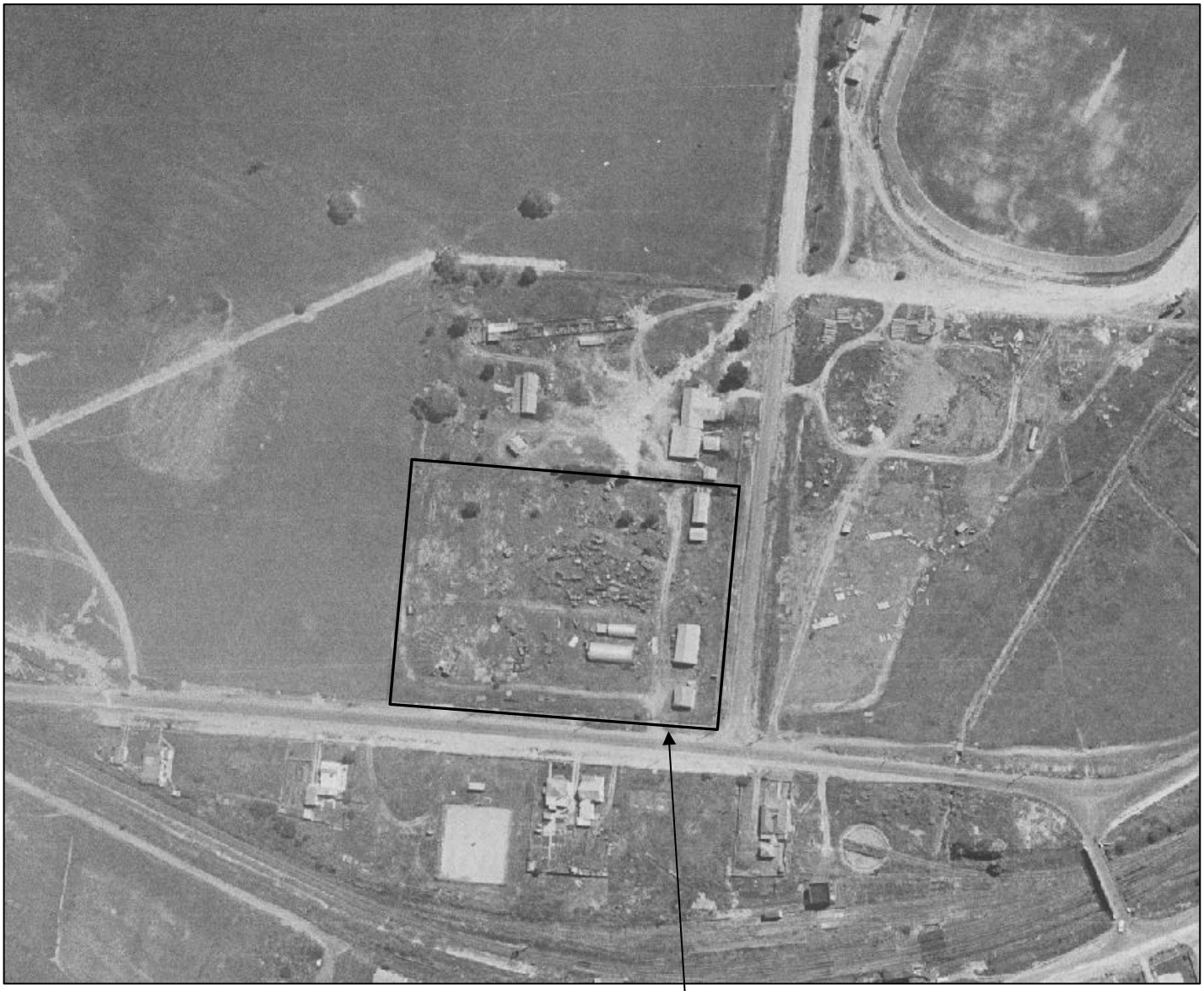


Figure 6: Historical aerial photograph (1968)		
Lot Y DP407106, 88 Pipers Flat Road NSW		
	Envirowest Consulting Pty Ltd	
Job: R7849c	Drawn by: AP	Date: 27/02/2017

North

Figure 7: Historical aerial photograph (1988)		
Lot Y DP407106, 88 Pipers Flat Road NSW		
	Envirowest Consulting Pty Ltd	
Job: R7849c	Drawn by: AP	Date: 27/02/2017

Figure 8. Photographs of the site

Looking west across vacant area

Looking south past aluminium igloo shed

Looking north across gravel driveway towards dwelling units

Looking north along driveway

Inside shed igloo (BH30-20)

Gravel/coal surface cover of driveway

Appendices

Appendix 1. Sample analysis, quality assurance and quality control (QAQC) report
Appendix 2. Borelogs
Appendix 3. Soil analysis results – SGS report number SE161508 and chain of custody form
Appendix 4. Field sampling log

Appendix 1. Sample analysis, quality assurance and quality control (QAQC) report

1. Data quality indicators (DQI) requirements

1.1 Completeness

A measure of the amount of usable data for a data collection activity. Greater than 95% of the data must be reliable based on the quality objectives. Where greater than two quality objectives have less reliability than the acceptance criterion the data may be considered with uncertainty.

1.1.1 Field

Consideration	Requirement
Locations and depths to be sampled	Described in the sampling plan. The acceptance criterion is 95% data retrieved compared with proposed. Acceptance criterion is 100% in crucial areas.
SOP appropriate and compiled	Described in the sampling plan.
Experienced sampler	Sampler or supervisor
Documentation correct	Sampling log and chain of custody completed

1.1.2 Laboratory

Consideration	Requirement
Samples analysed	Number according to sampling and quality plan
Analytes	Number according to sampling and quality plan
Methods	EPA or other recognised methods with suitable PQL
Sample documentation	Complete including chain of custody and sample description
Sample holding times	Metals 6 months, OCP, PAH, TPH, PCB 14 days

1.2 Comparability

The confidence that data may be considered to be equivalent for each sampling and analytical event. The data must show little or no inconsistencies with results and field observations.

1.2.1 Field

Consideration	Requirement
SOP	Same sampling procedures to be used
Experienced sampler	Sampler or supervisor
Climatic conditions	Described as may influence results
Samples collected	Sample medium, size, preparation, storage, transport

1.2.2 Laboratory

Consideration	Requirement
Analytical methods	Same methods, approved methods
PQL	Same
Same laboratory	Justify if different
Same units	Justify if different

1.3 Representativeness

The confidence (expressed qualitatively) that data are representative of each media present on the site.

1.3.1 Field

Consideration	Requirement
Appropriate media sampled	Sampled according to sampling and quality plan or in accordance with the EPA (1995) sampling guidelines.
All media identified	Sampling media identified in the sampling and quality plan. Where surface water bodies on the site sampled.

1.3.2 Laboratory

Consideration	Requirement
Samples analysed	Blanks

1.4 Precision

A quantitative measure of the variability (or reproduced of the data). Is measured by standard deviation or relative percent difference (RPD). A RPD analysis is calculated and compared to the practical quantitation limit (PQL) or absolute difference AD.

- Levels greater than 10 times the PQL the RPD is 50%
- Levels between 5 and 10 times the PQL the RPD is 75%
- Levels between 2 and 5 times the PQL the RPD is 100%
- Levels less than 2 times the PQL, the AD is less than 2.5 times the PQL

Data not conforming to the acceptance criterion will be examined for determination of suitability for the purpose of site characterisation.

1.4.1 Field

Consideration	Requirement
Field duplicates	Frequency of 5%, results to be within RPD or discussion required indicate the appropriateness of SOP

1.4.2 Laboratory

Consideration	Requirement
Laboratory and inter lab duplicates	Frequency of 5%, results to be within RPD or discussion required. Inter laboratory duplicates will be one sample per batch.
Field duplicates	Frequency of 5%, results to be within RPD or discussion required
Laboratory prepared volatile trip spikes	One per sampling batch, results to be within RPD or discussion required

1.5 Accuracy

A quantitative measure of the closeness of the reported data to the true value.

1.5.1 Field

Consideration	Requirement
SOP	Complied
Inter laboratory duplicates	Frequency of 5%. Analysis criterion 60% RPD for levels greater than 10 times the PQL 85% RPD for levels between 5 to 10 times the PQL 100% RPD at levels between 2 to 5 times the PQL Absolute difference, 3.5 times the PQL where levels are, 2 times PQL

1.5.2 Laboratory

Recovery data (surrogates, laboratory control samples and matrix spikes) data subject to the following control limits:

- 60 to 140% acceptable data
- 20-60% discussion required, may be considered acceptable
- 10-20% data should considered as estimates
- 10% data should be rejected

Consideration	Requirement
Field blanks	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Rinsate blanks	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Method blanks	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Matrix spikes	Frequency of 5%, results to be within +/-40% or discussion required
Matrix duplicates	Frequency of 5%, results to be within +/-40% or discussion required
Surrogate spikes	Frequency of 5%, results to be within +/-40% or discussion required
Laboratory control samples	It is to be within +/-40% or discussion required
Laboratory prepared spikes	Frequency of 5%, results to be within +/-40% or discussion required

2. Laboratory analysis summary

One analysis batch was undertaken over the preliminary investigation program. Soil samples were collected on 25 January 2017. A total of forty-three soil samples were submitted for analytical testing. The samples were collected in the field by an environmental scientist from Envirowest Consulting Pty Ltd, placed into laboratory prepared receptacles as recommended in NEPC (1999). The samples preservation and storage was undertaken using standard industry practices (NEPC 1999). A chain of custody form accompanied transport of the samples to the laboratory.

The samples were analysed at the laboratory of SGS, Alexandria, NSW which is National Association of Testing Authorities (NATA) accredited for the tests undertaken. The analyses undertaken, number of samples tested and methods are presented in the following tables:

Laboratory analysis schedule

Sample id. (sampling location)	Number of samples	Duplicate	Analyses	Date collected	Substrate	Laboratory report
BH1-100, BH2-100, BH3-100, BH4-100, BH5-100, BH6-100, BH7-100, BH8-100, BH9-100, BH10-100, BH11-100, BH12-100, BH12-500, BH13-100, BH14-100, BH15-100, BH16-100, BH16-500, BH17-100, BH17-500, BH18-100, BH18-500, BH19-100, BH19-500, BH20-500, BH21-100, BH21-500, BH22-100, BH22-500, BH23-100, BH23-400, BH24-100, BH24-500, BH25-100, BH25-500, BH30-20	36	2	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	25/01/2017	Soil	SE161508
BH20-100	1	0	As, Cd, Cr (total), Cr (VI), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	25/01/2017	Soil	SE161508
BH26-2100, BH27-2700, BH28-2000, BH28-2100, BH29-2000, BH30-2100	6	1	TRH (C6-C40), BTEXN, Pb	25/01/2017	Soil	SE161508

Analytical methods

Analyte	Extraction	Laboratory methods
Metals	USEPA 200.2 Mod	APHA USEPA SW846-6010
Chromium (III)	-	APHA 3500 CR-A&B & 3120 and USEPA SW846-3060A
Chromium (VI)	USEPA SW846-3060A	USEPA SW846-3060A
Mercury	USEPA 200.2 Mod	APHA 3112
TRH(C6-C9)	USPEA SW846-5030A	USPEA SW 846-8260B
TRH(C10-C40), PAH	Tumbler extraction of solids	USEPA SW 846-8270B
PCB	Tumbler extraction of solids	USEPA SW 846-8270B
OC Pesticides	Tumbler extraction of solids	USEPA SW 846-8270B
BTEX	Tumbler extraction of solids	USEPA SW 846-8260B

3. Field quality assurance and quality control

Three intra laboratory duplicate samples were collected for the investigation. The frequency was greater than the recommended frequency of 5%. Table A5.1 outlines the samples collected and differences in replicate analyses. Relative differences were deemed to pass if they were within the acceptance limits of +/- 40% for replicate analyses or less than 5 times the detection limit.

Field duplicate frequency

Sample id.	Number of samples	Duplicate	Frequency (%)	Date collected	Substrate	Laboratory report
BH1-100, BH2-100, BH3-100, BH4-100, BH5-100, BH6-100, BH7-100, BH8-100, BH9-100, BH10-100, BH11-100, BH12-100, BH12-500, BH13-100, BH14-100, BH15-100, BH16-100, BH16-500, BH17-100, BH17-500, BH18-100, BH18-500, BH19-100, BH19-500, BH20-100, BH20-500, BH21-100, BH21-500, BH22-100, BH22-500, BH23-100, BH23-400, BH24-100, BH24-500, BH25-100, BH25-500, BH26-2100, BH27-2700, BH28-2000, BH29-2000, BH30-2100, BH30-20	43	3	7	25/1/2017	Soil	SE161508

Table A5.1. Relative differences for intra laboratory duplicates

	BH1-100, DA		BH12-500, DB		BH30-2100, DC	
	Relative difference (%)	Pass/Fail	Relative difference (%)	Pass/Fail	Relative difference (%)	Pass/Fail
Arsenic	NA	-	NA	-	-	-
Cadmium	NA	-	NA	-	-	-
Chromium	22	Pass	6	Pass	-	-
Copper	17	Pass	12	Pass	-	-
Lead	22	Pass	18	Pass	9	Pass
Nickel	10	Pass	27	Pass	-	-
Zinc	25	Pass	25	Pass	-	-
TRH (C6-C40)	NA	-	NA	-	NA	-
Benzene	NA	-	NA	-	NA	-
Toluene	NA	-	NA	-	NA	-
Ethylbenzene	NA	-	NA	-	NA	-
Xylenes	NA	-	NA	-	NA	-
Naphthalene	NA	-	NA	-	NA	-
Total PAH	NA	-	NA	-	-	-
PCB	NA	-	NA	-	-	-
OC/OP	NA	-	NA	-	-	-

NA – relative difference unable to be calculated as results are less than laboratory detection limit

No trip blanks or spikes were submitted for analysis. This is not considered to create significant uncertainty in the analysis results because of the following rationale:

- The fieldwork was completed within a short time period and consistent methods were used for soil sampling.
- Soil samples were placed in insulated cooled containers after sampling to ensure preservation during transport and storage.
- The samples were placed in single use jars using clean sampling tools and disposable gloves from material not in contact with other samples. This reduces the likelihood of cross contamination.
- Samples in the analysis batch contain analytes below the level of detection. It is considered unlikely that contamination has occurred as a result of transport and handling.

4. Laboratory quality assurance and quality control

Sample holding times are recommended in NEPC (1999). The time between collection and extraction for all samples was less than the criteria listed below:

Analyte	Maximum holding time
Metals, cyanide	6 months
OCP, TPH, PCB, BTEX, PAH	14 days

The laboratory interpretative reports are presented with individual laboratory report. Assessment is made of holding time, frequency of control samples and quality control samples. No significant outliers exist for the sampling batches. The laboratory report also contains a detailed description of preparation methods and analytical methods.

The results, quality report, interpretative report and chain of custody are presented in the attached appendices. The quality report contains the laboratory duplicates, spikes, laboratory control samples, blanks and where appropriate matrix spike recovery (surrogate).

5. Data quality indicators (DQI) analysis

5.1 Completeness

A measure of the amount of usable data for a data collection activity (total to be greater than 95%).

The data set was found to be complete based on the scope of work. No critical areas of contamination were omitted from the data set.

5.1.1 Field

Consideration	Accepted	Comment
Locations to be sampled	Yes	In accordance with sampling methodology, described in the report. Sampling locations described in figures.
Depth to be sampled	Yes	In accordance with sampling methodology
SOP appropriate and compiled	Yes	In accordance with sampling methodology Sampled with stainless steel spade into lab prepared containers, decontamination between samples, latex gloves worn by sampler
Experienced sampler	Yes	Same soil sampler, environmental scientist
Documentation correct	Yes	Sampling log completed Chain of custody completed

5.1.2 Laboratory

Consideration	Accepted	Comment
Samples analysed	Yes	All critical samples analysed in accordance with chain of custody and analysis plan.
Analytes	Yes	All analytes in accordance with chain of custody and analysis plan
Methods	Yes	Analysed in NATA accredited laboratory with recognised methods and suitable PQL
Sample documentation	Yes	Completed including chain of custody and sample results and quality results report for each batch
Sample holding times	Yes	Metals less than 6 months. OCP, TRH, PCB, BTEX less than 14 days

5.2 Comparability

The confidence that data may be considered to be equivalent for each sampling and analytical event.

The data sets were found to be acceptable.

5.2.1 Field

Consideration	Accepted	Comment
SOP	Yes	Same sampling procedures used and sampled on one date
Experienced sampler	Yes	Experienced scientist
Climatic conditions	Yes	Described in field sampling log
Samples collected	Yes	Suitable size, storage and transport

5.2.2 Laboratory

Consideration	Accepted	Comment
Analytical methods	Yes	Same methods all samples, in accordance with NEPC(1999) or USEPA
PQL	Yes	Suitable for analytes
Same laboratory	Yes	ALS Environmental is NATA accredited for the test
Same units	Yes	-

5.3 Representativeness

The confidence (expressed qualitatively) that data are representative of each media present on the site.

The data sets were found to be acceptable.

5.3.1 Field

Consideration	Accepted	Comment
Appropriate media sampled	Yes	Sampled according to sampling and quality plan
All media identified	Yes	Soil Sampling media identified in the sampling and quality plan

5.3.2 Laboratory

Consideration	Accepted	Comment
Samples analysed	Yes	Undertaken in NATA accredited laboratory. No blanks analysed. Samples in the analysis batch contain analytes below the level of detection. It is considered unlikely that contamination has occurred as a result of transport and handling.

5.4 Precision

A quantitative measure of the variability (or reproduced of the data).
The data sets were found to be acceptable.

5.4.1 Field

Consideration	Accepted	Comment
SOP	Yes	Complied
Field duplicates	Yes	Collected

5.4.2 Laboratory

Consideration	Accepted	Comment
Laboratory and inter lab duplicates	Yes	Frequency of 5%, results to be within +/-40% or discussion required.
Field duplicates	Yes	Results to be within +/-40% or discussion required
Laboratory prepared volatile trip spikes	NA	Not undertaken due to the preliminary nature of the investigation

5.5 Accuracy

A quantitative measure of the closeness of the reported data to the true value.

The data sets were found to be acceptable.

5.5.1 Field

Consideration	Accepted	Comment
SOP	Yes	Complied
Field blanks	NA	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Rinsate blanks	NA	Frequency of 5%, <5 times the PQL, PQL may be adjusted

5.5.2 Laboratory

Consideration	Accepted	Comment
Method blanks	Yes	Frequency of 5%, <5 times the PQL, PQL may be adjusted
Matrix spikes	Yes	Frequency of 5%, results to be within +/-40% or discussion required.
Matrix duplicates	Yes	Frequency of 5%, results to be within +/-40% or discussion required
Surrogate spikes	Yes	Frequency of 5%, results to be within +/-40% or discussion required
Laboratory control samples	Yes	Frequency of 5%, results to be within +/-40% or discussion required
Laboratory prepared spikes	Yes	Frequency of 5%, results to be within +/-40% or discussion required

No trip blanks, field spikes or sample rinsates were submitted for analysis. This is not considered to create significant uncertainty in the analysis results because of the following rationale:

- The fieldwork methods used for soil sampling were consistent throughout the project with all in situ samples collected from material which had not been subject to exposure.
- The fieldwork was completed within a short time period and consistent methods were used for soil sampling.
- Soil samples were placed in insulated cooled containers as quickly as possible, with the containers filled to minimize headspace. The sample containers were sealed immediately after the sample was collected and chilled in an esky containing ice.
- The samples were stored in a refrigerator and transported with ice bricks to ensure preservation during transport and storage.
- The samples were placed in single use jars using clean sampling tools and disposable gloves from material not in contact with other samples. This reduces the likelihood of cross contamination.
- Samples in the analysis batches contained analytes below the level of detection. It is considered unlikely that contamination has occurred as a result of transport and handling.

6. Conclusion

All media appropriate to the objectives of this investigation have been adequately analysed and no area of significant uncertainty exist. It is concluded the data is usable for the purposes of the investigation.

Appendix 2. Borelogs

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH1	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
0.5		CLAYEY SAND, pale yellow (XWR)	**SP**		
1.0		End of hole, refusal on rock			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH2	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Depth (m)	Samples	Graphic Log
		SILTY SAND, topsoil, pale brown	SM	X	
		SILTY CLAY, brownish yellow	CI		
0.5		CLAYEY SAND, pale yellow (XWR)	SP		
		End of hole, refusal on rock			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH3	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		CLAYEY SILT, topsoil, brown	OL	X	
0.5		SILTY CLAY, brownish yellow	CI		
1.0		End of hole			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH4	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
0.5		SILTY CLAY, brownish yellow	CI		
		SANDY CLAY, strong brown	CM		
1.0		End of hole			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH5	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
0.5		FINE SANDY CLAY, very pale brown (XWR)	CL		
		SANDY CLAY, brownish yellow	CM		
1.0		End of hole			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH6	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
0.5		SANDY CLAY, very pale brown (XWR), increasing gravels	CL		
		SANDY CLAY, strong brown with red mottles	CM		
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW		Borehole No: BH7	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
0.5		SILTY CLAY, pale brown (XWR), increasing gravel	CL		
		SANDY CLAY, strong brown with red mottles	CM		
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH7	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, greyish brown	SM	X	
		SILTY CLAY, pale brown (XWR), increasing gravel	CL		
0.5		FINE SANDY CLAY, pale brown with gravel	CM		
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH9	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, greyish brown	SM	X	
		SANDY CLAY, very pale brown (XWR), increasing gravel	CL		
0.5		End of hole, refusal on rock			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH10	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
0.5		SANDY CLAY, very pale brown (XWR), increasing gravel	CL		
1.0		End of hole, refusal on rock			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH11	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
0.5		SANDY CLAY, brown (XWR), increasing gravel	CL		
1.0		SANDY CLAY, strong brown	CM		
1.5		End of hole			
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH12	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, brown	SM	X	
		SANDY CLAY, very pale brown (XWR), increasing gravel	CL		
0.5				X	
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH13	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
0.5		SANDY CLAY, very pale brown (XWR), increasing gravel	CL		
		SILTY CLAY, strong brown	CM		
1.0		End of hole			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH14	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, brown	SM	X	
		FINE SANDY CLAY, brownish yellow (XWR), increasing gravel	CL		
0.5					
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH15	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, brown	SM	X	
		FINE SANDY CLAY, brownish yellow (XWR), increasing gravel	CL		
0.5					
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH16	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, pale brown	SM	X	
		SANDY CLAY, very pale brown (XWR), increasing gravel	CL		
0.5				X	
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW		Borehole No: BH17	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, brown	SM	X	
		FINE SANDY CLAY, pale brownish yellow (XWR), increasing gravel	CL		
0.5				X	
		SANDY CLAY, strong brown with red mottles	CM		
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH18	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, brown	SM	X	
		FINE SANDY CLAY, yellowish brown (XWR), increasing gravel	CL		
0.5				X	
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH19	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, brown	SM	X	
0.5		FINE SANDY CLAY, yellowish brown (XWR), increasing gravel	CL	X	
1.0		End of hole			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH20	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SILTY SAND, topsoil, brown	SM	X	
		FINE SANDY CLAY, strong brown (XWR), increasing gravel	CL		
0.5				X	
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH21	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SANDY SILT, topsoil, brown (gravel/coal 50mm surface)	OL	X	
		FINE SANDY CLAY, strong brown (XWR), increasing gravel	CL		
0.5				X	
		End of hole, refusal on rock			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH22	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SANDY SILT, topsoil, brown (gravel/coal 50mm surface)	OL	X	
0.5		SILTY CLAY, brown	CM	X	
		FINE SANDY CLAY, strong brown (XWR), increasing gravel	CL		
1.0		End of hole			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW	Borehole No: BH23	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SANDY SILT, topsoil, brown (gravel/coal 50mm surface)	OL	X	
0.5		SILTY CLAY, yellowish brown	CM	X	
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW		Borehole No: BH24	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SANDY SILT, topsoil, brown (gravel/coal 50mm surface)	OL	X	
0.5		SILTY CLAY, very pale yellow	CM	X	
1.0		End of hole			
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH25	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW		Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SANDY SILT, topsoil, brown	OL	X	
		SILTY CLAY, pale brown	CM		
0.5		FINE SANDY CLAY, strong brown (XWR) with red mottles	CM	X	
		End of hole			
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW		Borehole No: BH26 Location: Eastern wall of historic UST	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SANDY SILT, topsoil, brown	OL		
0.5		SILTY CLAY, pale brown	CL		
1.0					
1.5		FINE SANDY CLAY, Strong brown/orange with grey mottles	CM		
2.0					
		CLAYEY SAND (XWR), orange	SC	X	
		End of hole			
2.5					
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH27	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW	Location: Southern wall of historic UST	Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
		SANDY SILT, topsoil, brown	OL		
0.5		SILTY CLAY, pale brown increasing gravel	CL		
1.0					
1.5					
2.0					
		FINE SANDY CLAY, orange with grey mottles	CM		
2.5				X	
		End of hole, refusal on rock			
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job:	7863	Borehole No: BH28	Sampling method: EVH
Client:	Anthony Daintith Town Planning		Logged by: AP
Site:	88 Pipers Flat Road Wallerawang NSW	Location: Within historic UST tank pit	Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
0.5		FILL, SANDY SILT, topsoil, brown	CL		
1.0					
1.5					
2.0				X	
		SILTY CLAY, strong brown	CM	X	
2.5		End of hole, refusal on rock			
3.0					
3.5					
4.0					

Slope/nature of surface:
Ground water: No free water identified in soil profile
Soil salinity: Nil

Remarks (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW		Borehole No: BH29 Location: Western wall of historic UST	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
0.5		SILTY CLAY, pale brown with trace gravel	CL		
1.0			CM		
1.5		FINE SANDY CLAY, orange with grey mottles Brownish red			
2.0				X	
2.5		End of hole, refusal on rock			
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Bore Log Sheet

Job: 7863 Client: Anthony Daintith Town Planning Site: 88 Pipers Flat Road Wallerawang NSW		Borehole No: BH30 Location: Northern wall of historic UST	Sampling method: EVH Logged by: AP Date: 25/01/2017

Depth (m)	Graphic Log	SOIL DESCRIPTION Soil type/rock, grain size, structure, colour, minor components	Unified symbol	Samples	COMMENTS
0.5		SILTY CLAY, brown	CL		
1.0					
1.5					
2.0		FINE SANDY CLAY, orange with grey mottles	CM	X	
2.5		End of hole, refusal on rock			
3.0					
3.5					
4.0					

Slope/nature of surface: *Ground water:* No free water identified in soil profile *Soil salinity*: Nil	*Remarks* (fill, odour, root holes): Nil

Envirowest Consulting Pty Ltd, 9 Cameron Place, Orange NSW

Appendix 3. Soil analysis results – SGS report number SE161508 and chain of custody form

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Ashleigh Pickering
Client	ENVIROWEST CONSULTING PTY LIMITED
Address	PO BOX 8158 ORANGE NSW 2800
Telephone	61 2 63614954
Facsimile	(Not specified)
Email	ashleigh@envirowest.net.au
Project	**7863**
Order Number	(Not specified)
Samples	46

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	**SE161508 R0**
Date Received	31/1/2017
Date Reported	7/2/2017

COMMENTS

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

SIGNATORIES

Bennet Lo
Senior Organic Chemist/Metals Chemist

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

VOC's in Soil [AN433] Tested: 1/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
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	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
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	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
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	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
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: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
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	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
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	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
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	BH25-500 SOIL - 25/1/2017 SE161508.036	BH26-2100 SOIL - 25/1/2017 SE161508.037	BH27-2700 SOIL - 25/1/2017 SE161508.038	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040
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: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH29-2000 SOIL - 25/1/2017 SE161508.041	BH30-2100 SOIL - 25/1/2017 SE161508.042	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044	DB SOIL - 25/1/2017 SE161508.045
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	DC SOIL - 25/1/2017 SE161508.046
Benzene	mg/kg	0.1	<0.1
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
Total Xylenes*	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 1/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
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	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
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	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
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	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
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	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
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	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
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

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
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	BH25-500 SOIL - 25/1/2017 SE161508.036	BH26-2100 SOIL - 25/1/2017 SE161508.037	BH27-2700 SOIL - 25/1/2017 SE161508.038	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040
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	BH29-2000 SOIL - 25/1/2017 SE161508.041	BH30-2100 SOIL - 25/1/2017 SE161508.042	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044	DB SOIL - 25/1/2017 SE161508.045
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	DC SOIL - 25/1/2017 SE161508.046
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 1/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
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 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	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	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	**180**	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	**250**	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	**400**	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	**430**	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	**430**	<210	<210

PARAMETER	UOM	LOR	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
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 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	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	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
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 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	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	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
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 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	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	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
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 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	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	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	**72**	<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 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	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	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH25-500 SOIL - 25/1/2017 SE161508.036	BH26-2100 SOIL - 25/1/2017 SE161508.037	BH27-2700 SOIL - 25/1/2017 SE161508.038	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040
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 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	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	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH29-2000 SOIL - 25/1/2017 SE161508.041	BH30-2100 SOIL - 25/1/2017 SE161508.042	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044	DB SOIL - 25/1/2017 SE161508.045
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	**61**	<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 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	**94**	<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	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	DC SOIL - 25/1/2017 SE161508.046
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-C16 (F2)	mg/kg	25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH C10-C40 Total	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 1/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
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	0.5	0.4	0.3	0.3	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	1.1	0.7	0.3	0.4	0.1
Pyrene	mg/kg	0.1	0.9	0.7	0.4	0.4	0.1
Benzo(a)anthracene	mg/kg	0.1	0.3	0.3	0.2	0.2	<0.1
Chrysene	mg/kg	0.1	0.3	0.3	0.1	0.2	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.4	0.3	0.1	0.2	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.2	0.2	0.1	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.4	0.3	0.2	0.2	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	0.2	0.2	0.2	<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	0.4	0.2	0.2	0.2	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	0.5	0.4	0.2	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.6	0.5	0.3	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.6	0.4	0.3	0.3	<0.2
Total PAH (18)	mg/kg	0.8	4.7	3.6	2.1	2.2	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	4.7	3.6	2.1	2.2	<0.8

PARAMETER	UOM	LOR	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
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	0.2	0.3	0.4	0.5
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.2	0.3	0.4	0.4	0.8
Pyrene	mg/kg	0.1	0.2	0.3	0.4	0.5	0.7
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	0.1	0.2	0.2
Chrysene	mg/kg	0.1	<0.1	<0.1	0.1	0.2	0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	0.1	0.2	0.3
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	0.2	0.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	0.1	0.2	0.2
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	0.2	0.2
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	0.3	0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	0.4	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.3	0.4
Total PAH (18)	mg/kg	0.8	<0.8	0.8	1.8	2.5	3.5
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	0.8	1.7	2.5	3.5

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
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	**0.2**	<0.1	**0.6**	**0.1**
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	**0.4**	<0.1	**0.7**	**0.1**
Pyrene	mg/kg	0.1	<0.1	**0.4**	<0.1	**0.8**	**0.1**
Benzo(a)anthracene	mg/kg	0.1	<0.1	**0.1**	<0.1	**0.3**	<0.1
Chrysene	mg/kg	0.1	<0.1	**0.1**	<0.1	**0.2**	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	**0.2**	<0.1	**0.4**	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.2**	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	**0.1**	<0.1	**0.3**	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	**0.1**	<0.1	**0.3**	<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	**0.2**	<0.1	**0.3**	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	**0.4**	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	**0.5**	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	**0.2**	<0.2	**0.5**	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	**1.8**	<0.8	**4.0**	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	**1.8**	<0.8	**4.0**	<0.8

PARAMETER	UOM	LOR	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
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	<0.1	**0.1**	<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	<0.1	**0.2**	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.1**	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<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	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	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
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	**0.1**	<0.1	<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**	<0.1	**0.1**
Pyrene	mg/kg	0.1	<0.1	<0.1	**0.2**	<0.1	**0.1**
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<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	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	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
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**	<0.1	**0.4**	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	**0.2**	<0.1	**0.6**	<0.1
Pyrene	mg/kg	0.1	<0.1	**0.2**	<0.1	**0.7**	<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	**0.2**	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.2**	<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	**0.2**	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.2**	<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	**0.2**	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	**0.3**	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	**0.4**	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	**0.3**	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	**2.9**	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	**2.9**	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
Naphthalene	mg/kg	0.1	<0.1	<0.1	**0.6**	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	**0.2**	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	**0.2**	<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	**0.5**	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	**0.2**	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	**4.7**	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	**0.8**	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	**7.4**	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	**5.9**	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	**1.6**	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	**1.5**	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	**2.2**	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	**1.3**	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	**2.5**	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	**1.8**	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	**0.2**	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	**2.2**	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	**3.4**	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	**3.4**	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	**3.4**	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	**34**	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	**33**	<0.8	<0.8

PARAMETER	UOM	LOR	BH25-500 SOIL - 25/1/2017 SE161508.036	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044
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	<0.1
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	**0.2**	<0.1	<0.1	**0.4**
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	**0.2**	<0.1	<0.1	**0.9**
Pyrene	mg/kg	0.1	<0.1	**0.2**	<0.1	<0.1	**0.7**
Benzo(a)anthracene	mg/kg	0.1	<0.1	**0.1**	<0.1	<0.1	**0.2**
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.3**
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	<0.1	<0.1	**0.3**
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**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	<0.1	<0.1	**0.3**
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	**0.4**
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	**0.5**
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	**0.4**
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	**3.8**
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	**3.8**

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	DB SOIL - 25/1/2017 SE161508.045	DC SOIL - 25/1/2017 SE161508.046
Naphthalene	mg/kg	0.1	<0.1	<0.1
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	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 1/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
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

OC Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
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

OC Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
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

OC Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
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

OC Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
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

OC Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
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

OC Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
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

OC Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH25-500 SOIL - 25/1/2017 SE161508.036	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044
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

OC Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	DB SOIL - 25/1/2017 SE161508.045	DC SOIL - 25/1/2017 SE161508.046
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	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
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
Endrin	mg/kg	0.2	<0.2	<0.2
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
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
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

OP Pesticides in Soil [AN420] Tested: 1/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
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

PARAMETER	UOM	LOR	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
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

PARAMETER	UOM	LOR	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
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

OP Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
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

PARAMETER	UOM	LOR	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
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

PARAMETER	UOM	LOR	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
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

OP Pesticides in Soil [AN420] Tested: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
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

PARAMETER	UOM	LOR	BH25-500 SOIL - 25/1/2017 SE161508.036	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044
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

PARAMETER	UOM	LOR	DB SOIL - 25/1/2017 SE161508.045	DC SOIL - 25/1/2017 SE161508.046
Dichlorvos	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
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	<0.2	<0.2
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	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2

PCBs in Soil [AN420] Tested: 1/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
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	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
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	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
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: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
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	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
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	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
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: 1/2/2017 (continued)

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
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	BH25-500 SOIL - 25/1/2017 SE161508.036	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044
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

PARAMETER	UOM	LOR	DB SOIL - 25/1/2017 SE161508.045	DC SOIL - 25/1/2017 SE161508.046
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	<0.2	<0.2
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

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 6/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
Arsenic, As	mg/kg	3	<3	<3	<3	<3	<3
Cadmium, Cd	mg/kg	0.3	<0.3	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	2.9	6.1	7.3	5.4	6.2
Copper, Cu	mg/kg	0.5	4.8	11	7.0	9.4	7.0
Lead, Pb	mg/kg	1	8	110	30	60	78
Nickel, Ni	mg/kg	0.5	0.9	2.4	1.5	1.6	2.0
Zinc, Zn	mg/kg	0.5	14	190	64	110	110

PARAMETER	UOM	LOR	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
Arsenic, As	mg/kg	3	<3	<3	<3	<3	<3
Cadmium, Cd	mg/kg	0.3	0.4	0.5	0.4	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	6.7	7.7	7.7	4.8	3.9
Copper, Cu	mg/kg	0.5	10	14	17	9.9	3.9
Lead, Pb	mg/kg	1	45	40	55	28	13
Nickel, Ni	mg/kg	0.5	2.4	3.0	4.5	1.6	0.9
Zinc, Zn	mg/kg	0.5	91	430	150	57	220

PARAMETER	UOM	LOR	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
Arsenic, As	mg/kg	3	<3	<3	<3	<3	<3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	5.7	4.0	5.6	5.1	3.8
Copper, Cu	mg/kg	0.5	2.6	8.4	3.5	5.9	11
Lead, Pb	mg/kg	1	9	21	6	7	17
Nickel, Ni	mg/kg	0.5	1.1	1.5	1.9	1.3	1.7
Zinc, Zn	mg/kg	0.5	130	160	18	9.2	80

PARAMETER	UOM	LOR	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
Arsenic, As	mg/kg	3	<3	<3	<3	<3	<3
Cadmium, Cd	mg/kg	0.3	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	4.8	4.9	11	3.8	4.7
Copper, Cu	mg/kg	0.5	6.8	4.0	3.2	8.0	2.4
Lead, Pb	mg/kg	1	26	18	9	28	5
Nickel, Ni	mg/kg	0.5	2.0	1.3	2.5	1.9	1.2
Zinc, Zn	mg/kg	0.5	76	24	16	68	5.2

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 6/2/2017 (continued)

PARAMETER	UOM	LOR	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
Arsenic, As	mg/kg	3	<3	<3	<3	<3	<3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	4.1	8.7	4.2	8.6	390
Copper, Cu	mg/kg	0.5	7.8	2.5	9.3	3.6	76
Lead, Pb	mg/kg	1	49	7	59	15	36
Nickel, Ni	mg/kg	0.5	2.0	1.8	1.5	1.5	510
Zinc, Zn	mg/kg	0.5	120	6.5	210	51	72

PARAMETER	UOM	LOR	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
Arsenic, As	mg/kg	3	<3	<3	<3	<3	<3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	5.4	2.5	4.4	3.9	6.0
Copper, Cu	mg/kg	0.5	4.8	6.9	2.6	8.1	1.8
Lead, Pb	mg/kg	1	11	6	5	9	4
Nickel, Ni	mg/kg	0.5	1.9	0.6	1.6	0.8	1.0
Zinc, Zn	mg/kg	0.5	20	4.4	4.0	5.3	2.3

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
Arsenic, As	mg/kg	3	<3	4	<3	<3	<3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	1.1	<0.3	0.3
Chromium, Cr	mg/kg	0.3	3.6	17	6.0	13	3.6
Copper, Cu	mg/kg	0.5	7.6	3.4	26	2.9	8.7
Lead, Pb	mg/kg	1	7	14	150	6	26
Nickel, Ni	mg/kg	0.5	0.8	1.9	4.2	1.4	2.3
Zinc, Zn	mg/kg	0.5	4.7	4.8	260	4.3	63

PARAMETER	UOM	LOR	BH25-500 SOIL - 25/1/2017 SE161508.036	BH26-2100 SOIL - 25/1/2017 SE161508.037	BH27-2700 SOIL - 25/1/2017 SE161508.038	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040
Arsenic, As	mg/kg	3	<3	-	-	<3	5
Cadmium, Cd	mg/kg	0.3	<0.3	-	-	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	5.1	-	-	6.1	9.3
Copper, Cu	mg/kg	0.5	2.1	-	-	5.7	6.1
Lead, Pb	mg/kg	1	5	10	12	10	11
Nickel, Ni	mg/kg	0.5	1.2	-	-	1.3	5.0
Zinc, Zn	mg/kg	0.5	3.7	-	-	42	39

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 6/2/2017 (continued)

PARAMETER	UOM	LOR	BH29-2000 SOIL - 25/1/2017 SE161508.041	BH30-2100 SOIL - 25/1/2017 SE161508.042	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044	DB SOIL - 25/1/2017 SE161508.045
Arsenic, As	mg/kg	3	-	-	<3	<3	<3
Cadmium, Cd	mg/kg	0.3	-	-	**1.0**	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	-	-	**30**	**3.6**	**5.3**
Copper, Cu	mg/kg	0.5	-	-	**20**	**5.7**	**3.1**
Lead, Pb	mg/kg	1	**11**	**12**	**110**	**10**	**5**
Nickel, Ni	mg/kg	0.5	-	-	**20**	**1.0**	**1.7**
Zinc, Zn	mg/kg	0.5	-	-	**1400**	**18**	**14**

PARAMETER	UOM	LOR	DC SOIL - 25/1/2017 SE161508.046
Arsenic, As	mg/kg	3	**6**
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.3	**14**
Copper, Cu	mg/kg	0.5	**5.5**
Lead, Pb	mg/kg	1	**11**
Nickel, Ni	mg/kg	0.5	**9.0**
Zinc, Zn	mg/kg	0.5	**31**

Mercury in Soil [AN312] Tested: 6/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Mercury in Soil [AN312] Tested: 6/2/2017 (continued)

PARAMETER	UOM	LOR	BH25-500 SOIL - 25/1/2017 SE161508.036	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	DB SOIL - 25/1/2017 SE161508.045	DC SOIL - 25/1/2017 SE161508.046
Mercury	mg/kg	0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 3/2/2017

PARAMETER	UOM	LOR	BH1-100 SOIL - 25/1/2017 SE161508.001	BH2-100 SOIL - 25/1/2017 SE161508.002	BH3-100 SOIL - 25/1/2017 SE161508.003	BH4-100 SOIL - 25/1/2017 SE161508.004	BH5-100 SOIL - 25/1/2017 SE161508.005
% Moisture	%w/w	0.5	3.0	7.4	5.3	15	11

PARAMETER	UOM	LOR	BH6-100 SOIL - 25/1/2017 SE161508.006	BH7-100 SOIL - 25/1/2017 SE161508.007	BH8-100 SOIL - 25/1/2017 SE161508.008	BH9-100 SOIL - 25/1/2017 SE161508.009	BH10-100 SOIL - 25/1/2017 SE161508.010
% Moisture	%w/w	0.5	4.7	8.5	3.2	3.6	4.5

PARAMETER	UOM	LOR	BH11-100 SOIL - 25/1/2017 SE161508.011	BH12-100 SOIL - 25/1/2017 SE161508.012	BH12-500 SOIL - 25/1/2017 SE161508.013	BH13-100 SOIL - 25/1/2017 SE161508.014	BH14-100 SOIL - 25/1/2017 SE161508.015
% Moisture	%w/w	0.5	3.9	5.5	4.9	8.5	5.9

PARAMETER	UOM	LOR	BH15-100 SOIL - 25/1/2017 SE161508.016	BH16-100 SOIL - 25/1/2017 SE161508.017	BH16-500 SOIL - 25/1/2017 SE161508.018	BH17-100 SOIL - 25/1/2017 SE161508.019	BH17-500 SOIL - 25/1/2017 SE161508.020
% Moisture	%w/w	0.5	4.3	3.2	2.5	5.8	6.6

PARAMETER	UOM	LOR	BH18-100 SOIL - 25/1/2017 SE161508.021	BH18-500 SOIL - 25/1/2017 SE161508.022	BH19-100 SOIL - 25/1/2017 SE161508.023	BH19-500 SOIL - 25/1/2017 SE161508.024	BH20-100 SOIL - 25/1/2017 SE161508.025
% Moisture	%w/w	0.5	6.0	6.2	7.3	4.8	6.0

PARAMETER	UOM	LOR	BH20-500 SOIL - 25/1/2017 SE161508.026	BH21-100 SOIL - 25/1/2017 SE161508.027	BH21-500 SOIL - 25/1/2017 SE161508.028	BH22-100 SOIL - 25/1/2017 SE161508.029	BH22-500 SOIL - 25/1/2017 SE161508.030
% Moisture	%w/w	0.5	6.5	6.9	8.2	5.9	6.2

PARAMETER	UOM	LOR	BH23-100 SOIL - 25/1/2017 SE161508.031	BH23-400 SOIL - 25/1/2017 SE161508.032	BH24-100 SOIL - 25/1/2017 SE161508.033	BH24-500 SOIL - 25/1/2017 SE161508.034	BH25-100 SOIL - 25/1/2017 SE161508.035
% Moisture	%w/w	0.5	4.0	4.5	4.2	5.7	5.2

Moisture Content [AN002] Tested: 3/2/2017 (continued)

PARAMETER	UOM	LOR	BH25-500 SOIL - 25/1/2017 SE161508.036	BH26-2100 SOIL - 25/1/2017 SE161508.037	BH27-2700 SOIL - 25/1/2017 SE161508.038	BH28-2000 SOIL - 25/1/2017 SE161508.039	BH28-2100 SOIL - 25/1/2017 SE161508.040
% Moisture	%w/w	0.5	4.7	12	12	8.1	7.5

PARAMETER	UOM	LOR	BH29-2000 SOIL - 25/1/2017 SE161508.041	BH30-2100 SOIL - 25/1/2017 SE161508.042	BH31-20 SOIL - 25/1/2017 SE161508.043	DA SOIL - 25/1/2017 SE161508.044	DB SOIL - 25/1/2017 SE161508.045
% Moisture	%w/w	0.5	14	9.6	3.1	2.4	5.5

PARAMETER	UOM	LOR	DC SOIL - 25/1/2017 SE161508.046
% Moisture	%w/w	0.5	8.5

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.
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.
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
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 Petroleum Hydrocarbons (TPH) 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.

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.		

Samples 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 criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

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STATEMENT OF QA/QC PERFORMANCE

SE161508 R0

CLIENT DETAILS

Contact	Ashleigh Pickering
Client	ENVIROWEST CONSULTING PTY LIMITED
Address	PO BOX 8158 ORANGE NSW 2800
Telephone	61 2 63614954
Facsimile	(Not specified)
Email	ashleigh@envirowest.net.au
Project	**7863**
Order Number	(Not specified)
Samples	46

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	**SE161508 R0**
Date Received	31 Jan 2017
Date Reported	07 Feb 2017

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 and was supplied by the Client.
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:

Duplicate	Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES	1 item
	VOC's in Soil	3 items
	Volatile Petroleum Hydrocarbons in Soil	2 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	46 Soil
Date documentation received	31/1/2017	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	20.3°C	Sufficient sample for analysis	Yes
Turnaround time requested	Standard		

HOLDING TIME SUMMARY

SE161508 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.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1-100	SE161508.001	LB118140	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH2-100	SE161508.002	LB118140	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH3-100	SE161508.003	LB118140	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH4-100	SE161508.004	LB118140	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH5-100	SE161508.005	LB118140	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH6-100	SE161508.006	LB118140	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH7-100	SE161508.007	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH8-100	SE161508.008	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH9-100	SE161508.009	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH10-100	SE161508.010	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH11-100	SE161508.011	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH12-100	SE161508.012	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH12-500	SE161508.013	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH13-100	SE161508.014	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH14-100	SE161508.015	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH15-100	SE161508.016	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH16-100	SE161508.017	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH16-500	SE161508.018	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH17-100	SE161508.019	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH17-500	SE161508.020	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH18-100	SE161508.021	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH18-500	SE161508.022	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH19-100	SE161508.023	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH19-500	SE161508.024	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH20-100	SE161508.025	LB118141	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH20-500	SE161508.026	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH21-100	SE161508.027	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH21-500	SE161508.028	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH22-100	SE161508.029	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH22-500	SE161508.030	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH23-100	SE161508.031	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH23-400	SE161508.032	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH24-100	SE161508.033	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH24-500	SE161508.034	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH25-100	SE161508.035	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH25-500	SE161508.036	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH28-2000	SE161508.039	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH28-2100	SE161508.040	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
BH31-20	SE161508.043	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
DA	SE161508.044	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
DB	SE161508.045	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017
DC	SE161508.046	LB118142	25 Jan 2017	31 Jan 2017	22 Feb 2017	06 Feb 2017	22 Feb 2017	07 Feb 2017

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1-100	SE161508.001	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH2-100	SE161508.002	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH3-100	SE161508.003	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH4-100	SE161508.004	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH5-100	SE161508.005	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH6-100	SE161508.006	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH7-100	SE161508.007	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH8-100	SE161508.008	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH9-100	SE161508.009	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH10-100	SE161508.010	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH11-100	SE161508.011	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH12-100	SE161508.012	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH12-500	SE161508.013	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH13-100	SE161508.014	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH14-100	SE161508.015	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017

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
BH15-100	SE161508.016	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH16-100	SE161508.017	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH16-500	SE161508.018	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH17-100	SE161508.019	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH17-500	SE161508.020	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH18-100	SE161508.021	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH18-500	SE161508.022	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH19-100	SE161508.023	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH19-500	SE161508.024	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH20-100	SE161508.025	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH20-500	SE161508.026	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH21-100	SE161508.027	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH21-500	SE161508.028	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH22-100	SE161508.029	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH22-500	SE161508.030	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH23-100	SE161508.031	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH23-400	SE161508.032	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH24-100	SE161508.033	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH24-500	SE161508.034	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH25-100	SE161508.035	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH25-500	SE161508.036	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH26-2100	SE161508.037	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH27-2700	SE161508.038	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH28-2000	SE161508.039	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH28-2100	SE161508.040	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH29-2000	SE161508.041	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH30-2100	SE161508.042	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
BH31-20	SE161508.043	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
DA	SE161508.044	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
DB	SE161508.045	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017
DC	SE161508.046	LB118043	25 Jan 2017	31 Jan 2017	08 Feb 2017	03 Feb 2017	08 Feb 2017	06 Feb 2017

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1-100	SE161508.001	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH2-100	SE161508.002	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH3-100	SE161508.003	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH4-100	SE161508.004	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH5-100	SE161508.005	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH6-100	SE161508.006	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH7-100	SE161508.007	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH8-100	SE161508.008	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH9-100	SE161508.009	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH10-100	SE161508.010	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH11-100	SE161508.011	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-100	SE161508.012	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-500	SE161508.013	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH13-100	SE161508.014	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH14-100	SE161508.015	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH15-100	SE161508.016	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-100	SE161508.017	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-500	SE161508.018	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-100	SE161508.019	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-500	SE161508.020	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-100	SE161508.021	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-500	SE161508.022	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-100	SE161508.023	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-500	SE161508.024	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-100	SE161508.025	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-500	SE161508.026	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017

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.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH21-100	SE161508.027	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-500	SE161508.028	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-100	SE161508.029	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-500	SE161508.030	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-100	SE161508.031	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-400	SE161508.032	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-100	SE161508.033	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-500	SE161508.034	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-100	SE161508.035	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-500	SE161508.036	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH26-2100	SE161508.037	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH27-2700	SE161508.038	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2000	SE161508.039	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2100	SE161508.040	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH29-2000	SE161508.041	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH30-2100	SE161508.042	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH31-20	SE161508.043	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DA	SE161508.044	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DB	SE161508.045	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DC	SE161508.046	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1-100	SE161508.001	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH2-100	SE161508.002	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH3-100	SE161508.003	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH4-100	SE161508.004	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH5-100	SE161508.005	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH6-100	SE161508.006	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH7-100	SE161508.007	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH8-100	SE161508.008	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH9-100	SE161508.009	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH10-100	SE161508.010	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH11-100	SE161508.011	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-100	SE161508.012	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-500	SE161508.013	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH13-100	SE161508.014	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH14-100	SE161508.015	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH15-100	SE161508.016	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-100	SE161508.017	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-500	SE161508.018	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-100	SE161508.019	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-500	SE161508.020	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-100	SE161508.021	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-500	SE161508.022	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-100	SE161508.023	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-500	SE161508.024	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-100	SE161508.025	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-500	SE161508.026	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-100	SE161508.027	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-500	SE161508.028	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-100	SE161508.029	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-500	SE161508.030	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-100	SE161508.031	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-400	SE161508.032	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-100	SE161508.033	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-500	SE161508.034	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-100	SE161508.035	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-500	SE161508.036	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH26-2100	SE161508.037	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017

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
BH27-2700	SE161508.038	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH28-2000	SE161508.039	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2100	SE161508.040	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH29-2000	SE161508.041	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH30-2100	SE161508.042	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH31-20	SE161508.043	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DA	SE161508.044	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DB	SE161508.045	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DC	SE161508.046	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017

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
BH1-100	SE161508.001	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH2-100	SE161508.002	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH3-100	SE161508.003	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH4-100	SE161508.004	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH5-100	SE161508.005	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH6-100	SE161508.006	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH7-100	SE161508.007	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH8-100	SE161508.008	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH9-100	SE161508.009	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH10-100	SE161508.010	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH11-100	SE161508.011	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-100	SE161508.012	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-500	SE161508.013	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH13-100	SE161508.014	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH14-100	SE161508.015	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH15-100	SE161508.016	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-100	SE161508.017	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-500	SE161508.018	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-100	SE161508.019	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-500	SE161508.020	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-100	SE161508.021	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-500	SE161508.022	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-100	SE161508.023	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-500	SE161508.024	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-100	SE161508.025	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-500	SE161508.026	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-100	SE161508.027	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-500	SE161508.028	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-100	SE161508.029	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-500	SE161508.030	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-100	SE161508.031	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-400	SE161508.032	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-100	SE161508.033	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-500	SE161508.034	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-100	SE161508.035	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-500	SE161508.036	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH26-2100	SE161508.037	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH27-2700	SE161508.038	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH28-2000	SE161508.039	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2100	SE161508.040	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH29-2000	SE161508.041	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH30-2100	SE161508.042	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH31-20	SE161508.043	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DA	SE161508.044	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DB	SE161508.045	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DC	SE161508.046	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE161508 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
BH1-100	SE161508.001	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH2-100	SE161508.002	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH3-100	SE161508.003	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH4-100	SE161508.004	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH5-100	SE161508.005	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH6-100	SE161508.006	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH7-100	SE161508.007	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH8-100	SE161508.008	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH9-100	SE161508.009	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH10-100	SE161508.010	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH11-100	SE161508.011	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-100	SE161508.012	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-500	SE161508.013	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH13-100	SE161508.014	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH14-100	SE161508.015	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH15-100	SE161508.016	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-100	SE161508.017	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-500	SE161508.018	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-100	SE161508.019	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-500	SE161508.020	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-100	SE161508.021	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-500	SE161508.022	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-100	SE161508.023	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-500	SE161508.024	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-100	SE161508.025	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-500	SE161508.026	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-100	SE161508.027	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-500	SE161508.028	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-100	SE161508.029	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-500	SE161508.030	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-100	SE161508.031	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-400	SE161508.032	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-100	SE161508.033	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-500	SE161508.034	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-100	SE161508.035	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-500	SE161508.036	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH26-2100	SE161508.037	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH27-2700	SE161508.038	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2000	SE161508.039	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2100	SE161508.040	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH29-2000	SE161508.041	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH30-2100	SE161508.042	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH31-20	SE161508.043	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DA	SE161508.044	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DB	SE161508.045	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
DC	SE161508.046	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017

Total Recoverable Metals 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
BH1-100	SE161508.001	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH2-100	SE161508.002	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH3-100	SE161508.003	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH4-100	SE161508.004	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH5-100	SE161508.005	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH6-100	SE161508.006	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH7-100	SE161508.007	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH8-100	SE161508.008	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH9-100	SE161508.009	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH10-100	SE161508.010	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH11-100	SE161508.011	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017

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.

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12-100	SE161508.012	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH12-500	SE161508.013	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH13-100	SE161508.014	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH14-100	SE161508.015	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH15-100	SE161508.016	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH16-100	SE161508.017	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH16-500	SE161508.018	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH17-100	SE161508.019	LB118154	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH17-500	SE161508.020	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH18-100	SE161508.021	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH18-500	SE161508.022	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH19-100	SE161508.023	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH19-500	SE161508.024	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH20-100	SE161508.025	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH20-500	SE161508.026	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH21-100	SE161508.027	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH21-500	SE161508.028	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH22-100	SE161508.029	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH22-500	SE161508.030	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH23-100	SE161508.031	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH23-400	SE161508.032	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH24-100	SE161508.033	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH24-500	SE161508.034	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH25-100	SE161508.035	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH25-500	SE161508.036	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH26-2100	SE161508.037	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH27-2700	SE161508.038	LB118155	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH28-2000	SE161508.039	LB118156	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH28-2100	SE161508.040	LB118156	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH29-2000	SE161508.041	LB118156	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH30-2100	SE161508.042	LB118156	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
BH31-20	SE161508.043	LB118156	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
DA	SE161508.044	LB118156	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
DB	SE161508.045	LB118156	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017
DC	SE161508.046	LB118156	25 Jan 2017	31 Jan 2017	24 Jul 2017	06 Feb 2017	24 Jul 2017	07 Feb 2017

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
BH1-100	SE161508.001	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH2-100	SE161508.002	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH3-100	SE161508.003	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH4-100	SE161508.004	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH5-100	SE161508.005	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH6-100	SE161508.006	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH7-100	SE161508.007	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH8-100	SE161508.008	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH9-100	SE161508.009	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH10-100	SE161508.010	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH11-100	SE161508.011	LB117907	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-100	SE161508.012	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-500	SE161508.013	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH13-100	SE161508.014	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH14-100	SE161508.015	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH15-100	SE161508.016	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-100	SE161508.017	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-500	SE161508.018	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-100	SE161508.019	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-500	SE161508.020	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-100	SE161508.021	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-500	SE161508.022	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017

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
BH19-100	SE161508.023	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-500	SE161508.024	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-100	SE161508.025	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-500	SE161508.026	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-100	SE161508.027	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-500	SE161508.028	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-100	SE161508.029	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-500	SE161508.030	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-100	SE161508.031	LB117908	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-400	SE161508.032	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH24-100	SE161508.033	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH24-500	SE161508.034	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH25-100	SE161508.035	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH25-500	SE161508.036	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH26-2100	SE161508.037	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH27-2700	SE161508.038	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH28-2000	SE161508.039	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH28-2100	SE161508.040	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH29-2000	SE161508.041	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH30-2100	SE161508.042	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH31-20	SE161508.043	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
DA	SE161508.044	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
DB	SE161508.045	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
DC	SE161508.046	LB117909	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1-100	SE161508.001	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH2-100	SE161508.002	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH3-100	SE161508.003	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH4-100	SE161508.004	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH5-100	SE161508.005	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH6-100	SE161508.006	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH7-100	SE161508.007	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH8-100	SE161508.008	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH9-100	SE161508.009	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH10-100	SE161508.010	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH11-100	SE161508.011	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-100	SE161508.012	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-500	SE161508.013	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH13-100	SE161508.014	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH14-100	SE161508.015	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH15-100	SE161508.016	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-100	SE161508.017	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-500	SE161508.018	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-100	SE161508.019	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-500	SE161508.020	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-100	SE161508.021	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-500	SE161508.022	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-100	SE161508.023	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-500	SE161508.024	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-100	SE161508.025	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-500	SE161508.026	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-100	SE161508.027	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-500	SE161508.028	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-100	SE161508.029	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-500	SE161508.030	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-100	SE161508.031	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-400	SE161508.032	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-100	SE161508.033	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017

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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH24-500	SE161508.034	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-100	SE161508.035	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-500	SE161508.036	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH26-2100	SE161508.037	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH27-2700	SE161508.038	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2000	SE161508.039	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2100	SE161508.040	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH29-2000	SE161508.041	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH30-2100	SE161508.042	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH31-20	SE161508.043	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
DA	SE161508.044	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
DB	SE161508.045	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
DC	SE161508.046	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1-100	SE161508.001	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH2-100	SE161508.002	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH3-100	SE161508.003	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH4-100	SE161508.004	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH5-100	SE161508.005	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH6-100	SE161508.006	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH7-100	SE161508.007	LB117898	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH8-100	SE161508.008	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH9-100	SE161508.009	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH10-100	SE161508.010	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH11-100	SE161508.011	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-100	SE161508.012	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH12-500	SE161508.013	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH13-100	SE161508.014	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH14-100	SE161508.015	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH15-100	SE161508.016	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-100	SE161508.017	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH16-500	SE161508.018	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-100	SE161508.019	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH17-500	SE161508.020	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-100	SE161508.021	LB117920	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH18-500	SE161508.022	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-100	SE161508.023	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH19-500	SE161508.024	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-100	SE161508.025	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH20-500	SE161508.026	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-100	SE161508.027	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH21-500	SE161508.028	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-100	SE161508.029	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH22-500	SE161508.030	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-100	SE161508.031	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH23-400	SE161508.032	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-100	SE161508.033	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH24-500	SE161508.034	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-100	SE161508.035	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH25-500	SE161508.036	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH26-2100	SE161508.037	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH27-2700	SE161508.038	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2000	SE161508.039	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH28-2100	SE161508.040	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH29-2000	SE161508.041	LB117921	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	06 Feb 2017
BH30-2100	SE161508.042	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
BH31-20	SE161508.043	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
DA	SE161508.044	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017

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
DB	SE161508.045	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017
DC	SE161508.046	LB117922	25 Jan 2017	31 Jan 2017	08 Feb 2017	01 Feb 2017	13 Mar 2017	07 Feb 2017

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)	BH1-100	SE161508.001	%	60 - 130%	83
	BH2-100	SE161508.002	%	60 - 130%	85
	BH3-100	SE161508.003	%	60 - 130%	87
	BH4-100	SE161508.004	%	60 - 130%	82
	BH5-100	SE161508.005	%	60 - 130%	83
	BH6-100	SE161508.006	%	60 - 130%	84
	BH7-100	SE161508.007	%	60 - 130%	85
	BH8-100	SE161508.008	%	60 - 130%	86
	BH9-100	SE161508.009	%	60 - 130%	82
	BH10-100	SE161508.010	%	60 - 130%	83
	BH11-100	SE161508.011	%	60 - 130%	84
	BH12-100	SE161508.012	%	60 - 130%	85
	BH12-500	SE161508.013	%	60 - 130%	81
	BH13-100	SE161508.014	%	60 - 130%	83
	BH14-100	SE161508.015	%	60 - 130%	88
	BH15-100	SE161508.016	%	60 - 130%	87
	BH16-100	SE161508.017	%	60 - 130%	86
	BH16-500	SE161508.018	%	60 - 130%	83
	BH17-100	SE161508.019	%	60 - 130%	85
	BH17-500	SE161508.020	%	60 - 130%	83
	BH18-100	SE161508.021	%	60 - 130%	77
	BH18-500	SE161508.022	%	60 - 130%	79
	BH19-100	SE161508.023	%	60 - 130%	80
	BH19-500	SE161508.024	%	60 - 130%	83
	BH20-100	SE161508.025	%	60 - 130%	79
	BH20-500	SE161508.026	%	60 - 130%	89
	BH21-100	SE161508.027	%	60 - 130%	95
	BH21-500	SE161508.028	%	60 - 130%	83
	BH22-100	SE161508.029	%	60 - 130%	84
	BH22-500	SE161508.030	%	60 - 130%	87
	BH23-100	SE161508.031	%	60 - 130%	83
	BH23-400	SE161508.032	%	60 - 130%	81
	BH24-100	SE161508.033	%	60 - 130%	87
	BH24-500	SE161508.034	%	60 - 130%	75
	BH25-100	SE161508.035	%	60 - 130%	85
	BH25-500	SE161508.036	%	60 - 130%	85
	BH28-2000	SE161508.039	%	60 - 130%	85
	BH28-2100	SE161508.040	%	60 - 130%	86
	BH31-20	SE161508.043	%	60 - 130%	89
	DA	SE161508.044	%	60 - 130%	89
	DB	SE161508.045	%	60 - 130%	85
	DC	SE161508.046	%	60 - 130%	87

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	72
	BH2-100	SE161508.002	%	60 - 130%	74
	BH3-100	SE161508.003	%	60 - 130%	90
	BH4-100	SE161508.004	%	60 - 130%	86
	BH5-100	SE161508.005	%	60 - 130%	72
	BH6-100	SE161508.006	%	60 - 130%	108
	BH7-100	SE161508.007	%	60 - 130%	86
	BH8-100	SE161508.008	%	60 - 130%	74
	BH9-100	SE161508.009	%	60 - 130%	110
	BH10-100	SE161508.010	%	60 - 130%	92
	BH11-100	SE161508.011	%	60 - 130%	74
	BH12-100	SE161508.012	%	60 - 130%	106
	BH12-500	SE161508.013	%	60 - 130%	72
	BH13-100	SE161508.014	%	60 - 130%	112
	BH14-100	SE161508.015	%	60 - 130%	88
	BH15-100	SE161508.016	%	60 - 130%	94

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 %
2-fluorobiphenyl (Surrogate)	BH16-100	SE161508.017	%	60 - 130%	88
	BH16-500	SE161508.018	%	60 - 130%	86
	BH17-100	SE161508.019	%	60 - 130%	74
	BH17-500	SE161508.020	%	60 - 130%	72
	BH18-100	SE161508.021	%	60 - 130%	108
	BH18-500	SE161508.022	%	60 - 130%	70
	BH19-100	SE161508.023	%	60 - 130%	86
	BH19-500	SE161508.024	%	60 - 130%	106
	BH20-100	SE161508.025	%	60 - 130%	72
	BH20-500	SE161508.026	%	60 - 130%	86
	BH21-100	SE161508.027	%	60 - 130%	74
	BH21-500	SE161508.028	%	60 - 130%	92
	BH22-100	SE161508.029	%	60 - 130%	110
	BH22-500	SE161508.030	%	60 - 130%	72
	BH23-100	SE161508.031	%	60 - 130%	78
	BH23-400	SE161508.032	%	60 - 130%	80
	BH24-100	SE161508.033	%	60 - 130%	92
	BH24-500	SE161508.034	%	60 - 130%	86
	BH25-100	SE161508.035	%	60 - 130%	104
	BH25-500	SE161508.036	%	60 - 130%	94
	BH28-2000	SE161508.039	%	60 - 130%	94
	BH28-2100	SE161508.040	%	60 - 130%	80
	BH31-20	SE161508.043	%	60 - 130%	102
	DA	SE161508.044	%	60 - 130%	78
	DB	SE161508.045	%	60 - 130%	88
	DC	SE161508.046	%	60 - 130%	90
d14-p-terphenyl (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	92
	BH2-100	SE161508.002	%	60 - 130%	104
	BH3-100	SE161508.003	%	60 - 130%	92
	BH4-100	SE161508.004	%	60 - 130%	98
	BH5-100	SE161508.005	%	60 - 130%	94
	BH6-100	SE161508.006	%	60 - 130%	116
	BH7-100	SE161508.007	%	60 - 130%	98
	BH8-100	SE161508.008	%	60 - 130%	94
	BH9-100	SE161508.009	%	60 - 130%	116
	BH10-100	SE161508.010	%	60 - 130%	100
	BH11-100	SE161508.011	%	60 - 130%	98
	BH12-100	SE161508.012	%	60 - 130%	110
	BH12-500	SE161508.013	%	60 - 130%	90
	BH13-100	SE161508.014	%	60 - 130%	116
	BH14-100	SE161508.015	%	60 - 130%	104
	BH15-100	SE161508.016	%	60 - 130%	108
	BH16-100	SE161508.017	%	60 - 130%	114
	BH16-500	SE161508.018	%	60 - 130%	112
	BH17-100	SE161508.019	%	60 - 130%	92
	BH17-500	SE161508.020	%	60 - 130%	86
	BH18-100	SE161508.021	%	60 - 130%	110
	BH18-500	SE161508.022	%	60 - 130%	84
	BH19-100	SE161508.023	%	60 - 130%	114
	BH19-500	SE161508.024	%	60 - 130%	110
	BH20-100	SE161508.025	%	60 - 130%	88
	BH20-500	SE161508.026	%	60 - 130%	102
	BH21-100	SE161508.027	%	60 - 130%	88
	BH21-500	SE161508.028	%	60 - 130%	114
	BH22-100	SE161508.029	%	60 - 130%	114
	BH22-500	SE161508.030	%	60 - 130%	76
	BH23-100	SE161508.031	%	60 - 130%	98
	BH23-400	SE161508.032	%	60 - 130%	100
	BH24-100	SE161508.033	%	60 - 130%	102
	BH24-500	SE161508.034	%	60 - 130%	110
	BH25-100	SE161508.035	%	60 - 130%	98

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)	BH25-500	SE161508.036	%	60 - 130%	106
	BH28-2000	SE161508.039	%	60 - 130%	112
	BH28-2100	SE161508.040	%	60 - 130%	106
	BH31-20	SE161508.043	%	60 - 130%	100
	DA	SE161508.044	%	60 - 130%	86
	DB	SE161508.045	%	60 - 130%	94
	DC	SE161508.046	%	60 - 130%	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1-100	SE161508.001	%	70 - 130%	72
	BH2-100	SE161508.002	%	70 - 130%	74
	BH3-100	SE161508.003	%	70 - 130%	90
	BH4-100	SE161508.004	%	70 - 130%	86
	BH5-100	SE161508.005	%	70 - 130%	72
	BH6-100	SE161508.006	%	70 - 130%	108
	BH7-100	SE161508.007	%	70 - 130%	86
	BH8-100	SE161508.008	%	70 - 130%	74
	BH9-100	SE161508.009	%	70 - 130%	110
	BH10-100	SE161508.010	%	70 - 130%	92
	BH11-100	SE161508.011	%	70 - 130%	74
	BH12-100	SE161508.012	%	70 - 130%	106
	BH12-500	SE161508.013	%	70 - 130%	72
	BH13-100	SE161508.014	%	70 - 130%	112
	BH14-100	SE161508.015	%	70 - 130%	88
	BH15-100	SE161508.016	%	70 - 130%	94
	BH16-100	SE161508.017	%	70 - 130%	88
	BH16-500	SE161508.018	%	70 - 130%	86
	BH17-100	SE161508.019	%	70 - 130%	74
	BH17-500	SE161508.020	%	70 - 130%	72
	BH18-100	SE161508.021	%	70 - 130%	108
	BH18-500	SE161508.022	%	70 - 130%	70
	BH19-100	SE161508.023	%	70 - 130%	86
	BH19-500	SE161508.024	%	70 - 130%	106
	BH20-100	SE161508.025	%	70 - 130%	72
	BH20-500	SE161508.026	%	70 - 130%	86
	BH21-100	SE161508.027	%	70 - 130%	74
	BH21-500	SE161508.028	%	70 - 130%	92
	BH22-100	SE161508.029	%	70 - 130%	110
	BH22-500	SE161508.030	%	70 - 130%	72
	BH23-100	SE161508.031	%	70 - 130%	78
	BH23-400	SE161508.032	%	70 - 130%	80
	BH24-100	SE161508.033	%	70 - 130%	92
	BH24-500	SE161508.034	%	70 - 130%	86
	BH25-100	SE161508.035	%	70 - 130%	104
	BH25-500	SE161508.036	%	70 - 130%	94
	BH28-2000	SE161508.039	%	70 - 130%	94
	BH28-2100	SE161508.040	%	70 - 130%	80
	BH31-20	SE161508.043	%	70 - 130%	102
	DA	SE161508.044	%	70 - 130%	78
	DB	SE161508.045	%	70 - 130%	88
	DC	SE161508.046	%	70 - 130%	90
d14-p-terphenyl (Surrogate)	BH1-100	SE161508.001	%	70 - 130%	92
	BH2-100	SE161508.002	%	70 - 130%	104
	BH3-100	SE161508.003	%	70 - 130%	92
	BH4-100	SE161508.004	%	70 - 130%	98
	BH5-100	SE161508.005	%	70 - 130%	94
	BH6-100	SE161508.006	%	70 - 130%	116
	BH7-100	SE161508.007	%	70 - 130%	98
	BH8-100	SE161508.008	%	70 - 130%	94
	BH9-100	SE161508.009	%	70 - 130%	116

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)	BH10-100	SE161508.010	%	70 - 130%	100
	BH11-100	SE161508.011	%	70 - 130%	98
	BH12-100	SE161508.012	%	70 - 130%	110
	BH12-500	SE161508.013	%	70 - 130%	90
	BH13-100	SE161508.014	%	70 - 130%	116
	BH14-100	SE161508.015	%	70 - 130%	104
	BH15-100	SE161508.016	%	70 - 130%	108
	BH16-100	SE161508.017	%	70 - 130%	114
	BH16-500	SE161508.018	%	70 - 130%	112
	BH17-100	SE161508.019	%	70 - 130%	92
	BH17-500	SE161508.020	%	70 - 130%	86
	BH18-100	SE161508.021	%	70 - 130%	110
	BH18-500	SE161508.022	%	70 - 130%	84
	BH19-100	SE161508.023	%	70 - 130%	114
	BH19-500	SE161508.024	%	70 - 130%	110
	BH20-100	SE161508.025	%	70 - 130%	88
	BH20-500	SE161508.026	%	70 - 130%	102
	BH21-100	SE161508.027	%	70 - 130%	88
	BH21-500	SE161508.028	%	70 - 130%	114
	BH22-100	SE161508.029	%	70 - 130%	114
	BH22-500	SE161508.030	%	70 - 130%	76
	BH23-100	SE161508.031	%	70 - 130%	98
	BH23-400	SE161508.032	%	70 - 130%	100
	BH24-100	SE161508.033	%	70 - 130%	102
	BH24-500	SE161508.034	%	70 - 130%	110
	BH25-100	SE161508.035	%	70 - 130%	98
	BH25-500	SE161508.036	%	70 - 130%	106
	BH28-2000	SE161508.039	%	70 - 130%	112
	BH28-2100	SE161508.040	%	70 - 130%	106
	BH31-20	SE161508.043	%	70 - 130%	100
	DA	SE161508.044	%	70 - 130%	86
	DB	SE161508.045	%	70 - 130%	94
	DC	SE161508.046	%	70 - 130%	96
d5-nitrobenzene (Surrogate)	BH1-100	SE161508.001	%	70 - 130%	72
	BH2-100	SE161508.002	%	70 - 130%	74
	BH3-100	SE161508.003	%	70 - 130%	90
	BH4-100	SE161508.004	%	70 - 130%	90
	BH5-100	SE161508.005	%	70 - 130%	74
	BH6-100	SE161508.006	%	70 - 130%	110
	BH7-100	SE161508.007	%	70 - 130%	90
	BH8-100	SE161508.008	%	70 - 130%	76
	BH9-100	SE161508.009	%	70 - 130%	114
	BH10-100	SE161508.010	%	70 - 130%	96
	BH11-100	SE161508.011	%	70 - 130%	76
	BH12-100	SE161508.012	%	70 - 130%	106
	BH12-500	SE161508.013	%	70 - 130%	70
	BH13-100	SE161508.014	%	70 - 130%	112
	BH14-100	SE161508.015	%	70 - 130%	88
	BH15-100	SE161508.016	%	70 - 130%	92
	BH16-100	SE161508.017	%	70 - 130%	86
	BH16-500	SE161508.018	%	70 - 130%	90
	BH17-100	SE161508.019	%	70 - 130%	74
	BH17-500	SE161508.020	%	70 - 130%	78
	BH18-100	SE161508.021	%	70 - 130%	108
	BH18-500	SE161508.022	%	70 - 130%	70
	BH19-100	SE161508.023	%	70 - 130%	88
	BH19-500	SE161508.024	%	70 - 130%	106
	BH20-100	SE161508.025	%	70 - 130%	70
	BH20-500	SE161508.026	%	70 - 130%	88
	BH21-100	SE161508.027	%	70 - 130%	76
	BH21-500	SE161508.028	%	70 - 130%	90

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 %
d5-nitrobenzene (Surrogate)	BH22-100	SE161508.029	%	70 - 130%	98
	BH22-500	SE161508.030	%	70 - 130%	80
	BH23-100	SE161508.031	%	70 - 130%	78
	BH23-400	SE161508.032	%	70 - 130%	78
	BH24-100	SE161508.033	%	70 - 130%	82
	BH24-500	SE161508.034	%	70 - 130%	86
	BH25-100	SE161508.035	%	70 - 130%	104
	BH25-500	SE161508.036	%	70 - 130%	88
	BH28-2000	SE161508.039	%	70 - 130%	90
	BH28-2100	SE161508.040	%	70 - 130%	82
	BH31-20	SE161508.043	%	70 - 130%	108
	DA	SE161508.044	%	70 - 130%	76
	DB	SE161508.045	%	70 - 130%	84
	DC	SE161508.046	%	70 - 130%	86

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	83
	BH2-100	SE161508.002	%	60 - 130%	85
	BH3-100	SE161508.003	%	60 - 130%	87
	BH4-100	SE161508.004	%	60 - 130%	82
	BH5-100	SE161508.005	%	60 - 130%	83
	BH6-100	SE161508.006	%	60 - 130%	84
	BH7-100	SE161508.007	%	60 - 130%	85
	BH8-100	SE161508.008	%	60 - 130%	86
	BH9-100	SE161508.009	%	60 - 130%	82
	BH10-100	SE161508.010	%	60 - 130%	83
	BH11-100	SE161508.011	%	60 - 130%	84
	BH12-100	SE161508.012	%	60 - 130%	85
	BH12-500	SE161508.013	%	60 - 130%	81
	BH13-100	SE161508.014	%	60 - 130%	83
	BH14-100	SE161508.015	%	60 - 130%	88
	BH15-100	SE161508.016	%	60 - 130%	87
	BH16-100	SE161508.017	%	60 - 130%	86
	BH16-500	SE161508.018	%	60 - 130%	83
	BH17-100	SE161508.019	%	60 - 130%	85
	BH17-500	SE161508.020	%	60 - 130%	83
	BH18-100	SE161508.021	%	60 - 130%	77
	BH18-500	SE161508.022	%	60 - 130%	79
	BH19-100	SE161508.023	%	60 - 130%	80
	BH19-500	SE161508.024	%	60 - 130%	83
	BH20-100	SE161508.025	%	60 - 130%	79
	BH20-500	SE161508.026	%	60 - 130%	89
	BH21-100	SE161508.027	%	60 - 130%	95
	BH21-500	SE161508.028	%	60 - 130%	83
	BH22-100	SE161508.029	%	60 - 130%	84
	BH22-500	SE161508.030	%	60 - 130%	87
	BH23-100	SE161508.031	%	60 - 130%	83
	BH23-400	SE161508.032	%	60 - 130%	81
	BH24-100	SE161508.033	%	60 - 130%	87
	BH24-500	SE161508.034	%	60 - 130%	75
	BH25-100	SE161508.035	%	60 - 130%	85
	BH25-500	SE161508.036	%	60 - 130%	85
	BH28-2000	SE161508.039	%	60 - 130%	85
	BH28-2100	SE161508.040	%	60 - 130%	86
	BH31-20	SE161508.043	%	60 - 130%	89
	DA	SE161508.044	%	60 - 130%	89
	DB	SE161508.045	%	60 - 130%	85
	DC	SE161508.046	%	60 - 130%	87

VOC's in Soil

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.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	73
	BH2-100	SE161508.002	%	60 - 130%	77
	BH3-100	SE161508.003	%	60 - 130%	72
	BH4-100	SE161508.004	%	60 - 130%	72
	BH5-100	SE161508.005	%	60 - 130%	76
	BH6-100	SE161508.006	%	60 - 130%	74
	BH7-100	SE161508.007	%	60 - 130%	71
	BH8-100	SE161508.008	%	60 - 130%	76
	BH9-100	SE161508.009	%	60 - 130%	74
	BH10-100	SE161508.010	%	60 - 130%	74
	BH11-100	SE161508.011	%	60 - 130%	75
	BH12-100	SE161508.012	%	60 - 130%	73
	BH12-500	SE161508.013	%	60 - 130%	74
	BH13-100	SE161508.014	%	60 - 130%	71
	BH14-100	SE161508.015	%	60 - 130%	70
	BH15-100	SE161508.016	%	60 - 130%	73
	BH16-100	SE161508.017	%	60 - 130%	74
	BH16-500	SE161508.018	%	60 - 130%	80
	BH17-100	SE161508.019	%	60 - 130%	76
	BH17-500	SE161508.020	%	60 - 130%	76
	BH18-100	SE161508.021	%	60 - 130%	79
	BH18-500	SE161508.022	%	60 - 130%	77
	BH19-100	SE161508.023	%	60 - 130%	75
	BH19-500	SE161508.024	%	60 - 130%	74
	BH20-100	SE161508.025	%	60 - 130%	77
	BH20-500	SE161508.026	%	60 - 130%	74
	BH21-100	SE161508.027	%	60 - 130%	75
	BH21-500	SE161508.028	%	60 - 130%	75
	BH22-100	SE161508.029	%	60 - 130%	70
	BH22-500	SE161508.030	%	60 - 130%	75
	BH23-100	SE161508.031	%	60 - 130%	71
	BH23-400	SE161508.032	%	60 - 130%	75
	BH24-100	SE161508.033	%	60 - 130%	73
	BH24-500	SE161508.034	%	60 - 130%	70
	BH25-100	SE161508.035	%	60 - 130%	71
	BH25-500	SE161508.036	%	60 - 130%	77
	BH26-2100	SE161508.037	%	60 - 130%	74
	BH27-2700	SE161508.038	%	60 - 130%	71
	BH28-2000	SE161508.039	%	60 - 130%	80
	BH28-2100	SE161508.040	%	60 - 130%	71
	BH29-2000	SE161508.041	%	60 - 130%	75
	BH30-2100	SE161508.042	%	60 - 130%	77
	BH31-20	SE161508.043	%	60 - 130%	79
	DA	SE161508.044	%	60 - 130%	83
	DB	SE161508.045	%	60 - 130%	78
	DC	SE161508.046	%	60 - 130%	81
d4-1,2-dichloroethane (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	109
	BH2-100	SE161508.002	%	60 - 130%	99
	BH3-100	SE161508.003	%	60 - 130%	101
	BH4-100	SE161508.004	%	60 - 130%	99
	BH5-100	SE161508.005	%	60 - 130%	100
	BH6-100	SE161508.006	%	60 - 130%	98
	BH7-100	SE161508.007	%	60 - 130%	97
	BH8-100	SE161508.008	%	60 - 130%	93
	BH9-100	SE161508.009	%	60 - 130%	94
	BH10-100	SE161508.010	%	60 - 130%	93
	BH11-100	SE161508.011	%	60 - 130%	95
	BH12-100	SE161508.012	%	60 - 130%	90
	BH12-500	SE161508.013	%	60 - 130%	94
	BH13-100	SE161508.014	%	60 - 130%	92
	BH14-100	SE161508.015	%	60 - 130%	90

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)	BH15-100	SE161508.016	%	60 - 130%	98
	BH16-100	SE161508.017	%	60 - 130%	92
	BH16-500	SE161508.018	%	60 - 130%	106
	BH17-100	SE161508.019	%	60 - 130%	97
	BH17-500	SE161508.020	%	60 - 130%	93
	BH18-100	SE161508.021	%	60 - 130%	100
	BH18-500	SE161508.022	%	60 - 130%	90
	BH19-100	SE161508.023	%	60 - 130%	88
	BH19-500	SE161508.024	%	60 - 130%	86
	BH20-100	SE161508.025	%	60 - 130%	89
	BH20-500	SE161508.026	%	60 - 130%	87
	BH21-100	SE161508.027	%	60 - 130%	87
	BH21-500	SE161508.028	%	60 - 130%	88
	BH22-100	SE161508.029	%	60 - 130%	92
	BH22-500	SE161508.030	%	60 - 130%	93
	BH23-100	SE161508.031	%	60 - 130%	91
	BH23-400	SE161508.032	%	60 - 130%	91
	BH24-100	SE161508.033	%	60 - 130%	95
	BH24-500	SE161508.034	%	60 - 130%	93
	BH25-100	SE161508.035	%	60 - 130%	93
	BH25-500	SE161508.036	%	60 - 130%	101
	BH26-2100	SE161508.037	%	60 - 130%	90
	BH27-2700	SE161508.038	%	60 - 130%	89
	BH28-2000	SE161508.039	%	60 - 130%	101
	BH28-2100	SE161508.040	%	60 - 130%	92
	BH29-2000	SE161508.041	%	60 - 130%	94
	BH30-2100	SE161508.042	%	60 - 130%	92
	BH31-20	SE161508.043	%	60 - 130%	93
	DA	SE161508.044	%	60 - 130%	94
	DB	SE161508.045	%	60 - 130%	95
	DC	SE161508.046	%	60 - 130%	92
d8-toluene (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	86
	BH2-100	SE161508.002	%	60 - 130%	78
	BH3-100	SE161508.003	%	60 - 130%	80
	BH4-100	SE161508.004	%	60 - 130%	77
	BH5-100	SE161508.005	%	60 - 130%	77
	BH6-100	SE161508.006	%	60 - 130%	78
	BH7-100	SE161508.007	%	60 - 130%	76
	BH8-100	SE161508.008	%	60 - 130%	82
	BH9-100	SE161508.009	%	60 - 130%	85
	BH10-100	SE161508.010	%	60 - 130%	85
	BH11-100	SE161508.011	%	60 - 130%	87
	BH12-100	SE161508.012	%	60 - 130%	79
	BH12-500	SE161508.013	%	60 - 130%	85
	BH13-100	SE161508.014	%	60 - 130%	82
	BH14-100	SE161508.015	%	60 - 130%	83
	BH15-100	SE161508.016	%	60 - 130%	86
	BH16-100	SE161508.017	%	60 - 130%	85
	BH16-500	SE161508.018	%	60 - 130%	98
	BH17-100	SE161508.019	%	60 - 130%	86
	BH17-500	SE161508.020	%	60 - 130%	84
	BH18-100	SE161508.021	%	60 - 130%	94
	BH18-500	SE161508.022	%	60 - 130%	86
	BH19-100	SE161508.023	%	60 - 130%	82
	BH19-500	SE161508.024	%	60 - 130%	80
	BH20-100	SE161508.025	%	60 - 130%	83
	BH20-500	SE161508.026	%	60 - 130%	80
	BH21-100	SE161508.027	%	60 - 130%	79
	BH21-500	SE161508.028	%	60 - 130%	79
	BH22-100	SE161508.029	%	60 - 130%	81
	BH22-500	SE161508.030	%	60 - 130%	83

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 %
d8-toluene (Surrogate)	BH23-100	SE161508.031	%	60 - 130%	81
	BH23-400	SE161508.032	%	60 - 130%	84
	BH24-100	SE161508.033	%	60 - 130%	87
	BH24-500	SE161508.034	%	60 - 130%	84
	BH25-100	SE161508.035	%	60 - 130%	85
	BH25-500	SE161508.036	%	60 - 130%	91
	BH26-2100	SE161508.037	%	60 - 130%	79
	BH27-2700	SE161508.038	%	60 - 130%	80
	BH28-2000	SE161508.039	%	60 - 130%	91
	BH28-2100	SE161508.040	%	60 - 130%	82
	BH29-2000	SE161508.041	%	60 - 130%	83
	BH30-2100	SE161508.042	%	60 - 130%	87
	BH31-20	SE161508.043	%	60 - 130%	87
	DA	SE161508.044	%	60 - 130%	88
	DB	SE161508.045	%	60 - 130%	86
	DC	SE161508.046	%	60 - 130%	84
Dibromofluoromethane (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	89
	BH2-100	SE161508.002	%	60 - 130%	79
	BH3-100	SE161508.003	%	60 - 130%	81
	BH4-100	SE161508.004	%	60 - 130%	81
	BH5-100	SE161508.005	%	60 - 130%	81
	BH6-100	SE161508.006	%	60 - 130%	79
	BH7-100	SE161508.007	%	60 - 130%	77
	BH8-100	SE161508.008	%	60 - 130%	92
	BH9-100	SE161508.009	%	60 - 130%	89
	BH10-100	SE161508.010	%	60 - 130%	89
	BH11-100	SE161508.011	%	60 - 130%	91
	BH12-100	SE161508.012	%	60 - 130%	85
	BH12-500	SE161508.013	%	60 - 130%	91
	BH13-100	SE161508.014	%	60 - 130%	89
	BH14-100	SE161508.015	%	60 - 130%	89
	BH15-100	SE161508.016	%	60 - 130%	92
	BH16-100	SE161508.017	%	60 - 130%	92
	BH16-500	SE161508.018	%	60 - 130%	103
	BH17-100	SE161508.019	%	60 - 130%	93
	BH17-500	SE161508.020	%	60 - 130%	91
	BH18-100	SE161508.021	%	60 - 130%	98
	BH18-500	SE161508.022	%	60 - 130%	88
	BH19-100	SE161508.023	%	60 - 130%	84
	BH19-500	SE161508.024	%	60 - 130%	83
	BH20-100	SE161508.025	%	60 - 130%	87
	BH20-500	SE161508.026	%	60 - 130%	82
	BH21-100	SE161508.027	%	60 - 130%	84
	BH21-500	SE161508.028	%	60 - 130%	83
	BH22-100	SE161508.029	%	60 - 130%	88
	BH22-500	SE161508.030	%	60 - 130%	86
	BH23-100	SE161508.031	%	60 - 130%	87
	BH23-400	SE161508.032	%	60 - 130%	87
	BH24-100	SE161508.033	%	60 - 130%	92
	BH24-500	SE161508.034	%	60 - 130%	92
	BH25-100	SE161508.035	%	60 - 130%	90
	BH25-500	SE161508.036	%	60 - 130%	96
	BH26-2100	SE161508.037	%	60 - 130%	86
	BH27-2700	SE161508.038	%	60 - 130%	87
	BH28-2000	SE161508.039	%	60 - 130%	98
	BH28-2100	SE161508.040	%	60 - 130%	87
	BH29-2000	SE161508.041	%	60 - 130%	89
	BH30-2100	SE161508.042	%	60 - 130%	91
	BH31-20	SE161508.043	%	60 - 130%	90
	DA	SE161508.044	%	60 - 130%	90
	DB	SE161508.045	%	60 - 130%	89

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 %
Dibromofluoromethane (Surrogate)	DC	SE161508.046	%	60 - 130%	89

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	73
	BH2-100	SE161508.002	%	60 - 130%	77
	BH3-100	SE161508.003	%	60 - 130%	72
	BH4-100	SE161508.004	%	60 - 130%	72
	BH5-100	SE161508.005	%	60 - 130%	76
	BH6-100	SE161508.006	%	60 - 130%	74
	BH7-100	SE161508.007	%	60 - 130%	71
	BH8-100	SE161508.008	%	60 - 130%	76
	BH9-100	SE161508.009	%	60 - 130%	74
	BH10-100	SE161508.010	%	60 - 130%	74
	BH11-100	SE161508.011	%	60 - 130%	75
	BH12-100	SE161508.012	%	60 - 130%	73
	BH12-500	SE161508.013	%	60 - 130%	74
	BH13-100	SE161508.014	%	60 - 130%	71
	BH14-100	SE161508.015	%	60 - 130%	70
	BH15-100	SE161508.016	%	60 - 130%	73
	BH16-100	SE161508.017	%	60 - 130%	74
	BH16-500	SE161508.018	%	60 - 130%	80
	BH17-100	SE161508.019	%	60 - 130%	76
	BH17-500	SE161508.020	%	60 - 130%	76
	BH18-100	SE161508.021	%	60 - 130%	79
	BH18-500	SE161508.022	%	60 - 130%	77
	BH19-100	SE161508.023	%	60 - 130%	75
	BH19-500	SE161508.024	%	60 - 130%	74
	BH20-100	SE161508.025	%	60 - 130%	77
	BH20-500	SE161508.026	%	60 - 130%	74
	BH21-100	SE161508.027	%	60 - 130%	75
	BH21-500	SE161508.028	%	60 - 130%	75
	BH22-100	SE161508.029	%	60 - 130%	70
	BH22-500	SE161508.030	%	60 - 130%	75
	BH23-100	SE161508.031	%	60 - 130%	71
	BH23-400	SE161508.032	%	60 - 130%	75
	BH24-100	SE161508.033	%	60 - 130%	73
	BH24-500	SE161508.034	%	60 - 130%	70
	BH25-100	SE161508.035	%	60 - 130%	71
	BH25-500	SE161508.036	%	60 - 130%	77
	BH26-2100	SE161508.037	%	60 - 130%	74
	BH27-2700	SE161508.038	%	60 - 130%	71
	BH28-2000	SE161508.039	%	60 - 130%	80
	BH28-2100	SE161508.040	%	60 - 130%	71
	BH29-2000	SE161508.041	%	60 - 130%	75
	BH30-2100	SE161508.042	%	60 - 130%	77
	BH31-20	SE161508.043	%	60 - 130%	79
	DA	SE161508.044	%	60 - 130%	83
	DB	SE161508.045	%	60 - 130%	78
	DC	SE161508.046	%	60 - 130%	81
d4-1,2-dichloroethane (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	109
	BH2-100	SE161508.002	%	60 - 130%	99
	BH3-100	SE161508.003	%	60 - 130%	101
	BH4-100	SE161508.004	%	60 - 130%	99
	BH5-100	SE161508.005	%	60 - 130%	100
	BH6-100	SE161508.006	%	60 - 130%	98
	BH7-100	SE161508.007	%	60 - 130%	97
	BH8-100	SE161508.008	%	60 - 130%	93
	BH9-100	SE161508.009	%	60 - 130%	94
	BH10-100	SE161508.010	%	60 - 130%	93
	BH11-100	SE161508.011	%	60 - 130%	95

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 %
d4-1,2-dichloroethane (Surrogate)	BH12-100	SE161508.012	%	60 - 130%	90
	BH12-500	SE161508.013	%	60 - 130%	94
	BH13-100	SE161508.014	%	60 - 130%	92
	BH14-100	SE161508.015	%	60 - 130%	90
	BH15-100	SE161508.016	%	60 - 130%	98
	BH16-100	SE161508.017	%	60 - 130%	92
	BH16-500	SE161508.018	%	60 - 130%	106
	BH17-100	SE161508.019	%	60 - 130%	97
	BH17-500	SE161508.020	%	60 - 130%	93
	BH18-100	SE161508.021	%	60 - 130%	100
	BH18-500	SE161508.022	%	60 - 130%	90
	BH19-100	SE161508.023	%	60 - 130%	88
	BH19-500	SE161508.024	%	60 - 130%	86
	BH20-100	SE161508.025	%	60 - 130%	89
	BH20-500	SE161508.026	%	60 - 130%	87
	BH21-100	SE161508.027	%	60 - 130%	87
	BH21-500	SE161508.028	%	60 - 130%	88
	BH22-100	SE161508.029	%	60 - 130%	92
	BH22-500	SE161508.030	%	60 - 130%	93
	BH23-100	SE161508.031	%	60 - 130%	91
	BH23-400	SE161508.032	%	60 - 130%	91
	BH24-100	SE161508.033	%	60 - 130%	95
	BH24-500	SE161508.034	%	60 - 130%	93
	BH25-100	SE161508.035	%	60 - 130%	93
	BH25-500	SE161508.036	%	60 - 130%	101
	BH26-2100	SE161508.037	%	60 - 130%	90
	BH27-2700	SE161508.038	%	60 - 130%	89
	BH28-2000	SE161508.039	%	60 - 130%	101
	BH28-2100	SE161508.040	%	60 - 130%	92
	BH29-2000	SE161508.041	%	60 - 130%	94
	BH30-2100	SE161508.042	%	60 - 130%	92
	BH31-20	SE161508.043	%	60 - 130%	93
	DA	SE161508.044	%	60 - 130%	94
	DB	SE161508.045	%	60 - 130%	95
	DC	SE161508.046	%	60 - 130%	92
d8-toluene (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	86
	BH2-100	SE161508.002	%	60 - 130%	78
	BH3-100	SE161508.003	%	60 - 130%	80
	BH4-100	SE161508.004	%	60 - 130%	77
	BH5-100	SE161508.005	%	60 - 130%	77
	BH6-100	SE161508.006	%	60 - 130%	78
	BH7-100	SE161508.007	%	60 - 130%	76
	BH8-100	SE161508.008	%	60 - 130%	82
	BH9-100	SE161508.009	%	60 - 130%	85
	BH10-100	SE161508.010	%	60 - 130%	85
	BH11-100	SE161508.011	%	60 - 130%	87
	BH12-100	SE161508.012	%	60 - 130%	79
	BH12-500	SE161508.013	%	60 - 130%	85
	BH13-100	SE161508.014	%	60 - 130%	82
	BH14-100	SE161508.015	%	60 - 130%	83
	BH15-100	SE161508.016	%	60 - 130%	86
	BH16-100	SE161508.017	%	60 - 130%	85
	BH16-500	SE161508.018	%	60 - 130%	98
	BH17-100	SE161508.019	%	60 - 130%	86
	BH17-500	SE161508.020	%	60 - 130%	84
	BH18-100	SE161508.021	%	60 - 130%	94
	BH18-500	SE161508.022	%	60 - 130%	86
	BH19-100	SE161508.023	%	60 - 130%	82
	BH19-500	SE161508.024	%	60 - 130%	80
	BH20-100	SE161508.025	%	60 - 130%	83
	BH20-500	SE161508.026	%	60 - 130%	80

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 %
d8-toluene (Surrogate)	BH21-100	SE161508.027	%	60 - 130%	79
	BH21-500	SE161508.028	%	60 - 130%	79
	BH22-100	SE161508.029	%	60 - 130%	81
	BH22-500	SE161508.030	%	60 - 130%	83
	BH23-100	SE161508.031	%	60 - 130%	81
	BH23-400	SE161508.032	%	60 - 130%	84
	BH24-100	SE161508.033	%	60 - 130%	87
	BH24-500	SE161508.034	%	60 - 130%	84
	BH25-100	SE161508.035	%	60 - 130%	85
	BH25-500	SE161508.036	%	60 - 130%	91
	BH26-2100	SE161508.037	%	60 - 130%	79
	BH27-2700	SE161508.038	%	60 - 130%	80
	BH28-2000	SE161508.039	%	60 - 130%	91
	BH28-2100	SE161508.040	%	60 - 130%	82
	BH29-2000	SE161508.041	%	60 - 130%	83
	BH30-2100	SE161508.042	%	60 - 130%	87
	BH31-20	SE161508.043	%	60 - 130%	87
	DA	SE161508.044	%	60 - 130%	88
	DB	SE161508.045	%	60 - 130%	86
	DC	SE161508.046	%	60 - 130%	84
Dibromofluoromethane (Surrogate)	BH1-100	SE161508.001	%	60 - 130%	89
	BH2-100	SE161508.002	%	60 - 130%	79
	BH3-100	SE161508.003	%	60 - 130%	81
	BH4-100	SE161508.004	%	60 - 130%	81
	BH5-100	SE161508.005	%	60 - 130%	81
	BH6-100	SE161508.006	%	60 - 130%	79
	BH7-100	SE161508.007	%	60 - 130%	77
	BH8-100	SE161508.008	%	60 - 130%	92
	BH9-100	SE161508.009	%	60 - 130%	89
	BH10-100	SE161508.010	%	60 - 130%	89
	BH11-100	SE161508.011	%	60 - 130%	91
	BH12-100	SE161508.012	%	60 - 130%	85
	BH12-500	SE161508.013	%	60 - 130%	91
	BH13-100	SE161508.014	%	60 - 130%	89
	BH14-100	SE161508.015	%	60 - 130%	89
	BH15-100	SE161508.016	%	60 - 130%	92
	BH16-100	SE161508.017	%	60 - 130%	92
	BH16-500	SE161508.018	%	60 - 130%	103
	BH17-100	SE161508.019	%	60 - 130%	93
	BH17-500	SE161508.020	%	60 - 130%	91
	BH18-100	SE161508.021	%	60 - 130%	98
	BH18-500	SE161508.022	%	60 - 130%	88
	BH19-100	SE161508.023	%	60 - 130%	84
	BH19-500	SE161508.024	%	60 - 130%	83
	BH20-100	SE161508.025	%	60 - 130%	87
	BH20-500	SE161508.026	%	60 - 130%	82
	BH21-100	SE161508.027	%	60 - 130%	84
	BH21-500	SE161508.028	%	60 - 130%	83
	BH22-100	SE161508.029	%	60 - 130%	88
	BH22-500	SE161508.030	%	60 - 130%	86
	BH23-100	SE161508.031	%	60 - 130%	87
	BH23-400	SE161508.032	%	60 - 130%	87
	BH24-100	SE161508.033	%	60 - 130%	92
	BH24-500	SE161508.034	%	60 - 130%	92
	BH25-100	SE161508.035	%	60 - 130%	90
	BH25-500	SE161508.036	%	60 - 130%	96
	BH26-2100	SE161508.037	%	60 - 130%	86
	BH27-2700	SE161508.038	%	60 - 130%	87
	BH28-2000	SE161508.039	%	60 - 130%	98
	BH28-2100	SE161508.040	%	60 - 130%	87
	BH29-2000	SE161508.041	%	60 - 130%	89

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 %
Dibromofluoromethane (Surrogate)	BH30-2100	SE161508.042	%	60 - 130%	91
	BH31-20	SE161508.043	%	60 - 130%	90
	DA	SE161508.044	%	60 - 130%	90
	DB	SE161508.045	%	60 - 130%	89
	DC	SE161508.046	%	60 - 130%	89

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 in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB118140.001	Mercury	mg/kg	0.05	<0.05
LB118141.001	Mercury	mg/kg	0.05	<0.05
LB118142.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB117907.001		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)	%	-	109
LB117908.001		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)	%	-	85
LB117909.001		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

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.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB117909.001		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)	%	-	95

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB117907.001		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)	%	-	82
		d14-p-terphenyl (Surrogate)	%	-	90
LB117908.001		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)	%	-	100
		d14-p-terphenyl (Surrogate)	%	-	118
LB117909.001		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)	%	-	76
		d14-p-terphenyl (Surrogate)	%	-	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued) — **Method: ME-(AU)-[ENV]AN420**

Sample Number		Parameter	Units	LOR	Result
LB117907.001		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)	%	-	86
		2-fluorobiphenyl (Surrogate)	%	-	82
		d14-p-terphenyl (Surrogate)	%	-	90
LB117908.001		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)	%	-	100
		d14-p-terphenyl (Surrogate)	%	-	118
LB117909.001		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)	%	-	76
		2-fluorobiphenyl (Surrogate)	%	-	76
		d14-p-terphenyl (Surrogate)	%	-	96

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.

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB117907.001		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)	%	-	109
LB117908.001		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)	%	-	85
LB117909.001		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)	%	-	95

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB118154.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5
LB118155.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5
LB118156.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5

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
LB117907.001	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
LB117908.001	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
LB117909.001	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

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB117898.001	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	Dibromofluoromethane (Surrogate)	%	-	83
		d4-1,2-dichloroethane (Surrogate)	%	-	79
		d8-toluene (Surrogate)	%	-	79
		Bromofluorobenzene (Surrogate)	%	-	95
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB117920.001	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	Dibromofluoromethane (Surrogate)	%	-	96
		d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	87
		Bromofluorobenzene (Surrogate)	%	-	75
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB117921.001	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	Dibromofluoromethane (Surrogate)	%	-	90
		d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	86
		Bromofluorobenzene (Surrogate)	%	-	72
	Totals	Total BTEX	mg/kg	0.6	<0.6
LB117922.001	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	Dibromofluoromethane (Surrogate)	%	-	92
		d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	85
		Bromofluorobenzene (Surrogate)	%	-	79

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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB117922.001	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB117898.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	83
		d4-1,2-dichloroethane (Surrogate)	%	-	79
		d8-toluene (Surrogate)	%	-	79
LB117920.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	96
		d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	87
LB117921.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	90
		d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	86
LB117922.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	92
		d4-1,2-dichloroethane (Surrogate)	%	-	95
		d8-toluene (Surrogate)	%	-	85

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 in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161505.004	LB118140.014	Mercury	mg/kg	0.05	0.055177513	90.0844113091	102	42
SE161508.006	LB118140.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE161508.016	LB118141.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE161508.025	LB118141.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE161508.035	LB118142.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE161593.001	LB118142.024	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161507.010	LB118043.011	% Moisture	%w/w	0.5	10.3	10.1	40	1
SE161507.020	LB118043.022	% Moisture	%w/w	0.5	11.7	13.9	38	17
SE161508.010	LB118043.033	% Moisture	%w/w	0.5	4.5	4.5	52	0
SE161508.020	LB118043.044	% Moisture	%w/w	0.5	6.6	6.7	45	2
SE161508.030	LB118043.055	% Moisture	%w/w	0.5	6.2	6.2	46	0
SE161508.040	LB118043.066	% Moisture	%w/w	0.5	7.5	7.5	43	1
SE161508.046	LB118043.073	% Moisture	%w/w	0.5	8.5	8.8	42	4

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.010	LB117907.027		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
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.126	30	2
SE161508.011	LB117907.025		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	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 %
SE161508.011	LB117907.025		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.12	30	2
SE161508.018	LB117908.027		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
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.123	30	2
SE161508.031	LB117908.025		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	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 %
SE161508.031	LB117908.025		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.13	30	5
SE161508.040	LB117909.025		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
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.123	30	5
SE161508.046	LB117909.026		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

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 %
SE161508.046	LB117909.026		Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.129	30	1

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.010	LB117907.027		Dichlorvos	mg/kg	0.5	<0.5	0	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	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	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	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.44	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.51	30	2
SE161508.011	LB117907.025		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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	13
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
SE161508.018	LB117908.027		Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.03	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	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	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.47	30	9
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.53	30	6
SE161508.031	LB117908.025		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
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	10
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
SE161508.046	LB117909.024		Dichlorvos	mg/kg	0.5	<0.5	0	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.04	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.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.046	LB117909.024		Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	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	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.49	30	9
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.52	30	8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.010	LB117907.027		Naphthalene	mg/kg	0.1	<0.1	0.01	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	0.02	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0.03	200	0
			Phenanthrene	mg/kg	0.1	0.5	0.53	49	0
			Anthracene	mg/kg	0.1	<0.1	0.07	163	0
			Fluoranthene	mg/kg	0.1	0.8	0.71	43	16
			Pyrene	mg/kg	0.1	0.7	0.59	46	13
			Benzo(a)anthracene	mg/kg	0.1	0.2	0.18	83	11
			Chrysene	mg/kg	0.1	0.2	0.17	86	11
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.3	0.23	71	12
			Benzo(k)fluoranthene	mg/kg	0.1	0.1	0.13	110	8
			Benzo(a)pyrene	mg/kg	0.1	0.2	0.2	75	18
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	0.19	79	15
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.2	0.21	74	13
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	0.3	0.2748	77	17
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.4	0.3748	85	12
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.4	0.3248	67	14
			Total PAH (18)	mg/kg	0.8	3.5	3.12	54	11
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.44	30	9
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.44	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.51	30	2
SE161508.011	LB117907.025		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	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	8

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 %
SE161508.011	LB117907.025	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	13
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
SE161508.018	LB117908.027		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	200	0
			Anthracene	mg/kg	0.1	<0.1	0	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.01	200	0
			Chrysene	mg/kg	0.1	<0.1	0	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	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	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	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	0.47	30	4
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.47	30	9
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.53	30	6
SE161508.031	LB117908.025		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	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	163	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	173	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	184	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	173	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	12
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	10
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
SE161508.046	LB117909.024		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	200	0
			Anthracene	mg/kg	0.1	<0.1	0	200	0
			Fluoranthene	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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.046	LB117909.024		Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.01	200	0
			Chrysene	mg/kg	0.1	<0.1	0.01	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	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	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	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	-	0.4	0.47	30	9
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.49	30	9
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.52	30	8

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.010	LB117907.026		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	0.126	30	2
SE161508.011	LB117907.025		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	2
SE161508.018	LB117908.026		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	0.123	30	2
SE161508.031	LB117908.025		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	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.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.031	LB117908.025		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	5
SE161508.040	LB117909.024		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	0.123	30	5
SE161508.046	LB117909.025		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	0.129	30	1

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.010	LB118154.014	Arsenic, As	mg/kg	3	<3	<3	112	15
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	3.9	4.0	43	3
		Copper, Cu	mg/kg	0.5	3.9	3.9	43	1
		Lead, Pb	mg/kg	1	13	13	38	5
		Nickel, Ni	mg/kg	0.5	0.9	0.9	85	2
		Zinc, Zn	mg/kg	0.5	220	220	31	1
SE161508.019	LB118154.024	Arsenic, As	mg/kg	3	<3	<3	128	19
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	151	0
		Chromium, Cr	mg/kg	0.3	3.8	5.1	41	29
		Copper, Cu	mg/kg	0.5	8.0	5.8	37	32
		Lead, Pb	mg/kg	1	28	20	34	34 ②
		Nickel, Ni	mg/kg	0.5	1.9	1.1	63	51
		Zinc, Zn	mg/kg	0.5	68	52	33	26
SE161508.029	LB118155.014	Arsenic, As	mg/kg	3	<3	<3	97	12
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	3.9	3.3	44	18
		Copper, Cu	mg/kg	0.5	8.1	7.6	36	6
		Lead, Pb	mg/kg	1	9	12	40	31
		Nickel, Ni	mg/kg	0.5	0.8	1.1	82	26
		Zinc, Zn	mg/kg	0.5	5.3	5.4	68	1
SE161508.038	LB118155.024	Lead, Pb	mg/kg	1	12	13	38	6
SE161508.039	LB118156.014	Arsenic, As	mg/kg	3	<3	<3	66	4
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	6.1	6.3	38	2
		Copper, Cu	mg/kg	0.5	5.7	5.6	39	2
		Lead, Pb	mg/kg	1	10	10	40	5
		Nickel, Ni	mg/kg	0.5	1.3	1.2	69	9
		Zinc, Zn	mg/kg	0.5	42	37	35	13
SE161508.046	LB118156.022	Arsenic, As	mg/kg	3	6	6	47	0
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	14	14	34	0
		Copper, Cu	mg/kg	0.5	5.5	5.5	39	1
		Lead, Pb	mg/kg	1	11	12	39	3

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 Metals in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.046	LB118156.022	Nickel, Ni	mg/kg	0.5	9.0	8.5	36	6
		Zinc, Zn	mg/kg	0.5	31	29	37	5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.010	LB117907.024		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH C10-C40 Total	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE161508.011	LB117907.026		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	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	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
SE161508.018	LB117908.027		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH C10-C40 Total	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE161508.031	LB117908.025		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	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	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
SE161508.040	LB117909.024		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH C10-C40 Total	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE161508.046	LB117909.025		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH C10-C40 Total	mg/kg	210	<210	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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.046	LB117909.025	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.001	LB117898.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	4.1	50	8
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.4	5.2	50	5
			d8-toluene (Surrogate)	mg/kg	-	4.3	4.0	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.7	50	0
		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
SE161508.011	LB117920.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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	Dibromofluoromethane (Surrogate)	mg/kg	-	4.5	4.6	50	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.8	50	1
			d8-toluene (Surrogate)	mg/kg	-	4.3	4.3	50	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.7	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
SE161508.021	LB117920.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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	Dibromofluoromethane (Surrogate)	mg/kg	-	4.9	4.4	50	10
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.0	4.6	50	10
			d8-toluene (Surrogate)	mg/kg	-	4.7	4.1	50	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.6	50	11
		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
SE161508.031	LB117921.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	4.2	50	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.4	50	4
			d8-toluene (Surrogate)	mg/kg	-	4.1	4.0	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.6	3.8	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
SE161508.041	LB117921.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	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

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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.041	LB117921.025	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	4.3	50	3
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.5	50	4
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.1	50	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.6	50	4
		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
SE161532.004	LB117898.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	0.1	<0.1	155	33
			m/p-xylene	mg/kg	0.2	0.3	<0.2	135	52
			o-xylene	mg/kg	0.1	0.9	0.2	49	133 ③
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.6	3.5	50	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.8	3.9	50	2
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.2	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.4	4.7	50	13
		Totals	Total Xylenes*	mg/kg	0.3	1.2	<0.3	71	122 ②
			Total BTEX	mg/kg	0.6	1.4	<0.6	67	129 ②
SE161535.004	LB117922.014	Monocyclic	Benzene	mg/kg	0.1	0	0	200	0
		Aromatic	Toluene	mg/kg	0.1	0	0	200	0
			Ethylbenzene	mg/kg	0.1	0	0	200	0
			m/p-xylene	mg/kg	0.2	0	0	200	0
			o-xylene	mg/kg	0.1	0	0	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	0	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4	4.32	50	8
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.41	4.63	50	5
			d8-toluene (Surrogate)	mg/kg	-	3.87	4.14	50	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.59	3.84	50	7
		Totals	Total Xylenes*	mg/kg	0.3	0	0	200	0
			Total BTEX	mg/kg	0.6	0	0	200	0
SE161535.008	LB117922.022	Monocyclic	Benzene	mg/kg	0.1	0	0	200	0
		Aromatic	Toluene	mg/kg	0.1	0	0	200	0
			Ethylbenzene	mg/kg	0.1	0	0	200	0
			m/p-xylene	mg/kg	0.2	0	0	200	0
			o-xylene	mg/kg	0.1	0	0	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	0	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.44	4.68	50	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	5.2	50	6
			d8-toluene (Surrogate)	mg/kg	-	4.19	4.45	50	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.83	3.97	50	4
		Totals	Total Xylenes*	mg/kg	0.3	0	0	200	0
			Total BTEX	mg/kg	0.6	0	0	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE161508.001	LB117898.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	4.1	30	8
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.4	5.2	30	5
			d8-toluene (Surrogate)	mg/kg	-	4.3	4.0	30	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.7	30	0
		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
SE161508.011	LB117920.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.5	4.6	30	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.8	30	1
			d8-toluene (Surrogate)	mg/kg	-	4.3	4.3	30	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.7	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 %
SE161508.021	LB117920.025		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.9	4.4	30	10
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.0	4.6	30	10
			d8-toluene (Surrogate)	mg/kg	-	4.7	4.1	30	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.0	3.6	30	11
		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
SE161508.031	LB117921.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	4.2	30	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.4	30	4
			d8-toluene (Surrogate)	mg/kg	-	4.1	4.0	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.6	3.8	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
SE161508.041	LB117921.025		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	4.3	30	3
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.5	30	4
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.1	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.6	30	4
		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
SE161532.004	LB117898.025		TRH C6-C10	mg/kg	25	80	26	77	103 ③
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.6	3.5	30	1
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.8	3.9	30	2
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.2	30	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.4	4.7	30	13
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	78	25	78	102 ③
SE161535.004	LB117922.014		TRH C6-C10	mg/kg	25	0	0	200	0
			TRH C6-C9	mg/kg	20	0	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4	4.32	30	8
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.41	4.63	30	5
			d8-toluene (Surrogate)	mg/kg	-	3.87	4.14	30	7
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.59	3.84	30	7
		VPH F Bands	Benzene (F0)	mg/kg	0.1	0	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	0	0	200	0
SE161535.008	LB117922.022		TRH C6-C10	mg/kg	25	0	0	200	0
			TRH C6-C9	mg/kg	20	0	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.44	4.68	30	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	5.2	30	6
			d8-toluene (Surrogate)	mg/kg	-	4.19	4.45	30	6
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.83	3.97	30	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	0	0	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	0	0	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 %
LB118140.002		Mercury	mg/kg	0.05	0.21	0.2	70 - 130	105
LB118141.002		Mercury	mg/kg	0.05	0.20	0.2	70 - 130	100
LB118142.002		Mercury	mg/kg	0.05	0.20	0.2	70 - 130	98

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117907.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	85
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	82
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	75
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	78
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	80
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	83
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	83
LB117908.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	79
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	81
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	75
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	77
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	78
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	76
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.19	0.15	40 - 130	125
LB117909.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	101
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	90
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	76
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	85
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	97
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	88
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	90

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117907.002		Dichlorvos	mg/kg	0.5	1.7	2	60 - 140	84
		Diazinon (Dimpylate)	mg/kg	0.5	1.7	2	60 - 140	83
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	100
		Ethion	mg/kg	0.2	1.5	2	60 - 140	77
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	98
LB117908.002		Dichlorvos	mg/kg	0.5	1.7	2	60 - 140	86
		Diazinon (Dimpylate)	mg/kg	0.5	1.6	2	60 - 140	82
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.6	2	60 - 140	81
		Ethion	mg/kg	0.2	1.7	2	60 - 140	86
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	98
LB117909.002		Dichlorvos	mg/kg	0.5	1.6	2	60 - 140	78
		Diazinon (Dimpylate)	mg/kg	0.5	1.6	2	60 - 140	79
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.6	2	60 - 140	79
		Ethion	mg/kg	0.2	1.5	2	60 - 140	76
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117907.002		Naphthalene	mg/kg	0.1	4.1	4	60 - 140	102
		Acenaphthylene	mg/kg	0.1	3.6	4	60 - 140	89
		Acenaphthene	mg/kg	0.1	4.4	4	60 - 140	109
		Phenanthrene	mg/kg	0.1	4.7	4	60 - 140	118
		Anthracene	mg/kg	0.1	5.1	4	60 - 140	127
		Fluoranthene	mg/kg	0.1	4.0	4	60 - 140	101
		Pyrene	mg/kg	0.1	4.4	4	60 - 140	109
		Benzo(a)pyrene	mg/kg	0.1	3.8	4	60 - 140	96
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	98

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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117908.002		Naphthalene	mg/kg	0.1	4.1	4	60 - 140	103
		Acenaphthylene	mg/kg	0.1	3.6	4	60 - 140	89
		Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	98
		Phenanthrene	mg/kg	0.1	4.7	4	60 - 140	117
		Anthracene	mg/kg	0.1	4.8	4	60 - 140	121
		Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	97
		Pyrene	mg/kg	0.1	4.3	4	60 - 140	106
		Benzo(a)pyrene	mg/kg	0.1	4.7	4	60 - 140	117
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	98
LB117909.002		Naphthalene	mg/kg	0.1	4.1	4	60 - 140	102
		Acenaphthylene	mg/kg	0.1	3.5	4	60 - 140	88
		Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	104
		Phenanthrene	mg/kg	0.1	4.7	4	60 - 140	119
		Anthracene	mg/kg	0.1	5.1	4	60 - 140	127
		Fluoranthene	mg/kg	0.1	3.7	4	60 - 140	93
		Pyrene	mg/kg	0.1	4.4	4	60 - 140	111
		Benzo(a)pyrene	mg/kg	0.1	4.3	4	60 - 140	108
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	84
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117907.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	125
LB117908.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	123
LB117909.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	108

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB118154.002	Arsenic, As	mg/kg	3	47	50	80 - 120	95
	Cadmium, Cd	mg/kg	0.3	49	50	80 - 120	97
	Chromium, Cr	mg/kg	0.3	48	50	80 - 120	96
	Copper, Cu	mg/kg	0.5	48	50	80 - 120	95
	Lead, Pb	mg/kg	1	49	50	80 - 120	97
	Nickel, Ni	mg/kg	0.5	48	50	80 - 120	96
	Zinc, Zn	mg/kg	0.5	48	50	80 - 120	96
LB118155.002	Arsenic, As	mg/kg	3	49	50	80 - 120	97
	Cadmium, Cd	mg/kg	0.3	50	50	80 - 120	99
	Chromium, Cr	mg/kg	0.3	49	50	80 - 120	99
	Copper, Cu	mg/kg	0.5	49	50	80 - 120	98
	Lead, Pb	mg/kg	1	50	50	80 - 120	100
	Nickel, Ni	mg/kg	0.5	50	50	80 - 120	99
	Zinc, Zn	mg/kg	0.5	49	50	80 - 120	99
LB118156.002	Arsenic, As	mg/kg	3	47	50	80 - 120	94
	Cadmium, Cd	mg/kg	0.3	48	50	80 - 120	97
	Chromium, Cr	mg/kg	0.3	48	50	80 - 120	96
	Copper, Cu	mg/kg	0.5	48	50	80 - 120	97
	Lead, Pb	mg/kg	1	48	50	80 - 120	96
	Nickel, Ni	mg/kg	0.5	48	50	80 - 120	97
	Zinc, Zn	mg/kg	0.5	48	50	80 - 120	96

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117907.002		TRH C10-C14	mg/kg	20	44	40	60 - 140	110
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	108
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	80
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	44	40	60 - 140	110
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	98
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75
LB117908.002		TRH C10-C14	mg/kg	20	34	40	60 - 140	85

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117908.002		TRH C15-C28	mg/kg	45	<45	40	60 - 140	85
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	75
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	34	40	60 - 140	85
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	80
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	80
LB117909.002		TRH C10-C14	mg/kg	20	42	40	60 - 140	105
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	110
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	80
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	43	40	60 - 140	108
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	100
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117898.002	Monocyclic	Benzene	mg/kg	0.1	1.8	2.9	60 - 140	61
	Aromatic	Toluene	mg/kg	0.1	1.8	2.9	60 - 140	61
		Ethylbenzene	mg/kg	0.1	2.3	2.9	60 - 140	79
		m/p-xylene	mg/kg	0.2	4.6	5.8	60 - 140	79
		o-xylene	mg/kg	0.1	2.3	2.9	60 - 140	79
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	5	60 - 140	77
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.8	5	60 - 140	77
		d8-toluene (Surrogate)	mg/kg	-	3.9	5	60 - 140	77
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	5	60 - 140	93
LB117920.002	Monocyclic	Benzene	mg/kg	0.1	2.1	2.9	60 - 140	71
	Aromatic	Toluene	mg/kg	0.1	2.0	2.9	60 - 140	68
		Ethylbenzene	mg/kg	0.1	1.8	2.9	60 - 140	63
		m/p-xylene	mg/kg	0.2	4.0	5.8	60 - 140	69
		o-xylene	mg/kg	0.1	1.9	2.9	60 - 140	66
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	79
		d8-toluene (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.6	5	60 - 140	111
LB117921.002	Monocyclic	Benzene	mg/kg	0.1	2.0	2.9	60 - 140	69
	Aromatic	Toluene	mg/kg	0.1	2.1	2.9	60 - 140	71
		Ethylbenzene	mg/kg	0.1	1.8	2.9	60 - 140	62
		m/p-xylene	mg/kg	0.2	3.9	5.8	60 - 140	67
		o-xylene	mg/kg	0.1	1.9	2.9	60 - 140	66
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	5	60 - 140	81
		d8-toluene (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.3	5	60 - 140	107
LB117922.002	Monocyclic	Benzene	mg/kg	0.1	2.0	2.9	60 - 140	67
	Aromatic	Toluene	mg/kg	0.1	2.2	2.9	60 - 140	76
		Ethylbenzene	mg/kg	0.1	1.9	2.9	60 - 140	67
		m/p-xylene	mg/kg	0.2	4.2	5.8	60 - 140	73
		o-xylene	mg/kg	0.1	1.9	2.9	60 - 140	65
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	5	60 - 140	81
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.2	5	60 - 140	84
		d8-toluene (Surrogate)	mg/kg	-	4.1	5	60 - 140	82
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.8	5	60 - 140	116

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117898.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	87
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	85
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	5	60 - 140	77
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.8	5	60 - 140	77
		d8-toluene (Surrogate)	mg/kg	-	3.9	5	60 - 140	77
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	5	60 - 140	93
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	120
LB117920.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	81
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	68

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.

Volatile Petroleum Hydrocarbons in Soil (continued) — **Method: ME-(AU)-[ENV]AN433**

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB117920.002	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	79
		d8-toluene (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.6	5	60 - 140	111
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	113
LB117921.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	80
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	68
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	5	60 - 140	81
		d8-toluene (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.3	5	60 - 140	107
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	111
LB117922.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	80
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	72
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	5	60 - 140	81
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.2	5	60 - 140	84
		d8-toluene (Surrogate)	mg/kg	-	4.1	5	60 - 140	82
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.8	5	60 - 140	116
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	105

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 in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE161508.007	LB118141.004	Mercury	mg/kg	0.05	0.20	<0.05	0.2	91
SE161508.026	LB118142.004	Mercury	mg/kg	0.05	0.19	<0.05	0.2	90
SE161569.020	LB118140.004	Mercury	mg/kg	0.05	0.19	0.02432514597	0.2	82

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE161508.002	LB117907.028		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	89
			Aldrin	mg/kg	0.1		<0.1	0.2	86
			Beta BHC	mg/kg	0.1		<0.1	-	-
			Delta BHC	mg/kg	0.1		<0.1	0.2	80
			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	82
			Endrin	mg/kg	0.2		<0.2	0.2	84
			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	75
			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)	mg/kg	-		0.13	-	112
SE161508.012	LB117908.028		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	84
			Aldrin	mg/kg	0.1		<0.1	0.2	83
			Beta BHC	mg/kg	0.1		<0.1	-	-
			Delta BHC	mg/kg	0.1		<0.1	0.2	76
			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	78
			Endrin	mg/kg	0.2		<0.2	0.2	79
			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	76
			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	-	-

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%
SE161508.012	LB117908.028	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-		0.13	-	104
SE161508.032	LB117909.024		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	80
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	83
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	75
			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	78
			Endrin	mg/kg	0.2	<0.2	<0.2	0.2	79
			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	-	-
			p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	77
			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	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.18	0.12	-	119

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE161508.001	LB117907.026		Dichlorvos	mg/kg	0.5		<0.5	2	86
			Dimethoate	mg/kg	0.5		<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5		<0.5	2	87
			Fenitrothion	mg/kg	0.2		<0.2	-	-
			Malathion	mg/kg	0.2		<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2		<0.2	2	84
			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	77
			Azinphos-methyl (Guthion)	mg/kg	0.2		<0.2	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-		0.4	-	82
			d14-p-terphenyl (Surrogate)	mg/kg	-		0.5	-	92
SE161508.013	LB117908.026		Dichlorvos	mg/kg	0.5		<0.5	2	87
			Dimethoate	mg/kg	0.5		<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5		<0.5	2	80
			Fenitrothion	mg/kg	0.2		<0.2	-	-
			Malathion	mg/kg	0.2		<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2		<0.2	2	81
			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	78
			Azinphos-methyl (Guthion)	mg/kg	0.2		<0.2	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-		0.4	-	76
			d14-p-terphenyl (Surrogate)	mg/kg	-		0.5	-	94
SE161508.034	LB117909.023		Dichlorvos	mg/kg	0.5	1.5	<0.5	2	76
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	1.5	<0.5	2	77

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.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE161508.034	LB117909.023		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	2.0	<0.2	2	101
			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	1.6	<0.2	2	78
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	76
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.6	-	82

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE161508.001	LB117907.026		Naphthalene	mg/kg	0.1	<0.1	4	98
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	91
			Acenaphthene	mg/kg	0.1	<0.1	4	105
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	0.5	4	113
			Anthracene	mg/kg	0.1	<0.1	4	125
			Fluoranthene	mg/kg	0.1	1.1	4	97
			Pyrene	mg/kg	0.1	0.9	4	109
			Benzo(a)anthracene	mg/kg	0.1	0.3	-	-
			Chrysene	mg/kg	0.1	0.3	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.4	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.2	-	-
			Benzo(a)pyrene	mg/kg	0.1	0.4	4	116
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	0.4	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	0.5	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.6	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.6	-	-
			Total PAH (18)	mg/kg	0.8	4.7	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	-	76
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	82
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	92
SE161508.013	LB117908.026		Naphthalene	mg/kg	0.1	<0.1	4	100
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	94
			Acenaphthene	mg/kg	0.1	<0.1	4	102
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	112
			Anthracene	mg/kg	0.1	<0.1	4	117
			Fluoranthene	mg/kg	0.1	<0.1	4	94
			Pyrene	mg/kg	0.1	<0.1	4	102
			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	116
			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	0.2	<0.2	-	-
			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	-	0.4	-	82

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.

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PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE161508.013	LB117908.026	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	76
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	94
SE161508.034	LB117909.023		Naphthalene	mg/kg	0.1	<0.1	4	98
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	92
			Acenaphthene	mg/kg	0.1	<0.1	4	99
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	117
			Anthracene	mg/kg	0.1	<0.1	4	115
			Fluoranthene	mg/kg	0.1	<0.1	4	120
			Pyrene	mg/kg	0.1	<0.1	4	114
			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	113
			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	0.2	<0.2	-	-
			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	-	0.4	-	80
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	76
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	-	82

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE161508.002	LB117907.027		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	124
			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	-	86
SE161508.012	LB117908.027		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	122
			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	-	81
SE161508.032	LB117909.023		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	124
			Arochlor 1262	mg/kg	0.2	<0.2	-	-
			Arochlor 1268	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.

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PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE161508.032	LB117909.023		Total PCBs (Arochlors)	mg/kg	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	-	82

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE161486.001	LB118156.004	Arsenic, As	mg/kg	3	41	5	50	73
		Cadmium, Cd	mg/kg	0.3	38	<0.3	50	76
		Chromium, Cr	mg/kg	0.3	47	9.1	50	75
		Copper, Cu	mg/kg	0.5	63	25	50	75
		Lead, Pb	mg/kg	1	52	15	50	73
		Nickel, Ni	mg/kg	0.5	48	11	50	74
		Zinc, Zn	mg/kg	0.5	84	43	50	83
SE161508.001	LB118154.004	Arsenic, As	mg/kg	3	46	<3	50	90
		Cadmium, Cd	mg/kg	0.3	46	<0.3	50	92
		Chromium, Cr	mg/kg	0.3	49	2.9	50	92
		Copper, Cu	mg/kg	0.5	53	4.8	50	95
		Lead, Pb	mg/kg	1	55	8	50	93
		Nickel, Ni	mg/kg	0.5	47	0.9	50	93
		Zinc, Zn	mg/kg	0.5	63	14	50	98
SE161508.020	LB118155.004	Arsenic, As	mg/kg	3	46	<3	50	90
		Cadmium, Cd	mg/kg	0.3	47	<0.3	50	93
		Chromium, Cr	mg/kg	0.3	51	4.7	50	93
		Copper, Cu	mg/kg	0.5	51	2.4	50	98
		Lead, Pb	mg/kg	1	53	5	50	96
		Nickel, Ni	mg/kg	0.5	49	1.2	50	96
		Zinc, Zn	mg/kg	0.5	56	5.2	50	101

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE161508.001	LB117907.027		TRH C10-C14	mg/kg	20	<20	40	98
			TRH C15-C28	mg/kg	45	<45	40	85
			TRH C29-C36	mg/kg	45	<45	40	125
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	40	100
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	60
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-
SE161508.013	LB117908.026		TRH C10-C14	mg/kg	20	<20	40	93
			TRH C15-C28	mg/kg	45	<45	40	93
			TRH C29-C36	mg/kg	45	<45	40	85
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	40	93
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	90
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-
SE161508.034	LB117909.023		TRH C10-C14	mg/kg	20	<20	40	95
			TRH C15-C28	mg/kg	45	<45	40	100
			TRH C29-C36	mg/kg	45	<45	40	73
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	40	98
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	90
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

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.

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VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE161488.031	LB117898.004	Monocyclic	Benzene	mg/kg	0.1	1.8	<0.1	2.9	61
		Aromatic	Toluene	mg/kg	0.1	2.1	<0.1	2.9	71
			Ethylbenzene	mg/kg	0.1	2.1	<0.1	2.9	73
			m/p-xylene	mg/kg	0.2	4.5	<0.2	5.8	77
			o-xylene	mg/kg	0.1	2.1	<0.1	2.9	72
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.7	-	77
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.4	-	92
			d8-toluene (Surrogate)	mg/kg	-	4.1	3.8	-	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	5.2	-	84
		Totals	Total Xylenes*	mg/kg	0.3	6.6	<0.3	-	-
			Total BTEX	mg/kg	0.6	13	<0.6	-	-
SE161507.012	LB117920.004	Monocyclic	Benzene	mg/kg	0.1	1.9	<0.1	2.9	67
		Aromatic	Toluene	mg/kg	0.1	2.1	<0.1	2.9	72
			Ethylbenzene	mg/kg	0.1	1.8	<0.1	2.9	61
			m/p-xylene	mg/kg	0.2	3.8	<0.2	5.8	65
			o-xylene	mg/kg	0.1	1.9	<0.1	2.9	63
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.3	-	78
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	4.4	-	81
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.1	-	78
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.4	3.8	-	107
		Totals	Total Xylenes*	mg/kg	0.3	5.7	<0.3	-	-
			Total BTEX	mg/kg	0.6	11	<0.6	-	-
SE161508.022	LB117921.004	Monocyclic	Benzene	mg/kg	0.1	1.8	<0.1	2.9	62
		Aromatic	Toluene	mg/kg	0.1	2.1	<0.1	2.9	72
			Ethylbenzene	mg/kg	0.1	1.9	<0.1	2.9	65
			m/p-xylene	mg/kg	0.2	4.0	<0.2	5.8	69
			o-xylene	mg/kg	0.1	2.0	<0.1	2.9	67
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.7	4.4	-	75
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.9	4.5	-	78
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.3	-	77
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.0	3.9	-	120
		Totals	Total Xylenes*	mg/kg	0.3	6.0	<0.3	-	-
			Total BTEX	mg/kg	0.6	12	<0.6	-	-
SE161508.042	LB117922.004	Monocyclic	Benzene	mg/kg	0.1	2.1	<0.1	2.9	74
		Aromatic	Toluene	mg/kg	0.1	2.0	<0.1	2.9	70
			Ethylbenzene	mg/kg	0.1	1.9	<0.1	2.9	65
			m/p-xylene	mg/kg	0.2	4.3	<0.2	5.8	73
			o-xylene	mg/kg	0.1	1.9	<0.1	2.9	65
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	4.5	-	82
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.2	4.6	-	85
			d8-toluene (Surrogate)	mg/kg	-	4.1	4.4	-	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.5	3.9	-	110
		Totals	Total Xylenes*	mg/kg	0.3	6.2	<0.3	-	-
			Total BTEX	mg/kg	0.6	12	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE161488.031	LB117898.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	82
			TRH C6-C9	mg/kg	20	<20	<20	23.2	72
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.7	-	77
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.4	-	92
			d8-toluene (Surrogate)	mg/kg	-	4.1	3.8	-	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	5.2	-	84
		VPH F	Benzene (F0)	mg/kg	0.1	1.8	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	106
SE161507.012	LB117920.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	82
			TRH C6-C9	mg/kg	20	<20	<20	23.2	73

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.

Volatile Petroleum Hydrocarbons in Soil (continued) — **Method: ME-(AU)-[ENV]AN433**

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE161507.012	LB117920.004	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.3	-	78
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	4.4	-	81
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.1	-	78
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.4	3.8	-	107
		VPH F	Benzene (F0)	mg/kg	0.1	1.9	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	122
SE161508.022	LB117921.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	84
			TRH C6-C9	mg/kg	20	<20	<20	23.2	75
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.7	4.4	-	75
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.9	4.5	-	78
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.3	-	77
			Bromofluorobenzene (Surrogate)	mg/kg	-	6.0	3.9	-	120
		VPH F	Benzene (F0)	mg/kg	0.1	1.8	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	125
SE161508.042	LB117922.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	82
			TRH C6-C9	mg/kg	20	<20	<20	23.2	70
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	4.5	-	82
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.2	4.6	-	85
			d8-toluene (Surrogate)	mg/kg	-	4.1	4.4	-	82
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.5	3.9	-	110
		VPH F	Benzene (F0)	mg/kg	0.1	2.1	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	109

MATRIX SPIKE DUPLICATES

SE161508 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: http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover tthe performance of this service.
-	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.

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source: M630_SR_20170201111801.pdf page: 1 SGS Ref: SE161508_COC

Chain of Custody Form – Ref 7863

Ref: 7863
Investigator: Envirowest Consulting
9 Cameron Place
PO Box 8158
ORANGE NSW 2800
Telephone: (02) 6361 4954
Facsimile: (02) 6360 3960
Email: ashleigh@envirowest.net.au
Contact Person: Ashleigh Pickering
Invoice: accounts@envirowest.net.au

Laboratory: SGS SYDNEY
16/33 Maddox Street
ALEXANDRIA NSW 2015

Quotation #:
Courier/CN:

	Sample ID	Container*	Sampling Date/Time	Sample matrix: Water	Soil	Sludge	Sample preservation: Cool	HNO3/HCl	Unpre-served	Analysis (SGS Method Code): CL17 TRH 6-40, BTEX,PAH, OCP, OPP, PCB, 8 METALS	CL6 TRH C6-C10, BTEXN, LEAD			
1	BH1-100	A	25/01/2017		X		X		X	X				
2	BH2-100	A	25/01/2017		X		X		X	X				
3	BH3-100	A	25/01/2017		X		X		X	X				
4	BH4-100	A	25/01/2017		X		X		X	X				
5	BH5-100	A	25/01/2017		X		X		X	X				
6	BH6-100	A	25/01/2017		X		X		X	X				
7	BH7-100	A	25/01/2017		X		X		X	X				
8	BH8-100	A	25/01/2017		X		X		X	X				
9	BH9-100	A	25/01/2017		X		X		X	X				
10	BH10-100	A	25/01/2017		X		X		X	X				

SGS EHS Alexandria Laboratory

SE161508 COC
Received: 31 – Jan – 2017

Investigator: I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler name: Ashleigh Pickering
Date : 25/01/2017 Time:

Relinquished by: (print and signature)	Date	Time	Received by: (print and signature)	Date	Time
Ashleigh Pickering	30/01/2017	17:00		31/1/17	@ 10:25

Please return completed form to Envirowest Consulting, *A = Solvent rinsed glass jar with Teflon lined lid and orange label, B= 40mL vial, C= 250mL amber, D=250ml plastic

Chain of Custody Form – Ref 7863

Ref:	**7863**
Investigator:	Envirowest Consulting 9 Cameron Place PO Box 8158 ORANGE NSW 2800
Telephone:	(02) 6361 4954
Facsimile:	(02) 6360 3960
Email:	ashleigh@envirowest.net.au
Contact Person:	Ashleigh Pickering
Invoice:	accounts@envirowest.net.au
Laboratory:	SGS SYDNEY 16/33 Maddox Street ALEXANDRIA NSW 2015
Quotation #:	
Courier/CN:	

	Sample ID	Container*	Sampling Date/Time	Sample matrix: Water	Soil	Sludge	Sample preservation: Cool	HNO3/HCl	Unpre-served	Analysis (SGS Method Code): CL17 — TRH 6-40, BTEX,PAH, OCP, OPP, PCB, 8 METALS	CL6 — TRH C6-C10, BTEXN, LEAD			
11	BH11-100	A	25/01/2017		X		X		X	X				
12	BH12-100	A	25/01/2017		X		X		X	X				
13	BH12-500	A	2/01/2017		X		X		X	X				
14	BH13-100	A	25/01/2017		X		X		X	X				
15	BH14-100	A	25/01/2017		X		X		X	X				
16	BH15-100	A	25/01/2017		X		X		X	X				
17	BH16-100	A	25/01/2017		X		X		X	X				
18	BH16-500	A	25/01/2017		X		X		X	X				
19	BH17-100	A	25/01/2017		X		X		X	X				
20	BH17-500	A	25/01/2017		X		X		X	X				
21	BH18-100	A	25/01/2017		X		X		X	X				

Investigator: I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler name: Ashleigh Pickering
Date : 25/01/2017 Time:

Relinquished by: (print and signature)	Ashleigh Pickering	Date	Time	Received by: (print and signature)	Date	Time
		30/01/2017	17:00			31/1/17 @ 10:25

Please return completed form to Envirowest Consulting, *A = Solvent rinsed glass jar with Teflon lined lid and orange label, B= 40mL vial, C= 250mL amber, D=250ml plastic

Chain of Custody Form – Ref 7863

Ref:	**7863**		**Sample matrix**			**Sample preservation**			**Analysis**					
Investigator:	Envirowest Consulting 9 Cameron Place PO Box 8158 ORANGE NSW 2800								**SGS Method Code**					
Telephone:	(02) 6361 4954								**CL17**	**CL6**				
Facsimile:	(02) 6360 3960													
Email:	ashleigh@envirowest.net.au													
Contact Person:	Ashleigh Pickering													
Invoice:	accounts@envirowest.net.au													
Laboratory:	SGS SYDNEY 16/33 Maddox Street ALEXANDRIA NSW 2015		Water	Soil	Sludge	Cool	HNO3/HCl	Unpre-served	TRH 6-40, BTEX,PAH, OCP, OPP, PCB, 8 METALS	TRH C6-C10, BTEXN, LEAD				
Quotation #:														
Courier/CN:														
	Sample ID	**Container***	**Sampling Date/Time**											
22	BH18-500	A	25/01/2017		X		X		X	X				
23	BH19-100	A	25/01/2017		X		X		X	X				
24	BH19-500	A	25/01/2017		X		X		X	X				
25	BH20-100	A	25/01/2017		X		X		X	X				
26	BH20-500	A	25/01/2017		X		X		X	X				
27	BH21-100	A	25/01/2017		X		X		X	X				
28	BH21-500	A	25/01/2017		X		X		X	X				
29	BH22-100	A	25/01/2017		X		X		X	X				
30	BH22-500	A	25/01/2017		X		X		X	X				
31	BH23-100	A	25/01/2017		X		X		X	X				

Investigator: I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler name: Ashleigh Pickering
Date : 25/01/2017 Time:

Relinquished by: (print and signature)	Ashleigh Pickering	Date	Time	Received by: (print and signature)		Date	Time
		30/01/2017	17:00			31/1/17	@ 10·25

Please return completed form to Envirowest Consulting, *A = Solvent rinsed glass jar with Teflon lined lid and orange label, B= 40mL vial, C= 250mL amber, D=250ml plastic

Chain of Custody Form – Ref 7863

Ref:	**7863**		**Sample matrix**			**Sample preservation**			**Analysis**					
Investigator:	Envirowest Consulting 9 Cameron Place PO Box 8158 ORANGE NSW 2800								**SGS Method Code**					
Telephone:	(02) 6361 4954								**CL17**	**CL6**				
Facsimile:	(02) 6360 3960													
Email:	ashleigh@envirowest.net.au													
Contact Person:	Ashleigh Pickering													
Invoice:	accounts@envirowest.net.au													
Laboratory:	SGS SYDNEY 16/33 Maddox Street ALEXANDRIA NSW 2015		Water	Soil	Sludge	Cool	HNO3/HCl	Unpre-served	TRH 6-40, BTEX, PAH, OCP, OPP, PCB, 8 METALS	TRH C6-C10, BTEXN, LEAD				
Quotation #:														
Courier/CN:														
	Sample ID	**Container***	**Sampling Date/Time**											
32	BH23-400	A	25/01/2017		X		X		X	X				
33	BH24-100	A	25/01/2017		X		X		X	X				
34	BH24-500	A	25/01/2017		X		X		X	X				
35	BH25-100	A	25/01/2017		X		X		X	X				
36	BH25-500	A	25/01/2017		X		X		X	X				
37	BH26-2100	A	25/01/2017		X		X		X		X			
38	BH27-2700	A	25/01/2017		X		X		X		X			
39	BH28-2000	A	25/01/2017		X		X		X	X				
40	BH28-2100	A	25/01/2017		X		X		X	X				
41	BH29-2000	A	25/01/2017		X		X		X		X			

Investigator: I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler name: Ashleigh Pickering
Date : 25/01/2017 Time:

Relinquished by: (print and signature) Ashleigh Pickering Date 30/01/2017 Time 17:00

Received by: (print and signature) Date Time 31/1/17 @ 10:25

Please return completed form to Envirowest Consulting, *A = Solvent rinsed glass jar with Teflon lined lid and orange label, B= 40mL vial, C= 250mL amber, D=250ml plastic

Chain of Custody Form – Ref 7863

Ref:	**7863**		**Sample matrix**			**Sample preservation**			**Analysis**				
Investigator:	Envirowest Consulting 9 Cameron Place PO Box 8158 ORANGE NSW 2800								**SGS Method Code**				
Telephone:	(02) 6361 4954								**CL17**	**CL6**			
Facsimile:	(02) 6360 3960												
Email:	ashleigh@envirowest.net.au												
Contact Person:	Ashleigh Pickering												
Invoice:	accounts@envirowest.net.au												
Laboratory:	SGS SYDNEY 16/33 Maddox Street ALEXANDRIA NSW 2015		Water	Soil	Sludge	Cool	HNO3/HCl	Unpre-served	TRH 6-40, BTEX,PAH, OCP, OPP, PCB, 8 METALS	TRH C6-C40, BTEXN, LEAD			
Quotation #:													
Courier/CN:													
	Sample ID	**Container***	**Sampling Date/Time**										
42	BH30-2100	A	25/01/2017		X		X		X		X		
43	BH31-20	A	25/01/2017		X		X		X	X			
44	DA	A	25/01/2017		X		X		X	X			
45	DB	A	25/01/2017		X		X		X	X			
46	DC	A	25/01/2017		X		X		X	X			

Investigator: I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler name: Ashleigh Pickering
Date : 25/01/2017 Time:

Relinquished by: (print and signature) Ashleigh Pickering — Date 30/01/2017 — Time 17:00

Received by: (print and signature) — Date 31/1/17 — Time @ 10:25

Please return completed form to Envirowest Consulting, *A = Solvent rinsed glass jar with Teflon lined lid and orange label, B= 40mL vial, C= 250mL amber, D=250ml plastic

Appendix 4. Field sampling log

Sampling log

Client	Anthony Daintith Town Planning
Contact	Anthony Daintith
Job number	7863
Location	88 Pipers Flat Road, Wallerawang
Date	25 January 2017
Investigator(s)	Ashleigh Pickering
Weather conditions	Cool

Sample id	Matrix	Date	Analysis required	Observations/comments
BH1-100	Soil	25/01/2017	Arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), nickel (Ni), zinc (Zn), mercury (Hg), total recoverable hydrocarbons TRH(C6-C40), polycyclic aromatic hydrocarbons (PAH), benzene, toluene, ethylbenzene, xylene and naphthalene (BTEXN), polychlorinated biphenyl (PCB), organochlorine pesticides (OCP) Organophosphate pesticides (OPP)	General site area
BH2-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH3-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH4-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH5-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH6-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH7-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH8-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH9-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH10-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH11-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH12-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH12-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH13-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH14-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH15-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH16-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH16-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH17-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area

BH17-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH18-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH18-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH19-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH19-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH20-100	Soil	25/01/2017	As, Cd, Cr (total), Cr(VI), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH20-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH21-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH21-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH22-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH22-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH23-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH23-400	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH24-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH24-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH25-100	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH25-500	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	General site area
BH26-2100	Soil	25/01/2017	TRH(C6-C40), BTEXN, Pb	Historic UST
BH27-2700	Soil	25/01/2017	TRH(C6-C40), BTEXN, Pb	Historic UST
BH28-2000	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	Historic UST
BH28-2100	Soil	25/01/2017	TRH(C6-C40), BTEXN, Pb	Historic UST
BH29-2000	Soil	25/01/2017	TRH(C6-C40), BTEXN, Pb	Historic UST
BH30-2100	Soil	25/01/2017	TRH(C6-C40), BTEXN, Pb	Historic UST
BH31-20	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	Suspected hot spot
DA	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	Duplicate of BH1-100
DB	Soil	25/01/2017	As, Cd, Cr (total), Cu, Pb, Ni, Zn, Hg, TRH(C6-C40), PAH, BTEXN, PCB, OCP, OPP	Duplicate of BH12-500
DC	Soil	25/01/2017	TRH(C6-C40), BTEXN, Pb	Duplicate of BH30-2100

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APPENDIX THREE

DELEGATION EVALUATION CHECKLIST

Evaluation criteria for the delegation of plan making functions

Checklist for the review of a request for delegation of plan making functions

Local Government Area:

LITHGOW CITY COUNCIL L.G.A.

Name of draft LEP:

LITHGOW LOCAL ENVIRONMENTAL PLAN (AMENDMENT NO 3)

Address of Land (if applicable)

88 PIPERS FLAT ROAD WALLERAWANG NSW. 2790

LOT 4 D.P. 407106

Intent of draft LEP:

TO AMEND LITHGOW LOCAL ENVIRONMENTAL PLAN 2014 TO ENABLE LOT 4 D.P. 407106 TO BE FURTHER SUBDIVIDED INTO RESIDENTIAL LOTS AS FOLLOWS (A) AMEND THE LAND ZONE FROM RS - R2 (B) AMEND LOT SIZE FROM 2HA - 800m².

Additional Supporting Point/Information:

ATTACHED PLANNING PROPOSAL

Evaluation criteria for the issuing of an Authorisation				
(NOTE – where the matter is identified as relevant and the requirements has been met, council is to attach information to explain why the matter has not been addressed)	**Council Response**		**Department Assessment**	
	Y/N	**Not Relevant**	**Agree**	**Disagree**
Is the planning proposal consistent with the Standard instrument Order, 2006?	Y			
Does the planning proposal contain an adequate explanation of the intent, objectives, and intended outcome of the proposed amendment?	Y			
Are appropriate maps included to identify the location of the site and the intent of the amendment?	Y			
Does the planning proposal contain details relate to proposed consultation?	Y			
Is the planning proposal compatible with an endorsed regional or sub-regional planning stagey or a local strategy endorsed but the Secretary?	Y			
Does the planning proposal adequately address any consistency with relevant S117 Planning Directions?	Y			
Is the planning proposal consistent with all relevant State Environmental Planning Policies (SEPPs)?	Y			
Minor Mapping Error Amendments				
Does the planning proposal seek to address a minor mapping error and contain all appropriate maps that clearly identify the error and the manner in which the error will be addressed?	N			
Heritage LEPs				
Does the planning seek to add or remove a local heritage item and is it supported by a strategy/ study endorsed by the Heritage Office?	N			
Does the planning proposal include another form of endorsement or support from the Heritage office if there is no supporting strategy/study?	N			
Does the planning proposal potentially impact on an item of Stage Heritage Significance and if so, the views of the Heritage Office been obtained?	N			
Reclassifications				
Is there an associated spot rezoning with the reclassification?	N	N/A		

If yes to the above, is the rezoning consistent with an endorsed Plan of Management (POM) or other strategy?	N	N/A		
Is the planning proposal proposed to rectify an anomaly in a classification?	N	N/A		
Will the planning proposal be consistent with an adopted POM or strategy related to the site?	N	N/A		
Has Council confirmed whether there are any trusts, estates. Interests, dedications, conditions, restrictions or covenants on the public land and included a copy of the title with the planning proposal?	N	N/A		
Has council confirmed that there will be no change or extinguishment of interests and that the proposal does not require the Governor's approval?	N	N/A.		
Has the council identified that it will exhibit the planning proposal in accordance with the Department's Practice Note regarding *classification and reclassification of public land through a local environmental plan and Best Practice Guideline for LEPs and Council Land?*	N	N/A		
Has the council acknowledged in its planning proposal that a Public Hearing will be required and agreed to hold one as part of its documentation?	N	N/A		
Spot Rezonings				
Will the proposal result in a loss of development potential for the site (ie reduced FSR or building height) that is not supported by an endorsed strategy?	N			
Is the rezoning intended to address an anomaly that has been identified following the conversion of a principal LEP into a Standard Instrument LEP format?	N			
Will the planning proposal deal with a previously deferred matter in an existing LEP and if so, does it provide enough information to explain how the issue that lead to the deferral has been addressed?	N			
If yes, does the planning proposal contain sufficient documented justification to enable the matter to proceed?		N/A.		
Does the planning proposal create an exception to a mapped development standard?	N			