AE Design Partnership

Detailed Site Investigation: Proposed Commercial Subdivision, 1111 – 1141 Elizabeth Drive, Cecil Park, NSW

ENVIRONMENTAL

WATER

WASTEWATER

GEOTECHNICAL

CIVIL

PROJECT MANAGEMENT

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All enquiries regarding this project are to be directed to the Project Manager.

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General Abbreviations

AASS	Actual acid sulfate soil
ABC	Ambient background concentrations
ACM	Asbestos containing material
AEC	Area of environmental concern
AF	Asbestos fines
AMP	Asbestos Management Plan
ANZECC	Australia and New Zealand Environment Conservation Council
ANZG	Australian and New Zealand Governments
ASC NEPM	National Environmental Protection (Assessment of Site Contamination) Measure (2013)
ASS	Acid sulfate soil
ASSMAC	Acid Sulfate Soils Management Advisory Committee
AST	Above ground storage tank
BGL	Below ground level
BH	Borehole
BTEXN	Benzene, toluene, ethylbenzene, xylene, naphthalene
CEMP	Construction Environmental Management Plan
COC	Chain of custody
COPC	Contaminants of potential concern
DA	Development application
DBT	Dibutyltin
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change
DNAPL	Dense non aqueous phase liquid
DP	Deposited Plan
DPI	NSW Department of Primary Industry
DPIW	NSW Department of Primary Industry – Water
DQI	Data quality indicators
DQO	Data quality objectives
DSI	Detailed Site Investigation
EAC	Ecological assessment criteria
EIL	Ecological investigation level
EMP	Environmental Management Plan
EPA	NSW Environmental Protection Authority
EQL	Estimated quantitation limit (interchangeable with PQL and LOR)
ESA	Environmental Site Assessment
ESL	Ecological screening level
FA	Fibrous asbestos
GIL	Groundwater investigation level
HIL	Health investigation level
HM	Heavy metals
HSL	Health screening level
IA	Investigation area
ISQG	Interim Sediment Quality Guideline
ITP	Inspection Testing Plan
LGA	Local government area
LNAPL	Light non aqueous phase liquid
LOR	Limit of reporting (interchangeable with EQL and PQL)
MA	Martens & Associates Pty Ltd
mAHD	Metres, Australian Height Datum
mbgl	Metres below ground level
MBT	Monobutyltin
MNA	Monitored natural attenuation
MPE	Multi phase extraction
NAPL	Non aqueous phase liquid
NATA	National Association of Testing Authorities
ND	No data
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
OCP	Organochloride pesticides
OEH	NSW Office of Environment and Heritage
OPP	Organophosphorus pesticides
PACM	Potential asbestos containing material
PAH	Polycyclic aromatic hydrocarbons
PASS	Potential acid sulfate soil
PCB	Polychlorinated biphenyl
PCEMP	Post Construction Environmental Management Plan
PESA	Preliminary Environmental Site Assessment
PFAS	Per- and polyfluoroalkyl substances
PID	Photoionisation detector
ppb	Parts per billion
ppm	Parts per million
PQL	Practical quantitative limit (interchangeable with EQL and LOR)
PSI	Preliminary Site Investigation
QA/QC	Quality assurance / quality control
RAC	Remediation acceptance criteria
RAP	Remedial Action Plan
HHRA	Human Health Risk Assessment
RPD	Relative percentage difference
SAC	Site assessment criteria
SAQP	Sampling and Analysis Quality Plan
SEPP	State Environmental Planning Policy
SIL	Soil investigation level
SOP	Standard operating procedure
SWL	Standing water level
SWMS	Safe Work Method Statement
TB	Trip blank
TBT	Tributyl tin
TCLP	Toxicity characteristics leaching procedure
TEQ	Toxic equivalency factor
TP	Test pit
TPH	Total petroleum hydrocarbons
TRH	Total recoverable hydrocarbons
TS	Trip spike
UCL	Upper confidence limit
UPSS	Underground petroleum storage system
UST	Underground storage tank
VHC	Volatile halogenated compounds
VOC	Volatile organic compounds
WHS	Work health and safety
WHSP	Work Health and Safety Plan

1 Introduction

1.1 Overview

This report prepared by Martens and Associates (MA) documents a Detailed Site Investigation (DSI) on behalf of AE Design Partnership (the Client) to support a development application (DA) to the Fairfield City Council (Council) for a proposed 11 lot commercial subdivision at 1111 – 1141 Elizabeth Drive, Cecil Park NSW (the site). MA has previously completed a Preliminary Site Investigation (PSI) for the site in September 2018 (MA, 2018a).

The investigation area (IA) for this DSI is shown in Attachment A. Proposed development and cut and fill plans are provided in Attachment B.

1.2 Objectives

The objectives for this DSI are:

- Evaluation of identified areas of environmental concern (AEC) and associated contaminants of potential concern (COPC) as documented in the previous PSI (MA, 2018a).
- Provision of comment on the suitability of the IA for the proposed development, and where required, recommendations for additional investigations.

1.3 Scope of Works

The scope of works includes:

- Review of historical site documentation.
- Intrusive subsurface investigation and sampling.
- Laboratory analysis of samples for COPC.
- Provision of a preliminary waste classification.
- Preparation of a report in general accordance with the relevant sections of ASC NEPM (2013), NSW EPA (2017) and NSW EPA (2020).

1.4 Reference Guidelines

This assessment was prepared in general accordance with the following guidelines:

- NEPC (1999, amended 2013) National Environmental Protection (Assessment of Site Contamination) Measure. Referred to as ASC NEPM (2013).
- NSW EPA (1995) Sampling Design Guidelines.
- NSW EPA (2017) 3rd Ed. Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme.
- NSW EPA (2020) Contaminated Land Guidelines: Consultants Reporting on Contaminated Land.

2 Site Background Information

2.1 Site Details

Site information is summarised in Table 1, with the site area and general surrounds plans provided in Attachment A.

Table 1: Site information.

Item	Description / Detail
Site address	1111 – 1141 Elizabeth Drive, Cecil Park NSW
Legal identifier	Lot 2 Sec 4 DP 2954
Surveyed area	7.38 ha (Project Surveyors, 2017)
Local Government Area	Fairfield City Council
Current zoning and land use	Site is not currently zoned (NSW Planning Portal, 2020). Site is currently used for rural purposes.
Site description	Rural property with cleared grazing land, dwelling, and multiple sheds and stockpiles.
Surrounding land uses	Low density residential to the north, cleared grazing land and tree cover to the east and the south.
Topography	Located in slightly to moderately undulating terrain, with grades up to approximately 10%. Site elevation ranges between approximately 116.5 mAHD at Elizabeth drive in the south, to approximately 100.5 mAHD at the northern site boundary (Project Surveyors, 2017).
Geology and soil mapping	The Penrith *1:100,000 Geological Series Sheet 9030* (1991) describes site geology as Bringelly Shale consisting of shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff. The NSW Environment and Heritage eSPADE website identifies the site as having soils of the Luddenham variety consisting of shallow dark podzolic soils or massive earthy clays on crests; moderately deep red podzoic soils on upper slopes; moderately deep yellow podzoic soils and prairie soils on lower slopes and drainage lines.
Surface hydrology	Site drainage is via overland flow to a tributary of Ropes Creek along the north western site boundary. Ropes Creek is located approximately 3 km to the east of the site.

2.2 Local Meteorology

A summary of local meteorology from the closest operational BOM Station with rainfall and temperature data (station 067119 Horsley Park Equestrian Centre, 1997 – 2020) is provided in Table 2.

Table 2: Meteorological data.

Month	Mean Rainfall (mm)	Mean Maximum Temperature (°C)
January	73.7	30.1
February	119.2	28.8
March	84.8	26.8
April	69.5	23.9
May	42.7	20.6
June	72.6	17.6
July	35.2	17.4
August	36.8	19.1
September	37.6	22.4
October	57.6	24.8
November	76.1	26.6
December	63.6	28.5
Annual	**748.4**	**23.9**

2.3 Hydrogeology

A review of WaterNSW Real-time Water Databases indicated no groundwater wells within 500 m of the site.

Previous geotechnical investigations (MA, 2018b) encountered groundwater at a depth of 3.0 mbgl in one of nine boreholes completed on site. The borehole was located in the north eastern portion of the site and is likely associated with a nearby drainage channel and previous dam (See section 3.1).

DSI investigations encountered groundwater at a depth of 0.4 mbgl in one test pit (TP210) in the westernmost former dam. It is expected that this water represents ephemeral water within the soil profile and that the regional aquifer is located at a deeper depth.

Should further investigation on permanent site groundwater be required, additional investigations will need to be undertaken (i.e. installation of groundwater wells).

3 Previous Site Investigations

3.1 Preliminary Site Investigation

Key findings of the PSI conducted in 2018 are summarised in Table 2.

Table 2: PSI (MA, 2018a) summary.

Investigation Details	Investigation Task and Finding
Scope of works	Desktop review of previous reports, aerial photographs, online databases and land title information. Review of local geology, hydrogeology and topography maps. Site walkover to review existing site conditions.
Key findings of historic site review and walkover	Historical aerials indicated that the site had been partially cleared and used as grazing land since before 1930, with a dwelling and multiple sheds constructed sometime between 1930 and 1955. The central portion of the site was used as market gardens from 1955 to sometime between 1970 and 1991, and has since been used for grazing purposes. The currently occupied dwelling was constructed in 1989. Multiple former dams were constructed on the site which were backfilled sometime between 1991 and 2004. The PSI site walkover identified the following: o An occupied two storey brick dwelling with tile roofing was located at the end of the main driveway from Elizabeth Drive, with an attached carport to the north o A large corrugated metal shed was located to the east of the dwelling, storing several vehicles and scrap items. Some black staining was noted in surrounding grass, possibly from storage of steel drums. o Several piles of scrap metal, excavated rock and plastic storage containers were observed to the north east of the large shed, along the south eastern site boundary. o A small animal enclosure constructed of timber and fibre cement board and with dirt flooring was located to the north of the brick dwelling. o A dilapidated abandoned dwelling constructed of timber and fibre cement board (PACM) was located to the north of the animal enclosure. o A shed constructed of corrugated metal with concrete flooring was located to the east of the abandoned dwelling. o An area to the north of the abandoned dwelling was used for the storage of a truck, multiple pieces of farming equipment, and stockpiles of metal and soil. o A stockpile of refuse including vehicle parts, steel drums, construction materials, vegetation and PACM was observed to the north east of the abandoned dwelling. o Two raised fill pads were observed on the site, to the east and the west of the brick dwelling. o A large dam with raised banks was located in the north of the site bordering the neighbouring property to the north. o A stockpile of soil and refuse (tyres, plastics, brick, concrete, steel drums) was located to the south east of the dam. o Two smaller dams were located in bushland in the north-western portion of the site. Both dams were partially backfilled with soil and general refuse including PACM.

Investigation Details	Investigation Task and Finding
	o A fill mound was observed in the north western portion of the site, along the north western site boundary. Burnt material observed on the mound suggested potential use of the area for the incineration of vegetation and / or waste.
Identified AEC and COPC	Identified AEC and COPC included: o Dwelling, with COPC consisting of heavy metals, pesticides and asbestos. o Sheds and abandoned dwelling, with COPC consisting of heavy metals, hydrocarbons, pesticides and asbestos. o Former market gardens, with COPC consisting of heavy metals and pesticides. o Fill from unknown sources within fill mounds, fill pads and dams, with COPC consisting of heavy metals, hydrocarbons, pesticides and asbestos. o Vehicle and farming equipment storage, with COPC consisting of heavy metals and hydrocarbons.
Recommendations	The PSI concluded that a DSI would be required incorporating soil sampling and analysis for COPC within the AEC identified at the site.

4 Conceptual Site Model

The AEC and COPC identified from the review of site documentation are summarised in Table 3. A map showing locations of identified AEC is provided in Attachment A.

Table 3: AEC and COPC.

AEC	Potential for Contamination	COPC
AEC A Dwellings including 2 m curtilage	Pesticides and heavy metals may have been used underneath dwelling for pest control. Building construction may include PACM, zinc treated (galvanised) metals, and/or lead based paints.	HM, OCP / OPP and asbestos
AEC B Sheds / abandoned dwelling including 2 m curtilage	Pesticides and heavy metals may have been used underneath existing and past garage / sheds for pest control. Building construction may include PACM, zinc treated (galvanised) metals, and/or lead based paints. Garage may have previously stored fuels, oils and chemicals.	HM, TRH, BTEXN, PAH, OCP / OPP and asbestos
AEC C Former market gardens	Application of agricultural chemicals, use of pesticides and heavy metals for pest control during site use as market gardens / rural uses.	HM and OCP / OPP
AEC D Stockpiles / fill mounds	Building materials, builders' rubble and fill material of unknown origin and quality within stockpiles.	HM, TRH, BTEXN, PAH, OCP / OPP and asbestos
AEC E Fill pads	Fill material of unknown origin and quality used to level site.	HM, TRH, BTEXN, PAH, OCP / OPP and asbestos
AEC F Vehicle storage / farming supplies	Fuel, oil or battery acid containing lead from vehicles may have contaminated soil. Storage of farming supplies may have introduced pesticides to soil.	HM, TRH, BTEXN, PAH and OCP / OPP
AEC G Former dams	Fill material of unknown origin and quality used to fill in dams. Contaminants from the site may have washed into and accumulated in the dam.	HM, TRH, BTEXN, PAH, OCP / OPP and asbestos
AEC H North western fill mound	Fill material of unknown origin and quality, and potential burning of waste.	HM, TRH, BTEXN, PAH and OCP / OPP, asbestos

A conceptual site model (CSM), based on the AEC and COPC identified in Table 3, and the associated exposure pathways to potential receptors are summarised in Table 4.

Table 4: Conceptual site model.

COPC	Pathway	Exposure Route	Receptor
HM PAH OCP / OPP	Leaching of contaminants through the soil profile. Transport of contaminants via air (dust). Downward migration from one groundwater aquifer to another. Transport of contaminants via groundwater to surface water. Transport of contaminants by mechanical disturbance (e.g. earthworks). Transport of contaminants via surface water (runoff). Biomagnification and / or bioaccumulation along food chains.	Direct contact with contaminants. Ingestion of contaminants. Inhalation of contaminated media (e.g. dust).	<u>Possible Human Receptors</u> Current or future site users such as visitors and workers. On and offsite construction or maintenance workers. Current or future users of surrounding residences, reserves, and commercial or industrial premises. Hydraulically downgradient groundwater users who extract groundwater for purposes that could have implications for human health (e.g. potable / domestic, primary contact recreation, irrigation of homegrown produce). <u>Possible Environmental Receptors</u> Flora and fauna that may inhabit or migrate through the site. Contaminant pathway / sink areas. Surface water sinks (dams, lakes, creeks, etc.) located on or near the site. Groundwater environments beneath, or in the vicinity of, the site.
TRH / BTEXN	As above plus: Volatilisation to air (vapour).	As above, plus: Inhalation of contaminate (e.g. vapour).	
Asbestos	Transport of contaminants via air and inhalation of particles. Transport of contaminants by mechanical disturbance (e.g. earthworks). Transport of particles on clothing.	Inhalation of contaminated media (e.g. dust).	<u>Possible Human Receptors</u> Current or future site users. On and offsite construction or maintenance workers. Current or future users of surrounding residences, reserves, and commercial or industrial premises.

5 Sampling, Analytical and Quality Plan

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

- Data quality objectives (DQO).
- Data quality indicators (DQI).
- Sampling methodologies and procedures.

Field screening methods:

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

The following sections summarise the DQO, DQI and QA / QC.

5.1 Data Quality Objectives

DQO were prepared as statements specifying qualitative and quantitative data required to support project decisions. DQO were prepared in general accordance with NSW EPA (2017), NSW EPA (2020) and NEPM (2013) guidelines, and are presented in Table 5.

Table 5: Data quality objectives.

Step 1 **Stating the Problem**	Review of previous site documentation identified potential contaminants that might be accessible to human and environment receptors during construction and operation of the proposed development. This DSI is required to assess risk posed by COPC in the identified AEC to receptors.
Step 2 **Identifying the Decision(s)**	To assess the suitability of the site for future land use, decisions are to be made based on the following questions: o What is the contaminant exposure pathway? o Has previous or current site use impacted the IA that may pose a risk to humans or the environment for future land use? o Does the IA require remediation or management prior to constructing the proposed development?
Step 3 **Identification of Inputs to the Decision**	The inputs to the assessment include: o Soil sampling at nominated locations across the IA. o Laboratory analytical results for relevant COPC. o Assessment of analytical results against site suitable guidelines.
Step 4 **Study Boundary Definitions**	Study boundaries are as follows: o Lateral – Lateral boundary of the assessment is defined by the IA boundary. o Vertical – Vertical boundary is governed by the maximum depth reached during subsurface investigations. o Temporal – One round of soil sampling has been undertaken at this stage.
Step 5 **Development of Decision Rules**	The decision rule for this investigation is as follows: If the concentration of contaminants exceeds the adopted assessment criteria, a risk assessment is required. Should the risk be unacceptable, further investigations to remediate and / or manage the onsite impacts, in relation to the proposed development, will be undertaken.
Step 6 **Specification of Limits on Decision Errors**	Guidance found in ASC NEPM (2013) Schedule B2 regarding 95% upper confidence limit (UCL) states that the 95% UCL of the arithmetic mean provides a 95% confidence level that the true population mean will be less than or equal to this value. Therefore a decision can be made based on a probability that 95% of the data collected will satisfy the site acceptance criteria. A limit on decision error will be 5% that a conclusive statement may be incorrect.
Step 7 **Optimisation of Sampling Design**	Proposed sampling locations shall provide even coverage across the site in the identified AEC. Sampling shall attempt to ensure that critical locations are assessed, sampled, and analysed for appropriate contaminants of concern. Soil sampling locations were set subject to site access and selected using a combined judgemental and grid pattern across the IA.

5.2 Data Quality Indicators

In accordance with NSW EPA (2017), the investigation data set has been compared with DQI outlined in Table 6 to ensure that collected data meets the project needs and that DQO has been met.

Table 6: Data quality indicators.

Assessment Measure (DQI)	Comment
Precision – A measure of the variability (or reproducibility) of data.	Precision is assessed by calculating the relative percent difference (RPD) between blind field duplicates and primary samples. Data precision is deemed acceptable where results are 0 - 10 x EQL or where RPDs <50% (10 - 30 x EQL) or <30% (>30 x EQL). Exceedance of this range may still be considered acceptable where heterogeneous materials such as fill are sampled.
Accuracy – A measure of the closeness of reported data to the "true value".	Data accuracy is assessed by: o Field spikes and blanks. o Laboratory control samples.
Representativeness – The confidence that data are representative of each media present on the site.	To ensure data representativeness the following field and laboratory procedures are followed: o Ensure that the design and implementation of the sampling program have been completed in accordance with MA standard operating procedures (SOP). o Trip blank and trip spike samples shall be used for volatiles during field sampling to ensure no cross contamination or laboratory artefacts. o Ensure that all laboratory hold times are met and that sample handling and transport are completed in accordance with the MA SOP.
Completeness – A measure of the amount of usable data from a data collection activity.	To ensure data set completeness, the following is required: o Confirmation that all sampling methodology was completed in general accordance with the MA SOP. o COC and receipt forms. o Results from all laboratory QA / QC samples (lab blanks, trip blank, trip spike, lab duplicates). o NATA accreditation stamp on all laboratory reports.
Comparability - The confidence that data may be considered to be equivalent for each sampling and analytical event.	Data comparability is maintained by ensuring that: o All site sampling events are undertaken following methodologies outlined in MA SOP and published guidelines. o NATA accredited laboratory methodologies shall be followed on all laboratory analysis.

5.3 Methodology and Quality Assurance / Quality Control

Site investigation and soil sampling methodology as shown in Table 7, was completed to meet the project DQO.

Table 7: Investigation and sampling methodology.

Activity	Detail / Comments
Fieldworks	Surface and subsurface soil investigations were completed on 3 June and 6 June 2020 and involved: o 30 surface samples using a shovel, collected in market garden areas in the centre of the site to be tested as triple composite samples (C01 – C10). o 13 surface samples (SS31 – SS43) using a shovel and six boreholes (BH222 – BH228) using a hand operated push tube, completed in vicinity of site structures and equipment storage areas. o 21 test pits (TP201 – TP221), completed using a 5.5 t excavator in areas of significant fill material and / or soil stockpiling. o Five boreholes (BH229 – BH233) to confirm absence of fill in areas surrounding the market garden areas in the centre of the site. o Collection of five material samples for laboratory analysis as PACM. o Collection of eight duplicate samples (DUP201 – DUP208) for laboratory QA / QC analysis. Sampling and triple composite locations are shown in Attachment A, and test pit / borehole logs are provided in Attachment B.
Soil sampling	Soil sampling was completed by the MA environmental consultant using a clean pair of nitrile gloves for each sample. Each sample was placed into a laboratory supplied, 250 mL glass jar with no headspace to limit volatile loss and labelled with a unique identification number. Asbestos samples were collected in ziplock bags and labelled with a unique identification number.
QA / QC sampling	QA samples were collected for the initial investigation as follows: o Six soil duplicate samples were collected for intra laboratory analysis during investigations. o One soil trip blank and one trip spike sample were used during soil sampling.
Sample handling and transport	Sample collection, storage and transport were conducted according to MA SOP. Collected soil samples were placed immediately into an ice chilled cooler box. Samples were dispatched to NATA accredited laboratories under chain of custody documentation within holding times.

5.4 Laboratory Analytical Suite

Laboratory analysis was carried out by Envirolab Pty Ltd, a NATA accredited laboratory. Summary of laboratory analyses is provided in Table 8.

Table 8: Summary of laboratory analyses.

COPC	Primary Samples Analysed	QA / QC Samples Analysed
BTEXN	30	1 trip spike, 1 trip blank
TRH	30	1 trip blank
PAH	30	
Heavy metals [1]	46	6 duplicate
OCP / OPP	11	
CEC and pH [2]	4	
Asbestos in material sample	5	

Notes
[1] Heavy metals – arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc.
[2] CEC and pH were analysed for EIL calculations and to assist in determining physiochemical interactions.

Laboratory chain of custody documentation are provided in Attachment G.

6 Site Assessment Criteria

The site assessment criteria (SAC) adopted for this DSI were derived from the ASC NEPM (2013). These are listed in Table 9.

Table 9: Site assessment criteria.

Media	Adopted Guidelines	Applicability
Soil	ASC NEPM (2013)	Health investigation levels (HIL) HIL D – Commercial / industrial was adopted based on the proposed land use. Health screening levels (HSL) HSL D – Commercial / industrial for clay was adopted based on the proposed land use and encountered soil conditions. Ecological Investigation Levels (EIL) EILs were derived from methodology from ASC NEPM (2013) for the protection of terrestrial ecosystems for commercial / industrial land use. The following physiochemical properties were applied based on laboratory testing results from onsite soils: o pH value of 6 o CEC value of 17 cmol/kg o Contamination is considered as "aged" (>2 years) o From an area of "low" traffic volumes. Laboratory results are provided in Attachment G, and EIL calculation spreadsheets are provided in Attachment D. Ecological Screening Levels (ESL) Commercial / industrial use, fine soil. Management Limits Commercial / industrial land use, fine soil.

7 Results

7.1 General Field Observations

During the DSI, the general site and all investigation locations were examined for signs of contamination (odours, staining etc.). The following observations were made:

- Site structures and features were generally unchanged from the PSI (MA, 2018a).
- At the time of the DSI, the site dwelling was occupied, and the large shed to the east of the dwelling appeared to be used as a workshop / storage area.
- A small area of land to the north of the dwelling, outside of the main paddock in the centre of the site, was used for market garden purposes.
- The main paddock was used for grazing / horse agistment purposes.
- The sheds and abandoned dwelling to the north of the occupied dwelling were used to store building supplies, unused household items and furniture.
- Vehicle storage areas, waste stockpiles, farming equipment storage and fill material locations observed during the PSI (summarised in Table 4) were found to be in similar condition during the DSI.
- One surficial PACM fragment (MS202) was observed and collected from the main driveway in the southern portion of the site.
- No groundwater was encountered during subsurface investigations.

7.2 Soil Conditions

Subsurface soil observations during intrusive investigations were as follows:

- Fill pads to the east and west of the dwelling (AEC E) generally consisted of clayey fill material to depths of between 0.3 and 1.0 mbgl.

- Trace anthropogenic inclusions of glass, brick, tile, PVC, concrete, and fibre cement board were observed within the fill layer.

- MS201 was collected from TP204 in the eastern fill pad and MS203 was collected from near TP208 in the western fill pad for laboratory analysis as PACM.

- Soils in the southern portion of the site in the vicinity of site dwellings (both occupied and abandoned) and sheds were generally comprised of silty clay topsoils overlying residual clays.

- Inspections in BH226 and SS16 to the north of the abandoned dwelling observed fill material to depths of approximately 0.3 mbgl, comprising silty clay with traces of plastics, polystyrene foam, fibre cement board and glass. MS205 was collected from SS16 for analysis as PACM.

- Two small former dams were investigated in the north western portion of the site.

    - The easternmost small dam contained clayey fill material to observed depths of 0.4 mbgl (TP212) and 0.6 mbgl (TP213). No anthropogenic inclusions were observed in either test pit.

    - The westernmost dam was partially backfilled, with clayey fill material observed in TP211 in the northern half of the dam, and residual clays observed in TP210 in the southern half. MS204 was collected from the ground surface of fill material in this dam for analysis as PACM.

- Fill material comprising silty clay with trace shale gravels was observed in the fill mound along the north western site boundary, to a depth of 0.4 mbgl (TP214).

- Clayey fill was observed to the east of the large dam in the north eastern corner of the site, to 0.4 mbgl (TP220 & TP221).

- Fill comprising clayey silt with trace brick and PVC fragments was observed in the large stockpile in the north east of the site (south of the large dam), to depths between 0.6 and 1.1 mbgl (TP215 – TP219)

- All test pit and borehole investigations encountered natural residual clays beneath topsoil / fill units.

Test pit and borehole locations are shown on the sampling plan in Attachment A, and test pit and borehole logs are provided in Attachment C.

7.3 Analytical Results

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

Identified areas of contamination and DSI sampling locations are provided in Attachment A.

7.3.1 Soil Results

Table 10: Summary of soil analytical results.

Analyte	Results Compared to SAC
Heavy metals	HIL All results below SAC. EIL **Zinc in 6121/SS36** (950 mg/kg) exceeded SAC (700 mg/kg).
TPH/BTEXN	HSL All results below SAC.
OCP/OPP	HIL All results below SAC.
PAH	HIL All results below SAC. EIL All results below SAC.
Asbestos in material	All material samples analysed returned positive identification of asbestos: **MS01** collected from **TP204** at **0.1 mbgl**. **MS02** collected from **TP208** at **0.1 mbgl**. **MS03** collected from ground surface of the main driveway. **MS04** collected from ground surface in the westernmost former dam. **MS05** collected from **SS16** at **0.05 mbgl**.

7.3.2 Statistical Assessment of Zinc Exceedance

To assess the marginal exceedance of the zinc EIL in 6121/SS36, statistical analysis of data was performed using the ProUCL software to calculate the 95% UCL and standard deviation for zinc concentration. Calculations are provided in Attachment H and summarised in Table 11.

Table 11: Summary of 95% UCL calculation.

Analyte	Contaminant concentration range (mg/kg)	95% UCL (mg/kg)	Standard deviation (mg/kg)
Zinc	19 – 950	233	161

Calculations indicated the following:

- 95% UCL for zinc concentration (233 mg/kg) across the site is below the adopted EIL (700 mg/kg).
- The maximum concentration of zinc (950 mg/kg) is less than 250% of the adopted EIL (1750 mg/kg).
- The standard deviation (161 mg/kg) is less than 50% of the adopted EIL (350 mg/kg).

Based on these findings, zinc concentration in site soils meets the adopted EIL and will not require further assessment.

7.3.3 Data QA / QC

Field QA / QC data was collected as per the SAQP. A review of QA / QC procedure has been completed and is presented in the data validation report in Attachment F.

Heavy metal analysis in six duplicate samples were compared against respective primary samples, with a single marginal exceedance in zinc RPD between primary sample TP219/0.1 and duplicate DUP208. This exceedance can likely be attributed to the heterogeneity of fill material, and as such is not considered sufficient to compromise the data set.

Generally, DQO have been met and the data set is considered to be suitable for the purposes of this DSI.

8 Discussion

A review of the PSI (MA, 2018) indicated that the site had historically been used for light grazing since before 1930, and market gardening / grazing purposes since 1955. As of the PSI walkover conducted on 12 January 2018, no structures constructed throughout site history had been demolished, with the older dwelling and sheds being used for storage purposes. A number of soil and refuse stockpiles were noted during the PSI walkover, and fill material was observed within fill pads for the creation of site levels, as well as in two former dams and a fill mound in the northwest portion of the site.

This DSI was undertaken by MA to assess AECs determined during the PSI in consideration of the proposed commercial subdivision. The DSI was conducted in general accordance with the project SAQP.

The DSI walkover and visual inspection conducted on 3 July 2020 observed that site structures and general features were similar to those observed during the PSI (MA, 2018a). Subsurface investigations and sampling were conducted in external areas surrounding site structures, within locations of observed fill material and stockpiling, and in existing and former market garden locations. Due to occupancy and / or lack of access, no investigations were performed directly underneath dwellings or sheds.

Subsurface investigations confirmed the presence of fill material inclusive of anthropogenics within soil stockpiles, fill pads, former dams and fill mound (AEC D, E, G and H respectively). Depth of fill material varied between AECs as detailed in Section 7.2 of this report. Additional fill material was observed to the north of the abandoned dwelling, not previously identified in the PSI (MA, 2018a).

Laboratory analytical results (Envirolab report no. 246598) returned one marginal exceedance of zinc EIL in surface sample SS36, taken adjacent to the large shed in the south-eastern corner of the site. Statistical analysis of site zinc concentration as detailed in Section 7.3.2 of this report has determined that the identified exceedance will not warrant further investigation or remediation. All other soil samples returned results below the adopted SAC.

Five material samples (MS201 – MS205) were collected during DSI investigations for laboratory analysis as PACM. MS201, MS203 and MS205 were collected from TP204 (eastern fill pad), TP208 (western fill pad) and SS16 (north of abandoned dwelling) respectively, all at approximately 0.1 mbgl. MS202 was collected from the ground surface of the main driveway, and MS204 was collected from the ground surface within the partially backfilled dam in the west of the site.

All five material samples reported positive for the presence of asbestos. The fragments were, at the time of sampling, observed to be in a 'bonded' state with no signs of weathering or friability observed. Visual inspections also observed exposed cement fibre sheeting in the construction of the abandoned dwelling, and note the potential of further ACM in the construction of other site structures.

At this stage, it is expected that identified ACM is associated with past construction works for soils in the vicinity of site structures, and imported fill material in fill pads and former dams. However further assessment will be required to fully delineate the extent of asbestos contamination in identified fill material. Additional areas to the north of the abandoned dwelling will also require further assessment, identified during DSI inspections to also contain fill material with potential for asbestos contamination.

Map EN05 in Attachment A outlines areas of expected fill material which will require further asbestos in soils assessment.

It should also be noted that investigations were limited to external areas surrounding site structures due to access restrictions and/or occupancy, presenting a data gap beneath structure footprints. It is understood that all site structures are to be demolished as part of the proposed development, and as such additional soil testing will be required post demolition.

9 Conclusions and Recommendations

This DSI has identified asbestos containing material fragments both at the site surface and within shallow fill material at the site, which will require remediation and / or management before the site is considered suitable for the proposed commercial development.

It is recommended that additional assessment be completed within all site areas expected to contain fill material as per PSI and DSI observations, in order to delineate asbestos impacts within fill material. Additionally, assessment for asbestos fines (AF) and fibrous asbestos (FA) in accordance with NEPM (2013) methodology will be required. The additional asbestos assessment should consider sampling density requirements outlined in the *Guidelines for the Assessment, Remediation and Management of Asbestos* Contaminated Sites in Western Australia (WA DoH, 2009).

Additionally, data gaps presented by site structure footprints will need to be closed following site demolition works and prior to the commencement of the proposed development.

It is recommended that the additional asbestos assessment be performed following site demolition works so that all recommended works may be performed concurrently.

A Remediation Action Plan (RAP) will be required for the site to guide the remediation of identified asbestos contamination. Current site data has confirmed that asbestos is present in fill material at shallow depths or on the ground surface. However findings of the additional asbestos in soils assessment will be required in order to confirm the full extent of asbestos contamination and determine the most practical remediation solution.

Post remediation, a Site Validation Report will be required to confirm the remediated site's suitability for the proposed development.

Where any soil material is to be removed from site, a formal waste classification assessment shall be required in accordance with the NSW EPA Waste Classification Guidelines (2014).

10 Limitations

This DSI was undertaken in accordance with current industry standards.

It is important to note that no land contamination study can be considered to be a complete and exhaustive characterisation of a site nor can it be guaranteed that any assessment shall identify and characterise all areas of potential contamination or all past potentially contaminating land uses. This is particularly the case where onsite filling has occurred or restrictions of sampling due to site access. Therefore, this report should not be read as a guarantee that only contamination identified shall be found on the site. Should material be exposed in future which appears to be contaminated, additional testing may be required to determine the implications for the site. The management of such 'unexpected finds' is to be included in the proposed site RAP.

Martens & Associates Pty Ltd has undertaken this assessment for the purposes of assessing potential site contamination. No reliance on this report should be made for any other investigation or proposal. Martens & Associates Pty Ltd accepts no responsibility, and provides no guarantee regarding the characteristics of areas of the site not specifically studied in this investigation.

11 References

AE Design Partnership (2018), *Subdivision Layout*, Drawing No. DA04, dated July 2018.

Martens and Associates Pty Ltd (2018a) *Preliminary Site Investigation: Proposed Childcare Facility: 1111 – 1141 Elizabeth Drive, Cecil Park, NSW*. Ref. P1706121JR01V01.

Martens and Associates Pty Ltd (2018b) *Preliminary Salinity and Geotechnical Assessment: 1111 – 1141 Elizabeth Drive, Cecil Park, NSW*. Ref. P1706121JR02V01.

NEPC (1999, amended 2013) *National Environmental Protection (Assessment of Site Contamination) Measure.* Referred to as ASC NEPM (2013).

Nearmap – Aerial photographs (2020).

NSW Department of Environment & Heritage (eSPADE, NSW soil and land information), www.environment.nsw.gov.au.

NSW EPA (1995) *Contaminated Sites: Sampling Design Guidelines.*

NSW EPA (2017) *3rd Ed. Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme.*

NSW EPA (2020) *Contaminated Land Guidelines: Consultants Reporting on Contaminated Land.*

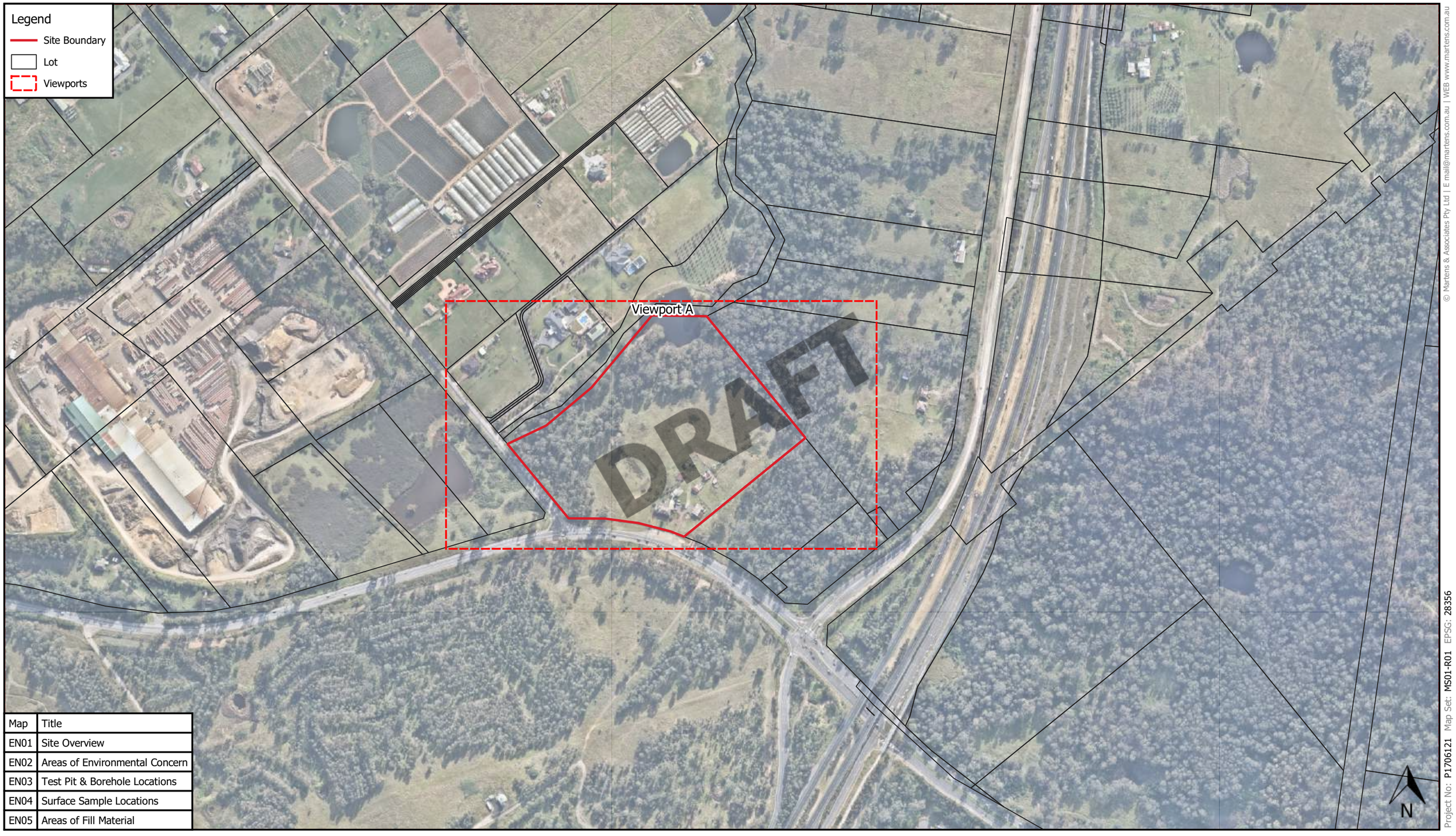
Standards Australia (1997) Australian Standard AS 4482.1 – *Guide to sampling and investigation of potentially contaminated soil: Part 2: Non-volatile and semi-volatile substances.*

Standards Australia (1999) Australian Standard AS 4482.1 – *Guide to sampling and investigation of potentially contaminated soil: Part 2: Volatile substances.*

Project Surveyors (2017), Job Ref. B03838, Drawing Nos. B03838-1 to 3, dated July 2017.

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

Attachment A: Site Plans



Map	Title
EN01	Site Overview
EN02	Areas of Environmental Concern
EN03	Test Pit & Borehole Locations
EN04	Surface Sample Locations
EN05	Areas of Fill Material

0 50 100 150 200 250 m

1:5000 @ A3

NEARMAP (2020)

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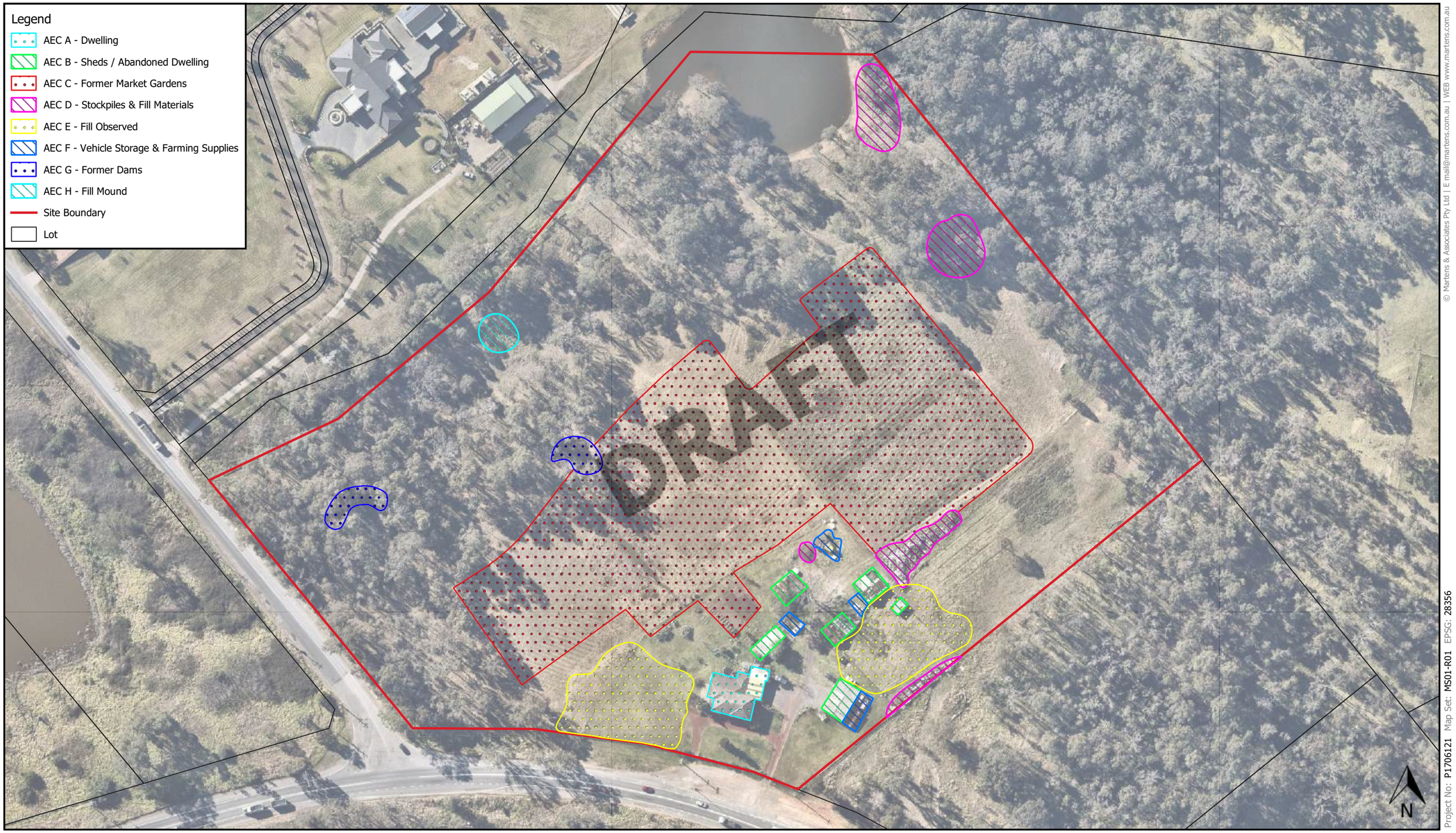
Environment | Water | Geotechnics | Civil | Projects

Map Title / Figure:
Site Overview

EN01	Map
1111 - 1141 Elizabeth Drive, Cecil Park, NSW	Site
Proposed Commercial Subdivision	Project
Detailed Site Investigation	Sub-Project
AE Design Partnership	Client
05/08/2020	Date

Project No: P1706121 Map Set: MS01-R01 EPSG: 28356



Project No: P1706121 Map Set: MS01-R01 EPSG: 28356

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1:1500 @ A3

Viewport A

NEARMAP (2020)

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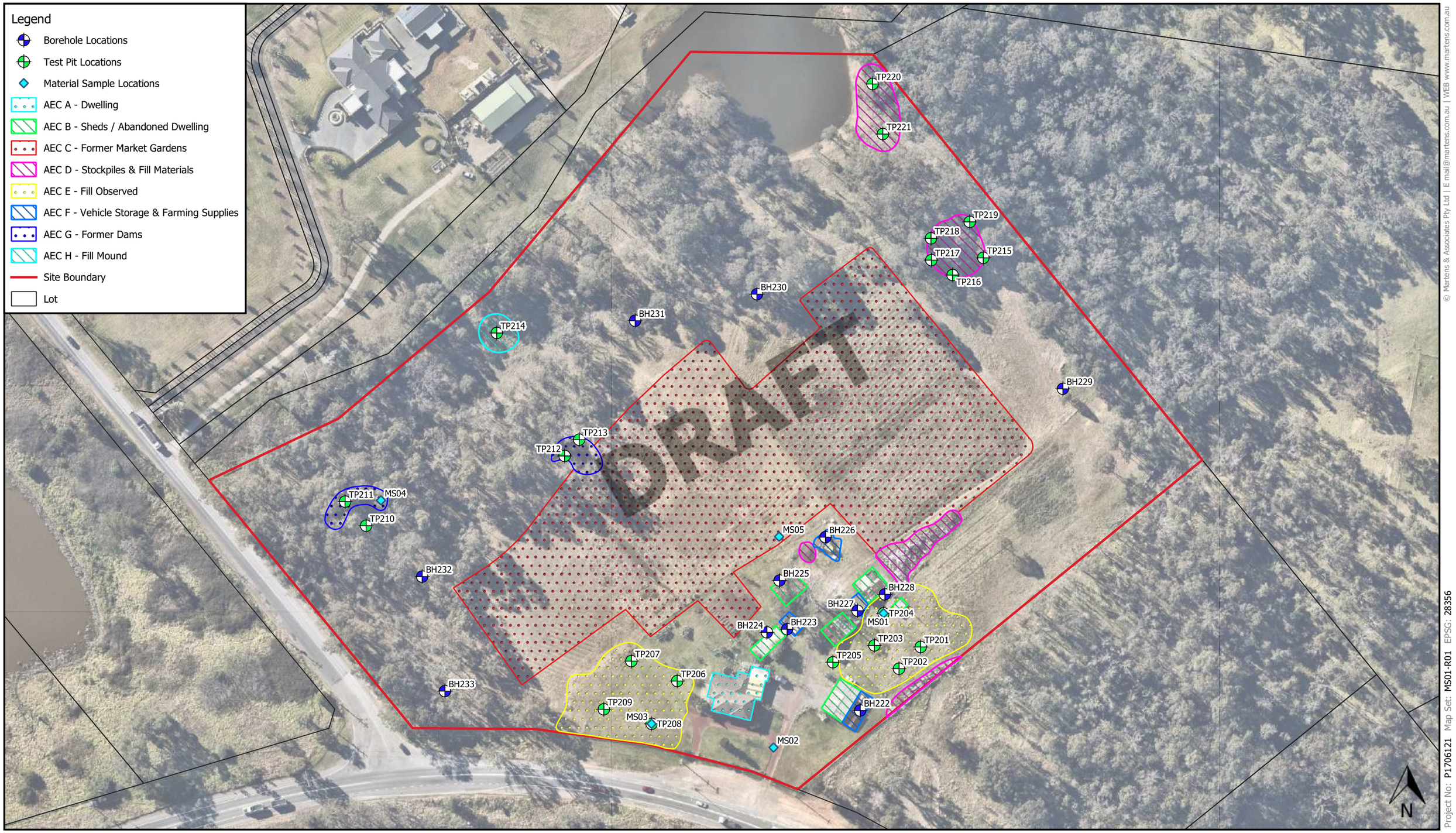
Map Title / Figure:

Areas of Environmental Concern

EN02	Map
1111 - 1141 Elizabeth Drive, Cecil Park, NSW	Site
Proposed Commercial Subdivision	Project
Detailed Site Investigation	Sub-Project
AE Design Partnership	Client
05/08/2020	Date



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Viewport A

NEARMAP (2020)

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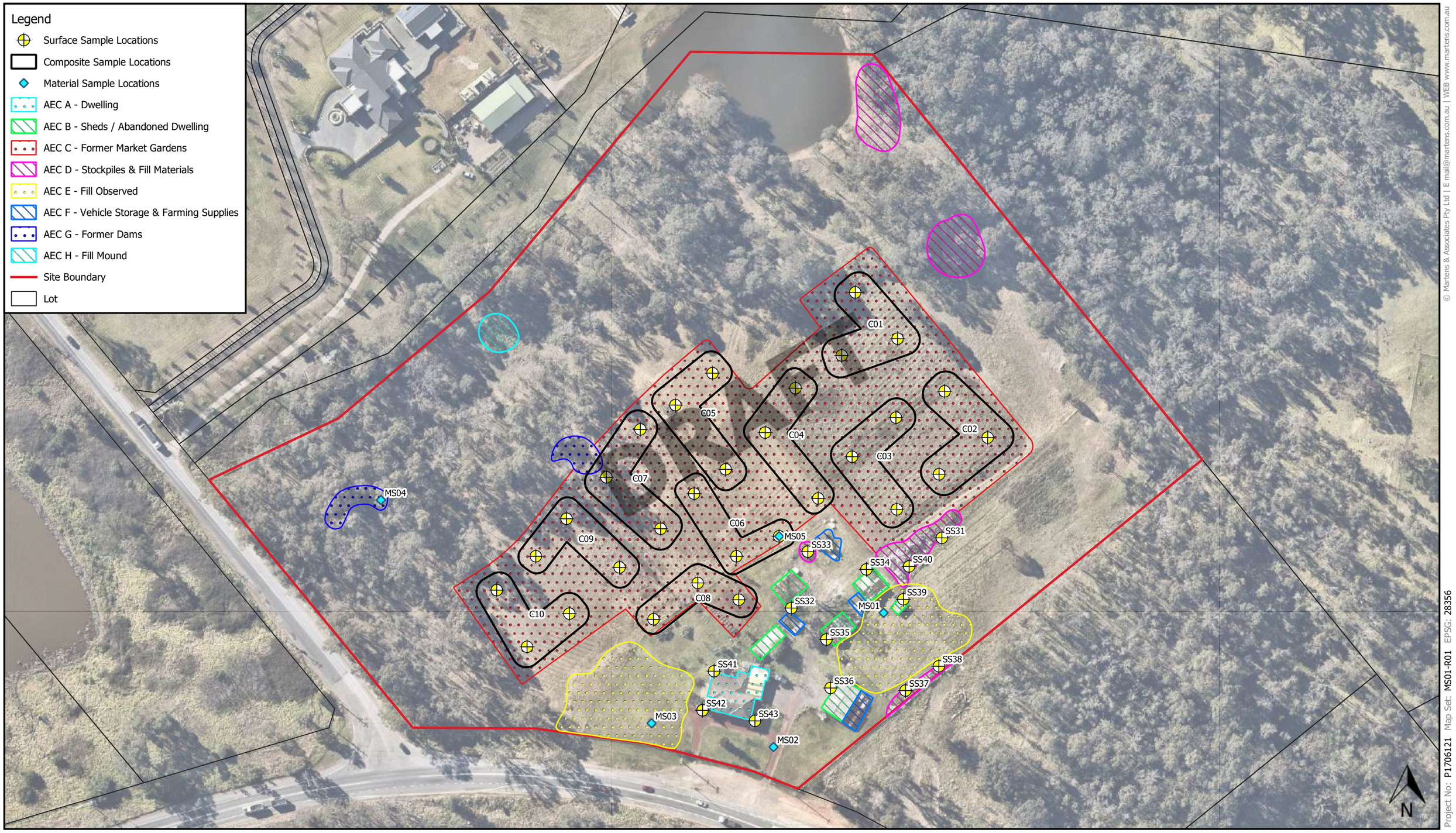
Project No: P1706121 Map Set: MS01-R01 EPSG: 28356

Map Title / Figure:

Test Pit & Borehole Locations

EN03	Map
1111 - 1141 Elizabeth Drive, Cecil Park, NSW	Site
Proposed Commercial Subdivision	Project
Detailed Site Investigation	Sub-Project
AE Design Partnership	Client
05/08/2020	Date



0 10 20 30 40 50 m

1:1500 @ A3

Viewport A

NEARMAP (2020)

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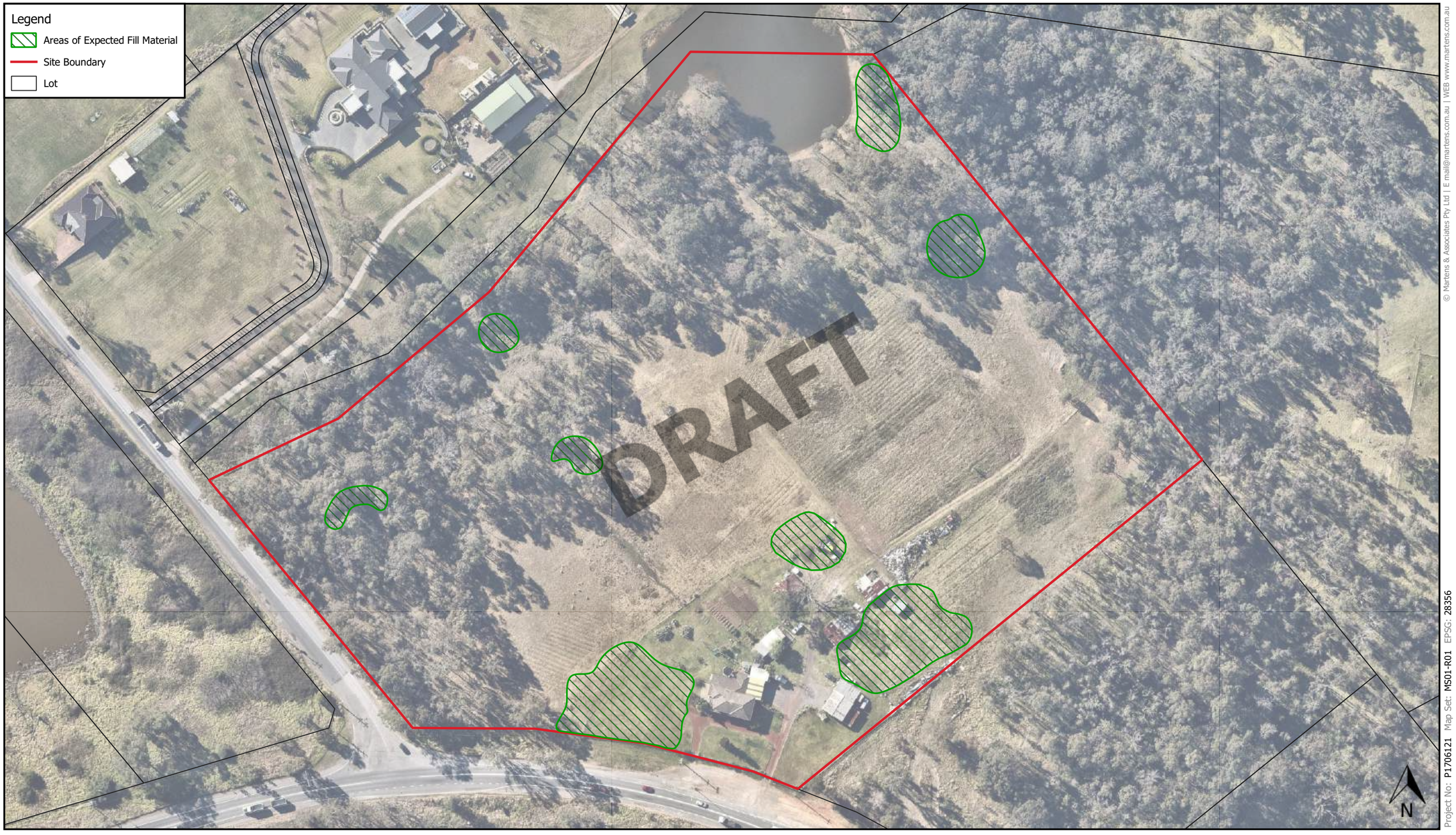
Map Title / Figure:

Surface Sample Locations

EN04	Map
1111 - 1141 Elizabeth Drive, Cecil Park, NSW	Site
Proposed Commercial Subdivision	Project
Detailed Site Investigation	Sub-Project
AE Design Partnership	Client
05/08/2020	Date

Project No: P1706121 Map Set: MS01-R01 EPSG: 28356



Project No: P1706121 Map Set: MS01-R01 EPSG: 28356

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1:1500 @ A3

Viewport A

NEARMAP (2020)

Map Title / Figure:

Areas of Fill Material

EN05	Map
1111 - 1141 Elizabeth Drive, Cecil Park, NSW	Site
Proposed Commercial Subdivision	Project
Detailed Site Investigation	Sub-Project
AE Design Partnership	Client
05/08/2020	Date

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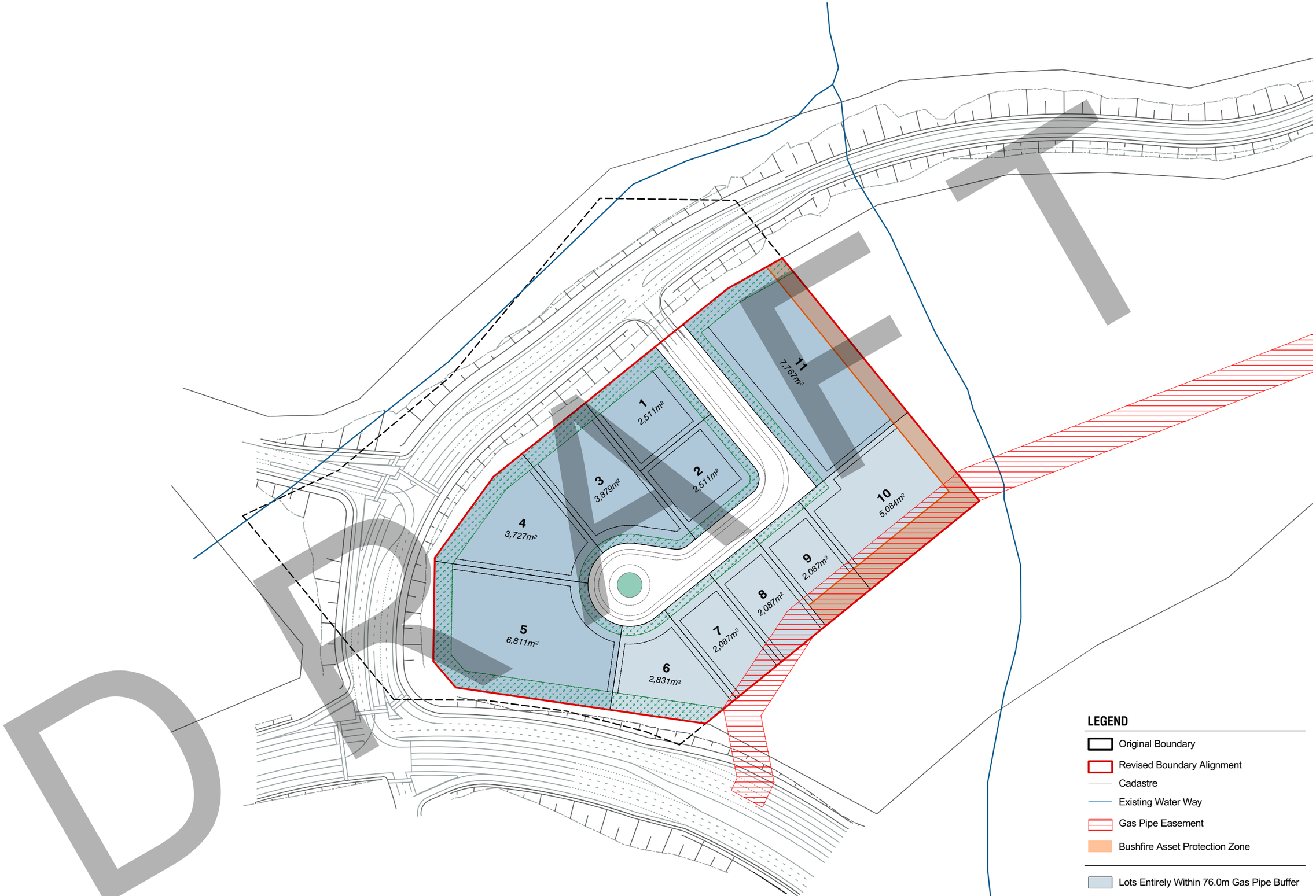
Attachment B: Proposed Development Plans



LEGEND

- Original Boundary
- Revised Boundary Alignment
- Cadastre
- Existing Water Way
- Gas Pipe Easement
- Bushfire Asset Protection Zone
- Lots Entirely Within 76.0m Gas Pipe Buffer
- Lots Outside 76.0m Gas Pipe Buffer
- Landscaping Setback
- Built Form Setback

PROJECT
1111-1141 ELIZABETH DRIVE,
CECIL PARK

1:2,000 @ A3

TITLE
REVISED CONCEPT

DRAWN	CHECKED	DATE	ISSUE
SB		26/05/2020	A

Attachment C: Borehole / Test Pit Logs

CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP201**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84115	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.20 m depth	NORTHING	-33.87427	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2	*0.30*	0.1/S/1 D 0.10 m			CL	FILL: Sandy CLAY; low plasticity; grey-brown; with shale gravels (<5mm).		S	FILL
			0.4		0.5/S/1 D 0.50 m			CL-CI	CLAY; low to medium plasticity; orange-grey.	M	F	RESIDUAL SOIL
			0.6									
			0.8									
			1.0									
			1.2	*1.20*					Hole Terminated at 1.20 m (Target depth reached)			
			1.4									
			1.6									
			1.8									

EXCAVATION LOG TO BE READ IN CONJUCTION WITH ACCOMPANYING REPORT NOTES AND ABBREVIATIONS

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Engineering Log - TEST PIT

CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP202**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84105	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.10 m depth	NORTHING	-33.87435	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			CL	FILL: Sandy CLAY; low plasticity; grey-brown; with shale gravels (<5mm).		S	FILL
			0.4	*0.40*				CL-CI	CLAY; low to medium plasticity; orange-grey.	M	F	RESIDUAL SOIL
			0.6		0.5/S/1 D 0.50 m							
			0.8									
			1.0	*1.10*								
			1.2						Hole Terminated at 1.10 m (Target depth reached)			
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP203**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84099	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.25 m depth	NORTHING	-33.87426	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			CL	FILL: Sandy CLAY; low plasticity; grey-brown; with shale gravels (<5mm).		S	FILL
			0.4	*0.40*				CL-CI	CLAY; low to medium plasticity; orange-grey.	M	F	RESIDUAL SOIL
					0.5/S/1 D 0.50 m							
			0.6									
			0.8									
			1.0									
			1.2	*1.25*					Hole Terminated at 1.25 m (Target depth reached)			
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP204**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84095	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.20 m depth	NORTHING	-33.87412	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			CL	FILL: Sandy CLAY; low plasticity; grey-brown; trace glass fragments and PACM fragment.		S	FILL
			0.4	*0.40*				CL-CI	CLAY; low to medium plasticity; red-brown.	M	F	RESIDUAL SOIL
			0.6		0.5/S/1 D 0.50 m							
			0.8									
			1.0									
			1.2	*1.20*					Hole Terminated at 1.20 m (Target depth reached)			
			1.4									
			1.6									
			1.8									

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Engineering Log - TEST PIT

CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP205**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.30 m depth	NORTHING		ASPECT		SLOPE

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2	0.05				ML	SILT; low plasticity; brown; with rootlets.	M	S	RESIDUAL SOIL
								CL-CI	CLAY; low to medium plasticity; orange-grey.		F	
				0.30					Hole Terminated at 0.30 m (Target depth reached)			
			0.4									
			0.6									
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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Engineering Log - TEST PIT

CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP206**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84008	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.30 m depth	NORTHING	-33.87437	ASPECT		SLOPE

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			ML	FILL: SILT; low plasticity; brown; with rootlets; trace brick fragments; PACM; concrete.		S	FILL
			0.4	*0.50*								
			0.6		0.6/S/1 D 0.60 m			CL-CI	CLAY; low to medium plasticity; orange-grey.	M	F	RESIDUAL SOIL
			0.8									
			1.0									
			1.2	*1.30*								
			1.4						Hole Terminated at 1.30 m (Target depth reached)			
			1.6									
			1.8									

EXCAVATION LOG TO BE READ IN CONJUCTION WITH ACCOMPANYING REPORT NOTES AND ABBREVIATIONS

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Engineering Log - TEST PIT

CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP207**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.83988	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.55 m depth	NORTHING	-33.87429	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			CI	FILL: Silty CLAY; medium plasticity; with rootlets; trace concrete.	M	S	FILL
			0.4									
			0.6		0.6/S/1 D 0.60 m							
			0.8									
			1.0	*1.00*	1.1/S/1 D 1.10 m			CL-CI	CLAY; low to medium plasticity; orange-grey.		F	RESIDUAL SOIL
			1.2									
			1.4	*1.55*					Hole Terminated at 1.55 m (Target depth reached)			
			1.6									
			1.8									

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Engineering Log - TEST PIT

CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP208**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.00 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2	0.30	0.1/S/1 D 0.10 m			CI	FILL: CLAY; medium plasticity; white; trace tile fragments and PVC.		S - F	FILL
E		Not Encountered	0.4		0.5/S/1 D 0.50 m			CL-CI	CLAY; low to medium plasticity; orange-grey.	M	F	RESIDUAL SOIL
			1.0	1.00					Hole Terminated at 1.00 m (Target depth reached)			
			1.2									
			1.4									
			1.6									
			1.8									

EXCAVATION LOG TO BE READ IN CONJUCTION WITH ACCOMPANYING REPORT NOTES AND ABBREVIATIONS

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Engineering Log - TEST PIT

CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP209**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.10 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			CI	FILL: CLAY; medium plasticity; grey-white; trace brick fragments; wire; sandstone gravels.		S	FILL
			0.4									
				0.55						M		
			0.6		0.6/S/1 D 0.60 m			CL-CI	CLAY; low to medium plasticity; orange-grey.		F	RESIDUAL SOIL
			0.8									
			1.0	*1.10*								
			1.2						Hole Terminated at 1.10 m (Target depth reached)			
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP210**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.83865	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.50 m depth	NORTHING	-33.87378	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		03/07/20	0.2	*0.30*	0.1/S/1 D 0.10 m			CI	Silty CLAY; medium plasticity; dark brown.	M	S	RESIDUAL SOIL
			0.4	*0.50*	0.3/S/1 D 0.30 m			CI	CLAY; medium plasticity; grey-brown.	W		
			0.6						Hole Terminated at 0.50 m (Target depth reached)		F	
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP211**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.83858	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.60 m depth	NORTHING	-33.7373	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2	*0.30*	0.1/S/1 D 0.10 m			CL-CI	FILL: CLAY; low to medium plasticity; brown; possibly reworked.		F	FILL
			0.4		0.4/S/1 D 0.40 m			CL-CI	CLAY; low to medium plasticity; brown; possibly reworked.	M	St	RESIDUAL SOIL
			0.6	*0.60*					Hole Terminated at 0.60 m (Target depth reached)			
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP212**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.8595	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.50 m depth	NORTHING	-33.8595	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/Dup204 D 0.10 m 0.1/S/1 D 0.10 m			CI	FILL: CLAY; medium plasticity; orange-red.	M	F	FILL
			0.4	*0.40*	0.3/S/1 D 0.30 m			CI	CLAY; medium plasticity; orange-red.		St	RESIDUAL SOIL
				0.50					Hole Terminated at 0.50 m (Target depth reached)			
			0.6									
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP213**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.83968	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.80 m depth	NORTHING	-33.87347	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			CI	FILL: CLAY; medium plasticity; orange-red.	M	F	FILL
			0.4									
			0.6	*0.60*				CI	CLAY; medium plasticity; orange-red.		St	RESIDUAL SOIL
					0.7/S/1 D 0.70 m							
			0.8	*0.80*					Hole Terminated at 0.80 m (Target depth reached)			
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP214**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.83955	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.90 m depth	NORTHING	-33.87292	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/Dup205 D 0.10 m 0.1/S/1 D 0.10 m			CL	FILL: Silty CLAY; low plasticity; grey-brown; trace shale gravels.		S	FILL
			0.4	*0.40*								
					0.5/S/1 D 0.50 m			CI	CLAY; medium plasticity; brown.	M	S - F	RESIDUAL SOIL
			0.6									
			0.8	*0.90*								
			1.0						Hole Terminated at 0.90 m (Target depth reached)			
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP215**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84134	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.00 m depth	NORTHING	-33.87291	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/Dup207 D 0.10 m 0.1/S/1 D 0.10 m			ML	FILL: Clayey SILT; low plasticity; brown; with brick fragements.		S	FILL
E		Not Encountered	0.4		0.5/S/1 D 0.50 m					M		
E		Not Encountered	0.6									
E		Not Encountered	0.8									
E		Not Encountered		*0.85*				CI	CLAY; medium plasticity; red-brown.		S - F	RESIDUAL SOIL
E		Not Encountered	1.0	*1.00*					Hole Terminated at 1.00 m (Target depth reached)			
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP216**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84147	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.10 m depth	NORTHING	-33.87281	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2 0.4 0.6 0.8 1.0	*1.10*	0.1/S/1 D 0.10 m 0.5/S/1 D 0.50 m			ML	FILL: Clayey SILT; low plasticity; brown; with brick fragements.	M	S	FILL
			1.2 1.4 1.6 1.8						Hole Terminated at 1.10 m (Target depth reached)			

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP217**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84136	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.80 m depth	NORTHING	-33.87296	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/Dup206 D 0.10 m 0.1/S/1 D 0.10 m			ML	FILL: Clayey SILT; low plasticity; brown; with brick fragements; trace PVC.	M	S	FILL
			0.4		0.5/S/1 D 0.50 m							
			0.6	*0.60*				CI	CLAY; medium plasticity; red-brown.		S - F	RESIDUAL SOIL
			0.8	*0.80*					Hole Terminated at 0.80 m (Target depth reached)			
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP218**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84124	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.20 m depth	NORTHING	-33.87287	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			ML	FILL: Clayey SILT; low plasticity; brown; with brick fragments.	M	S	FILL
			0.4		0.5/S/1 D 0.50 m							
			0.6									
			0.8									
			1.0	1.00				CI	CLAY; medium plasticity; red-brown.		S - F	RESIDUAL SOIL
			1.2	1.20					Hole Terminated at 1.20 m (Target depth reached)			
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP219**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84117	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.20 m depth	NORTHING	-33.87269	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/Dup208 D 0.10 m 0.1/S/1 D 0.10 m			ML	FILL: Clayey SILT; low plasticity; brown; with brick fragments.			FILL
			0.4		0.5/S/1 D 0.50 m						S	
			0.6							M		
			0.8									
			1.0	*1.00*				CI	CLAY; medium plasticity; red-brown.		S - F	RESIDUAL SOIL
			1.2	*1.20*					Hole Terminated at 1.20 m (Target depth reached)			
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP220**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84091	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.10 m depth	NORTHING	-33.87232	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2		0.1/S/1 D 0.10 m			CI	FILL: CLAY; medium plasticity; brown; trace sandstone gravels.		S - F	FILL
			0.4	*0.40*				CL	Sandy CLAY; low plasticity; brown.	M		RESIDUAL SOIL
			0.6		0.6/S/1 D 0.60 m						F	
			0.8									
			1.0	*1.10*					Hole Terminated at 1.10 m (Target depth reached)			
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	03/07/2020	COMPLETED	03/07/2020	**REF TP221**
PROJECT	Detailed Site Investigation		LOGGED	RM	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Excavator	EASTING	150.84075	RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		1.20 m depth	NORTHING	-33.87249	ASPECT	Northeast	SLOPE 10%

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.2	0.40				CL	FILL: Silty CLAY; low plasticity; brown; with branches.	M	S - F	FILL
			0.4					CI	CLAY; medium plasticity; red.			RESIDUAL SOIL
			0.6									
			0.8								F	
			1.0									
			1.2	1.20					Hole Terminated at 1.20 m (Target depth reached)			
			1.4									
			1.6									
			1.8									

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Engineering Log - TEST PIT

CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH222**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.70 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.05*	0.1-0.2/S/1 D 0.10-0.20 m			ML	TOPSOIL: Clayey SILT; low plasticity; brown.			TOPSOIL
								CI	CLAY; medium plasticity; reddish brown, pale brown; trace sandstone gravels.		S - F	RESIDUAL SOIL
			0.4	*0.30*	0.4-0.5/S/1 D 0.40-0.50 m			CI-CH	CLAY; medium to high plasticity; reddish brown and grey.	M	F	
			0.6	*0.70*								
			0.8						Hole Terminated at 0.70 m (Target depth reached)			
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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Engineering Log - BOREHOLE

CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH223**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.70 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.20*	0.1-0.2/S/1 D 0.10-0.20 m			CL-CI	TOPSOIL: Silty CLAY; low to medium plasticity; brown; trace medium gravels; with sand.		S - F	RESIDUAL SOIL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI-CH	CLAY; medium to high plasticity; reddish brown and grey.	M	F	
			0.6	*0.70*								
			0.8						Hole Terminated at 0.70 m (Target depth reached)			
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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Engineering Log - BOREHOLE

CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH224**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.70 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2		0.1-0.2/S/1 D 0.10-0.20 m			CL-CI	TOPSOIL: Silty CLAY; low to medium plasticity; brown; trace medium gravels; with sand.		S - F	RESIDUAL SOIL
				0.30								
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI-CH	CLAY; medium to high plasticity; reddish brown and grey.	M	F	
			0.6	*0.70*								
			0.8						Hole Terminated at 0.70 m (Target depth reached)			
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH225**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.70 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.30*	0.1-0.2/S/1 D 0.10-0.20 m			CL-CI	TOPSOIL: Silty CLAY; low to medium plasticity; brown; trace medium gravels; with sand.		S - F	RESIDUAL SOIL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI	CLAY; medium plasticity; reddish brown, orange and grey.	M	F	
			0.6	*0.70*								
			0.8						Hole Terminated at 0.70 m (Target depth reached)			
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH226**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.70 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.30*	0.1-0.2/S/1 D 0.10-0.20 m			CL	FILL: Silty CLAY; low plasticity; brown; with plastics, styrofoam, glass; trace sand.		S - F	FILL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI	CLAY; medium plasticity; reddish brown, orange and grey.	M	F	RESIDUAL SOIL
			0.6	*0.70*								
			0.8						Hole Terminated at 0.70 m (Target depth reached)			
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH227**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.60 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.25*	0.1-0.2/S/1 D 0.10-0.20 m			CL	TOPSOIL: Silty CLAY; low plasticity; brown; with sand; trace fine subangular gravels.		S - F	TOPSOIL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI	CLAY; medium plasticity; reddish brown, orange and grey.	M	F	RESIDUAL SOIL
			0.6	*0.60*					Hole Terminated at 0.60 m (Target depth reached)			
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH228**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.80 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2		0.1-0.2/S/1 D 0.10-0.20 m			CL	FILL: Sandy CLAY; low plasticity; brown and grey; with sand; trace glass, tile and shale gravels.		S - F	FILL
			0.4	*0.40*				CI	CLAY; medium plasticity; reddish brown, orange and grey.	M		RESIDUAL SOIL
			0.6		0.5-0.6/S/1 D 0.50-0.60 m						F	
			0.8	*0.80*					Hole Terminated at 0.80 m (Target depth reached)			
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH229**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.60 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.30*	0.1-0.2/S/1 D 0.10-0.20 m			CL	TOPSOIL: Silty CLAY; low plasticity; brown; with sand.		S - F	TOPSOIL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI	CLAY; medium plasticity; reddish brown and light brown.	M	F	RESIDUAL SOIL
			0.6	*0.60*					Hole Terminated at 0.60 m (Target depth reached)			
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership	COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH230**	
PROJECT	Detailed Site Investigation	LOGGED	DS	CHECKED	BM	Sheet 1 OF 1	
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW	GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121	
EQUIPMENT	Push tube	EASTING		RL SURFACE	m	DATUM	AHD
EXCAVATION DIMENSIONS	0.60 m depth	NORTHING		ASPECT	Northeast	SLOPE	10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.20*	0.1-0.2/S/1 D 0.10-0.20 m			CL	TOPSOIL: Silty CLAY; low plasticity; brown; with sand.		S - F	TOPSOIL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI	CLAY; medium plasticity; reddish brown and light brown; with sand.	M	F	RESIDUAL SOIL
			0.6	*0.60*					Hole Terminated at 0.60 m (Target depth reached)			
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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CLIENT	AE Design Partnership		COMMENCED	06/07/2020	COMPLETED	06/07/2020	**REF BH231**
PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.60 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.25*	0.1-0.2/S/1 D 0.10-0.20 m			CL	TOPSOIL: Silty CLAY; low plasticity; brown; trace rootlets; with sand.		S - F	TOPSOIL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI-CH	CLAY; medium to high plasticity; light brown and orange; trace fine grained sand.	M	F	RESIDUAL SOIL
			0.6	*0.60*					Hole Terminated at 0.60 m (Target depth reached)			
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.60 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.25*	0.1-0.2/S/1 D 0.10-0.20 m			CL	TOPSOIL: Silty CLAY; low plasticity; grey; trace rootlets; trace fine grained sand; trace subangular gravels.		S - F	TOPSOIL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI	CLAY; medium plasticity; brown and reddish brown.	M	F	RESIDUAL SOIL
			0.6	*0.60*					Hole Terminated at 0.60 m (Target depth reached)			
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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PROJECT	Detailed Site Investigation		LOGGED	DS	CHECKED	BM	Sheet 1 OF 1
SITE	1111-1141 Elizabeth Dr, Cecil Park, NSW		GEOLOGY	Bringelly Shale	VEGETATION	Grass	PROJECT NO. P1706121
EQUIPMENT		Push tube	EASTING		RL SURFACE	m	DATUM AHD
EXCAVATION DIMENSIONS		0.60 m depth	NORTHING		ASPECT	Northeast	SLOPE 10%

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
PT		Not Encountered	0.2	*0.20*	0.1-0.2/S/1 D 0.10-0.20 m			CL	TOPSOIL: Silty CLAY; low plasticity; grey; trace rootlets; trace fine grained sand.		S - F	TOPSOIL
			0.4		0.4-0.5/S/1 D 0.40-0.50 m			CI	CLAY; medium plasticity; brown.	M	F	RESIDUAL SOIL
			0.6	*0.60*					Hole Terminated at 0.60 m (Target depth reached)			
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									

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Attachment D: EIL Calculations

Inputs
Select contaminant from list below
Cu
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
17.3
Enter soil pH (calcium chloride method) (values from 1 to 14)
6
Enter organic carbon content (%OC) (values from 0 to 50%)
1
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Cu soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	70	80
Urban residential and open public spaces	120	210
Commercial and industrial	170	300

Inputs
Select contaminant from list below
Cr_III
Below needed to calculate fresh and aged ACLs
Enter % clay (values from 0 to 100%)
40
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Cr III soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	160	210
Urban residential and open public spaces	330	640
Commercial and industrial	500	1100

Inputs
Select contaminant from list below
Ni
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
17.3
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Ni soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	35	45
Urban residential and open public spaces	100	250
Commercial and industrial	180	420

Inputs
Select contaminant from list below
Zn
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
17.3
Enter soil pH (calcium chloride method) (values from 1 to 14)
6
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration
7
or for aged ABCs only
Enter State (or closest State)
NSW
Enter traffic volume (high or low)
low

Outputs		
Land use	Zn soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	75	170
Urban residential and open public spaces	190	480
Commercial and industrial	280	700

Attachment E: Laboratory Summary Tables

Organochlorine Pesticides

Field_ID	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Sum of Endosulfan	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										**3600**				**2000**		**100**			**50**		**2500**
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																					
0-1m																					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																					
0-2m																					
Site Specific EIL									**640**												
Field_ID																					
6121/BH222/0.1-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/BH224/0.1-0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/BH225/0.1-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/BH226/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6121/BH227/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6121/BH229/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6121/BH231/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6121/BH232/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6121/SS31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6121/SS32	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS33	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS34	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS35	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS36	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6121/SS39	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6121/SS41	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS42	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS43	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP201/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP203/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP204/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP206/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP207/0.6	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP208/0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP210/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP211/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP212/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP213/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP214/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP215/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP217/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP218/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP219/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP220/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C02	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C03	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C06	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C07	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C08	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C09	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Statistical Summary																					
Number of Results	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Number of Detects	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Minimum Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Minimum Detect	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Maximum Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Maximum Detect	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Average Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Median Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Standard Deviation	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Number of Guideline Exceedances	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####
Number of Guideline Exceedances(Detects Only)	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####

Organophosphorous Pesticides

Field_ID	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion	Ronnel
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			**2000**								
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay											
0-1m											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil											
0-2m											
Site Specific EIL											
Field_ID											
6121/BH222/0.1-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/BH224/0.1-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/BH225/0.1-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/BH226/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-
6121/BH227/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-
6121/BH229/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-
6121/BH231/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-
6121/BH232/0.1-0.2	-	-	-	-	-	-	-	-	-	-	-
6121/SS31	-	-	-	-	-	-	-	-	-	-	-
6121/SS32	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS33	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS34	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS35	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS36	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS37	-	-	-	-	-	-	-	-	-	-	-
6121/SS39	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS40	-	-	-	-	-	-	-	-	-	-	-
6121/SS41	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS42	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/SS43	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP201/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP203/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP204/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP206/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP207/0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP208/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP210/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP211/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP212/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP213/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP214/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP215/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP217/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP218/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP219/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6121/TP220/0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C07	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C09	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Statistical Summary											
Number of Results	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Number of Detects	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Minimum Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Minimum Detect	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Maximum Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Maximum Detect	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Average Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Median Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Standard Deviation	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Number of Guideline Exceedances	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Number of Guideline Exceedances(Detects Only)	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

Metals / Halogenated Benzenes

Field_ID	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Hexachlorobenzene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	4	0.4	1	1	1	0.1	1	1	0.1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil	**3000**	**900**	**3600**	**240000**	**1500**	**730**	**6000**	**400000**	**80**
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay									
0-1m									
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil									
0-2m									
Site Specific EIL	**160**		**1100**	**300**	**1800**		**420**	**700**	
Field_ID									
6121/BH222/0.1-0.2	6	<0.4	28	10	13	<0.1	2	480	<0.1
6121/BH224/0.1-0.2	8	<0.4	22	59	100	<0.1	14	180	<0.1
6121/BH225/0.1-0.2	7	0.5	19	42	64	<0.1	13	350	<0.1
6121/BH226/0.1-0.2	10	<0.4	19	27	40	<0.1	12	120	-
6121/BH227/0.1-0.2	7	<0.4	19	28	24	<0.1	23	94	-
6121/BH229/0.1-0.2	6	<0.4	20	13	17	<0.1	11	22	-
6121/BH231/0.1-0.2	11	<0.4	25	18	22	<0.1	19	43	-
6121/BH232/0.1-0.2	6	<0.4	19	29	32	<0.1	15	330	-
6121/SS31	8	<0.4	55	44	27	<0.1	13	52	-
6121/SS32	7	<0.4	19	37	68	<0.1	14	150	<0.1
6121/SS33	5	<0.4	14	22	42	<0.1	8	75	<0.1
6121/SS34	4	0.6	17	50	77	<0.1	12	270	<0.1
6121/SS35	4	0.5	19	30	78	<0.1	15	280	<0.1
6121/SS36	4	2	25	1	<1	0.1	30	**950**	<0.1
6121/SS37	6	<0.4	20	24	44	<0.1	16	180	-
6121/SS39	9	<0.4	15	20	33	<0.1	9	94	<0.1
6121/SS40	5	1	35	60	62	<0.1	16	270	-
6121/SS41	7	<0.4	26	45	35	<0.1	13	210	<0.1
6121/SS42	<4	<0.4	66	21	25	<0.1	9	53	<0.1
6121/SS43	<4	<0.4	81	24	21	<0.1	10	45	<0.1
6121/TP201/0.1	8	<0.4	23	20	66	0.1	13	89	<0.1
6121/TP203/0.1	<4	0.5	15	31	42	0.2	11	71	<0.1
6121/TP204/0.1	6	<0.4	18	21	42	<0.1	12	75	<0.1
6121/TP206/0.1	7	<0.4	21	17	30	<0.1	11	62	<0.1
6121/TP207/0.6	6	<0.4	20	38	36	<0.1	12	53	<0.1
6121/TP208/0.1	6	<0.4	20	40	25	<0.1	12	60	<0.1
6121/TP210/0.1	<4	<0.4	19	33	67	<0.1	24	120	<0.1
6121/TP211/0.1	6	<0.4	15	14	16	<0.1	10	27	<0.1
6121/TP212/0.1	7	<0.4	18	17	9	<0.1	8	26	<0.1
6121/TP213/0.1	9	<0.4	24	35	17	<0.1	24	61	<0.1
6121/TP214/0.1	6	<0.4	10	14	28	<0.1	3	19	<0.1
6121/TP215/0.1	6	<0.4	14	25	24	<0.1	12	54	<0.1
6121/TP217/0.1	6	<0.4	13	21	20	<0.1	13	53	<0.1
6121/TP218/0.1	7	<0.4	61	32	25	<0.1	16	270	<0.1
6121/TP219/0.1	6	<0.4	14	21	16	<0.1	16	47	<0.1
6121/TP220/0.1	7	<0.4	20	28	32	<0.1	16	73	<0.1
C01	10	<0.4	20	23	20	<0.1	10	38	<0.1
C02	10	<0.4	30	31	24	<0.1	10	45	<0.1
C03	8	<0.4	32	36	19	<0.1	8	47	<0.1
C04	7	<0.4	20	25	16	<0.1	7	41	<0.1
C05	11	<0.4	24	36	25	<0.1	15	53	<0.1
C06	7	<0.4	20	59	25	<0.1	10	68	<0.1
C07	8	<0.4	20	30	23	<0.1	11	46	<0.1
C08	7	<0.4	17	75	46	<0.1	8	93	<0.1
C09	7	<0.4	27	35	24	<0.1	9	37	<0.1
C10	8	<0.4	27	28	29	<0.1	12	65	<0.1
Statistical Summary									
Number of Results	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Number of Detects	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Minimum Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Minimum Detect	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Maximum Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Maximum Detect	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Average Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Median Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Standard Deviation	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Number of Guideline Exceedances	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?
Number of Guideline Exceedances(Detects Only)	#####	#####	#####	#####	#####	#####	#####	#####	#NAME?

TRH / BTEX / PAH

Field_ID	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of positives)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	25	25	50	50	100	100	50	0.2	0.5	1	2	1	3	0.2	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.05
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																													**40**	**40**	**40**	**4000**
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																																
0-1m		**310**		**NL**				**4**	**NL**	**NL**			**NL**													**NL**						
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																																
0-2m		**215**		**170**	**2500**	**6600**		**95**	**135**	**185**			**95**						**1.4**													
Site Specific EIL																										**370**						
Field_ID																																
6121/BH222/0.1-0.2	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/BH224/0.1-0.2	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/BH225/0.1-0.2	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/BH226/0.1-0.2	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/BH227/0.1-0.2	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/SS31	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/SS32	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/SS33	<25	<25	58	58	730	170	960	<0.2	<0.5	<1	<2	<1	<3	0.3	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.2	<0.1	0.3	<0.1	0.1	<0.1	0.1	0.3	<0.5	<0.5	<0.5	1.8
6121/SS34	<25	<25	<50	<50	100	<100	100	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	0.1	<0.1	0.05	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.5	<0.5	<0.5	0.56
6121/SS35	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/SS36	<25	<25	120	120	460	210	800	<0.2	1	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<1 - 0.1	0.4	0.1	<0.5	<0.5	<0.5	0.89
6121/SS37	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/SS39	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/SS40	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP201/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP203/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP204/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP206/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP207/0.6	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP208/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP210/0.1	<25	<25	<50	<50	110	<100	110	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP211/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP212/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP213/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP214/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	0.05	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.5	<0.5	<0.5	0.2
6121/TP215/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP217/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP218/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP219/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
6121/TP220/0.1	<25	<25	<50	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.05
Statistical Summary																																
Number of Results	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Number of Detects	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Minimum Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Minimum Detect	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Maximum Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Maximum Detect	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Average Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Median Concentration	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Standard Deviation	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Number of Guideline Exceedances	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Number of Guideline Exceedances(Detects Only)	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

Attachment F: Data Validation Report

Sample Handling

Lab Report	Sample Chain of Custody (COC) Procedures	Sample Preservation	Sample Receipt Notification Matches COC	Samples Analysed Within Holding Time
730731 - S	Pass	Pass	Pass	Pass

Precision / Accuracy

Lab Report	Analysed by NATA Laboratory	Trip Spike and Blank Used	Adequate Duplicates Analysed	Field Rinsate Analysed
730731 - S	Pass	Pass	Pass	NA

Dedicated sampling equipment were used during the investigation, no rinsate was required.

Duplicates/ laboratory QA / QC

Lab Report	Field RPD	Laboratory Surrogate Recovery	Laboratory Duplicate RPD	Lab Blank and Matrix Spike Recovery	Laboratory Control Sample
730731 - S	**Fail**	Pass	Pass	Pass	Pass

RPD control limits were exceeded for lead in TP209/0.1 and Dup208. As this was in heterogeneous fill and both values were significantly less than the SAC, the data is usable for this report.

Attachment G: Laboratory Certificates

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

CERTIFICATE OF ANALYSIS 246598

Client Details

Client	Martens & Associates Pty Ltd
Attention	Dean Shi
Address	Suite 201, 20 George St, Hornsby, NSW, 2077

Sample Details

Your Reference	**P1706121; 1111-1141 Elizabeth Dr Cecil Park**
Number of Samples	123 soil, 5 material
Date samples received	07/07/2020
Date completed instructions received	08/07/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	15/07/2020
Date of Issue	15/07/2020

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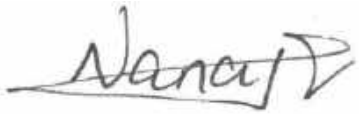
Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Dragana Tomas, Senior Chemist
Hannah Nguyen, Senior Chemist
Lucy Zhu, Asbestos Supervisor
Steven Luong, Organics Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		246598-1	246598-5	246598-7	246598-9	246598-12
Your Reference	UNITS	6121/TP201/0.1	6121/TP203/0.1	6121/TP204/0.1	6121/TP206/0.1	6121/TP207/0.6
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	11/07/2020	11/07/2020	11/07/2020	11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	108	106	121	114	107

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		246598-14	246598-18	246598-20	246598-22	246598-24
Your Reference	UNITS	6121/TP208/0.1	6121/TP210/0.1	6121/TP211/0.1	6121/TP212/0.1	6121/TP213/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	11/07/2020	11/07/2020	11/07/2020	11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	116	121	109	127	118

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		246598-26	246598-28	246598-32	246598-34	246598-36
Your Reference	UNITS	6121/TP214/0.1	6121/TP215/0.1	6121/TP217/0.1	6121/TP218/0.1	6121/TP219/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	11/07/2020	11/07/2020	11/07/2020	11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	117	107	114	122	116

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		246598-38	246598-40	246598-44	246598-46	246598-48
Your Reference	UNITS	6121/TP220/0.1	6121/BH222/0.1-0.2	6121/BH224/0.1-0.2	6121/BH225/0.1-0.2	6121/BH226/0.1-0.2
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	11/07/2020	11/07/2020	11/07/2020	11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	132	125	127	107	110

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		246598-50	246598-94	246598-95	246598-96	246598-97
Your Reference	UNITS	6121/BH227/0.1-0.2	6121/SS31	6121/SS32	6121/SS33	6121/SS34
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	11/07/2020	11/07/2020	11/07/2020	11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	110	107	117	118	102

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		246598-98	246598-99	246598-100	246598-102	246598-103
Your Reference	UNITS	6121/SS35	6121/SS36	6121/SS37	6121/SS39	6121/SS40
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	11/07/2020	11/07/2020	11/07/2020	11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	1	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	109	115	113	115	112

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		246598-117	246598-118
Your Reference	UNITS	Trip Spike	Trip Blank
Composite Reference		-	-
Date Sampled		06/07/2020	06/07/2020
Type of sample		soil	soil
Date extracted	-	10/07/2020	10/07/2020
Date analysed	-	11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	[NA]	<25
TRH C_6 - C_{10}	mg/kg	[NA]	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	[NA]	<25
Benzene	mg/kg	90%	<0.2
Toluene	mg/kg	90%	<0.5
Ethylbenzene	mg/kg	103%	<1
m+p-xylene	mg/kg	103%	<2
o-Xylene	mg/kg	104%	<1
naphthalene	mg/kg	[NA]	<1
Total +ve Xylenes	mg/kg	[NA]	<3
Surrogate aaa-Trifluorotoluene	%	92	108

svTRH (C10-C40) in Soil						
Our Reference		246598-1	246598-5	246598-7	246598-9	246598-12
Your Reference	UNITS	6121/TP201/0.1	6121/TP203/0.1	6121/TP204/0.1	6121/TP206/0.1	6121/TP207/0.6
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	112	108	107	104	110

svTRH (C10-C40) in Soil						
Our Reference		246598-14	246598-18	246598-20	246598-22	246598-24
Your Reference	UNITS	6121/TP208/0.1	6121/TP210/0.1	6121/TP211/0.1	6121/TP212/0.1	6121/TP213/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	110	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	110	<50	<50	<50
Surrogate o-Terphenyl	%	108	121	97	92	104

svTRH (C10-C40) in Soil						
Our Reference		246598-26	246598-28	246598-32	246598-34	246598-36
Your Reference	UNITS	6121/TP214/0.1	6121/TP215/0.1	6121/TP217/0.1	6121/TP218/0.1	6121/TP219/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	104	108	102	101	96

svTRH (C10-C40) in Soil						
Our Reference		246598-38	246598-40	246598-44	246598-46	246598-48
Your Reference	UNITS	6121/TP220/0.1	6121/BH222/0.1-0.2	6121/BH224/0.1-0.2	6121/BH225/0.1-0.2	6121/BH226/0.1-0.2
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	89	99	111	98	116

svTRH (C10-C40) in Soil						
Our Reference		246598-50	246598-94	246598-95	246598-96	246598-97
Your Reference	UNITS	6121/BH227/0.1-0.2	6121/SS31	6121/SS32	6121/SS33	6121/SS34
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	550	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	260	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	58	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	58	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	730	100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	170	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	960	100
Surrogate o-Terphenyl	%	112	104	101	126	100

svTRH (C10-C40) in Soil						
Our Reference		246598-98	246598-99	246598-100	246598-102	246598-103
Your Reference	UNITS	6121/SS35	6121/SS36	6121/SS37	6121/SS39	6121/SS40
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	11/07/2020	10/07/2020	11/07/2020	11/07/2020
TRH C_{10} - C_{14}	mg/kg	<50	110	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	280	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	280	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	120	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	120	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	460	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	210	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	800	<50	<50	<50
Surrogate o-Terphenyl	%	96	#	107	97	106

PAHs in Soil						
Our Reference		246598-1	246598-5	246598-7	246598-9	246598-12
Your Reference	UNITS	6121/TP201/0.1	6121/TP203/0.1	6121/TP204/0.1	6121/TP206/0.1	6121/TP207/0.6
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	97	95	99	98	100

PAHs in Soil						
Our Reference		246598-14	246598-18	246598-20	246598-22	246598-24
Your Reference	UNITS	6121/TP208/0.1	6121/TP210/0.1	6121/TP211/0.1	6121/TP212/0.1	6121/TP213/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	95	113	108	91	97

PAHs in Soil						
Our Reference		246598-26	246598-28	246598-32	246598-34	246598-36
Your Reference	UNITS	6121/TP214/0.1	6121/TP215/0.1	6121/TP217/0.1	6121/TP218/0.1	6121/TP219/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.2	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	106	91	92	98	99

PAHs in Soil						
Our Reference		246598-38	246598-40	246598-44	246598-46	246598-48
Your Reference	UNITS	6121/TP220/0.1	6121/BH222/0.1-0.2	6121/BH224/0.1-0.2	6121/BH225/0.1-0.2	6121/BH226/0.1-0.2
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	97	102	110	97	101

PAHs in Soil						
Our Reference		246598-50	246598-94	246598-95	246598-96	246598-97
Your Reference	UNITS	6121/BH227/0.1-0.2	6121/SS31	6121/SS32	6121/SS33	6121/SS34
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	0.3	0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	0.3	0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	0.3	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	0.2	0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	1.8	0.56
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	101	103	106	101	97

PAHs in Soil						
Our Reference		246598-98	246598-99	246598-100	246598-102	246598-103
Your Reference	UNITS	6121/SS35	6121/SS36	6121/SS37	6121/SS39	6121/SS40
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Naphthalene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.4	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.89	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	93	105	96	110

PAHs in Soil		
Our Reference		246598-130
Your Reference	UNITS	6121/BH225/0.1-0.2 - [TRIPLICATE]
Composite Reference		-
Date Sampled		06/07/2020
Type of sample		soil
Date extracted	-	13/07/2020
Date analysed	-	14/07/2020
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	95

Organochlorine Pesticides in soil						
Our Reference		246598-1	246598-5	246598-7	246598-9	246598-12
Your Reference	UNITS	6121/TP201/0.1	6121/TP203/0.1	6121/TP204/0.1	6121/TP206/0.1	6121/TP207/0.6
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	0.9
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	0.9
Surrogate TCMX	%	86	85	85	108	84

Organochlorine Pesticides in soil						
Our Reference		246598-14	246598-18	246598-20	246598-22	246598-24
Your Reference	UNITS	6121/TP208/0.1	6121/TP210/0.1	6121/TP211/0.1	6121/TP212/0.1	6121/TP213/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	95	95	85	94	83

Organochlorine Pesticides in soil						
Our Reference		246598-26	246598-28	246598-32	246598-34	246598-36
Your Reference	UNITS	6121/TP214/0.1	6121/TP215/0.1	6121/TP217/0.1	6121/TP218/0.1	6121/TP219/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	103	96	97	90

Organochlorine Pesticides in soil						
Our Reference		246598-38	246598-40	246598-44	246598-46	246598-95
Your Reference	UNITS	6121/TP220/0.1	6121/BH222/0.1-0.2	6121/BH224/0.1-0.2	6121/BH225/0.1-0.2	6121/SS32
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	0.1	<0.1	0.4
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	0.1	<0.1	0.4
Surrogate TCMX	%	89	79	92	81	91

Organochlorine Pesticides in soil						
Our Reference		246598-96	246598-97	246598-98	246598-99	246598-102
Your Reference	UNITS	6121/SS33	6121/SS34	6121/SS35	6121/SS36	6121/SS39
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	0.2	<0.1	0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	0.2	<0.1	0.1	<0.1
Surrogate TCMX	%	91	85	76	92	94

Organochlorine Pesticides in soil						
Our Reference		246598-104	246598-105	246598-106	246598-119	246598-120
Your Reference	UNITS	6121/SS41	6121/SS42	6121/SS43	C01	C02
Composite Reference		-	-	-	64,65,66	67,68,,69
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Surrogate TCMX	%	85	84	83	80	93

Organochlorine Pesticides in soil						
Our Reference		246598-121	246598-122	246598-123	246598-124	246598-125
Your Reference	UNITS	C03	C04	C05	C06	C07
Composite Reference		70,71,72	73,74,75	76,77,78	79,80,81	82,83,84
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	0.2	<0.1	<0.1	0.5	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	0.2	<0.1	<0.1	0.5	<0.1
Surrogate TCMX	%	77	86	87	89	99

Organochlorine Pesticides in soil				
Our Reference		246598-126	246598-127	246598-128
Your Reference	UNITS	C08	C09	C10
Composite Reference		85,86,87	,88,89,90	91,92,93
Date Sampled		06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-DDE	mg/kg	0.1	0.2	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	0.1	0.2	<0.1
Surrogate TCMX	%	85	86	83

Organophosphorus Pesticides in Soil						
Our Reference		246598-1	246598-5	246598-7	246598-9	246598-12
Your Reference	UNITS	6121/TP201/0.1	6121/TP203/0.1	6121/TP204/0.1	6121/TP206/0.1	6121/TP207/0.6
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	85	85	108	84

Organophosphorus Pesticides in Soil						
Our Reference		246598-14	246598-18	246598-20	246598-22	246598-24
Your Reference	UNITS	6121/TP208/0.1	6121/TP210/0.1	6121/TP211/0.1	6121/TP212/0.1	6121/TP213/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	95	95	85	94	83

Organophosphorus Pesticides in Soil						
Our Reference		246598-26	246598-28	246598-32	246598-34	246598-36
Your Reference	UNITS	6121/TP214/0.1	6121/TP215/0.1	6121/TP217/0.1	6121/TP218/0.1	6121/TP219/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	103	96	97	90

Organophosphorus Pesticides in Soil						
Our Reference		246598-38	246598-40	246598-44	246598-46	246598-95
Your Reference	UNITS	6121/TP220/0.1	6121/BH222/0.1-0.2	6121/BH224/0.1-0.2	6121/BH225/0.1-0.2	6121/SS32
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	79	92	81	91

Organophosphorus Pesticides in Soil						
Our Reference		246598-96	246598-97	246598-98	246598-99	246598-102
Your Reference	UNITS	6121/SS33	6121/SS34	6121/SS35	6121/SS36	6121/SS39
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	91	85	76	92	94

Organophosphorus Pesticides in Soil						
Our Reference		246598-104	246598-105	246598-106	246598-119	246598-120
Your Reference	UNITS	6121/SS41	6121/SS42	6121/SS43	C01	C02
Composite Reference		-	-	-	64,65,66	67,68,,69
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	84	83	80	93

Organophosphorus Pesticides in Soil						
Our Reference		246598-121	246598-122	246598-123	246598-124	246598-125
Your Reference	UNITS	C03	C04	C05	C06	C07
Composite Reference		70,71,72	73,74,75	76,77,78	79,80,81	82,83,84
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	77	86	87	89	99

Organophosphorus Pesticides in Soil				
Our Reference		246598-126	246598-127	246598-128
Your Reference	UNITS	C08	C09	C10
Composite Reference		85,86,87	,88,89,90	91,92,93
Date Sampled		06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil
Date extracted	-	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	86	83

Acid Extractable metals in soil						
Our Reference		246598-1	246598-5	246598-7	246598-9	246598-12
Your Reference	UNITS	6121/TP201/0.1	6121/TP203/0.1	6121/TP204/0.1	6121/TP206/0.1	6121/TP207/0.6
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	14/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	8	<4	6	7	6
Cadmium	mg/kg	<0.4	0.5	<0.4	<0.4	<0.4
Chromium	mg/kg	23	15	18	21	20
Copper	mg/kg	20	31	21	17	38
Lead	mg/kg	66	42	42	30	36
Mercury	mg/kg	0.1	0.2	<0.1	<0.1	<0.1
Nickel	mg/kg	13	11	12	11	12
Zinc	mg/kg	89	71	75	62	53

Acid Extractable metals in soil						
Our Reference		246598-14	246598-18	246598-20	246598-22	246598-24
Your Reference	UNITS	6121/TP208/0.1	6121/TP210/0.1	6121/TP211/0.1	6121/TP212/0.1	6121/TP213/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	6	<4	6	7	9
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	20	19	15	18	24
Copper	mg/kg	40	33	14	17	35
Lead	mg/kg	25	67	16	9	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	12	24	10	8	24
Zinc	mg/kg	60	120	27	26	61

Acid Extractable metals in soil						
Our Reference		246598-26	246598-28	246598-32	246598-34	246598-36
Your Reference	UNITS	6121/TP214/0.1	6121/TP215/0.1	6121/TP217/0.1	6121/TP218/0.1	6121/TP219/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	6	6	6	7	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	14	13	61	14
Copper	mg/kg	14	25	21	32	21
Lead	mg/kg	28	24	20	25	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	12	13	16	16
Zinc	mg/kg	19	54	53	270	47

Acid Extractable metals in soil						
Our Reference		246598-38	246598-40	246598-44	246598-46	246598-48
Your Reference	UNITS	6121/TP220/0.1	6121/BH222/0.1-0.2	6121/BH224/0.1-0.2	6121/BH225/0.1-0.2	6121/BH226/0.1-0.2
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	7	6	8	7	10
Cadmium	mg/kg	<0.4	<0.4	<0.4	0.5	<0.4
Chromium	mg/kg	20	28	22	19	19
Copper	mg/kg	28	10	59	42	27
Lead	mg/kg	32	13	100	64	40
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	16	2	14	13	12
Zinc	mg/kg	73	480	180	350	120

Acid Extractable metals in soil						
Our Reference		246598-50	246598-54	246598-58	246598-60	246598-94
Your Reference	UNITS	6121/BH227/0.1-0.2	6121/BH229/0.1-0.2	6121/BH231/0.1-0.2	6121/BH232/0.1-0.2	6121/SS31
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	7	6	11	6	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	19	20	25	19	55
Copper	mg/kg	28	13	18	29	44
Lead	mg/kg	24	17	22	32	27
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	23	11	19	15	13
Zinc	mg/kg	94	22	43	330	52

Acid Extractable metals in soil						
Our Reference		246598-95	246598-96	246598-97	246598-98	246598-99
Your Reference	UNITS	6121/SS32	6121/SS33	6121/SS34	6121/SS35	6121/SS36
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	7	5	4	4	4
Cadmium	mg/kg	<0.4	<0.4	0.6	0.5	2
Chromium	mg/kg	19	14	17	19	25
Copper	mg/kg	37	22	50	30	1
Lead	mg/kg	68	42	77	78	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Nickel	mg/kg	14	8	12	15	30
Zinc	mg/kg	150	75	270	280	950

Acid Extractable metals in soil						
Our Reference		246598-100	246598-102	246598-103	246598-104	246598-105
Your Reference	UNITS	6121/SS37	6121/SS39	6121/SS40	6121/SS41	6121/SS42
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	6	9	5	7	<4
Cadmium	mg/kg	<0.4	<0.4	1	<0.4	<0.4
Chromium	mg/kg	20	15	35	26	66
Copper	mg/kg	24	20	60	45	21
Lead	mg/kg	44	33	62	35	25
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	16	9	16	13	9
Zinc	mg/kg	180	94	270	210	53

Acid Extractable metals in soil						
Our Reference		246598-106	246598-107	246598-109	246598-110	246598-111
Your Reference	UNITS	6121/SS43	6121/DUP201	6121/DUP204	6121/DUP205	6121/DUP206
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	<4	5	8	7	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	81	28	19	11	13
Copper	mg/kg	24	26	19	13	21
Lead	mg/kg	21	33	10	25	22
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	24	9	2	13
Zinc	mg/kg	45	140	30	17	53

Acid Extractable metals in soil						
Our Reference		246598-119	246598-120	246598-121	246598-122	246598-123
Your Reference	UNITS	C01	C02	C03	C04	C05
Composite Reference		64,65,66	67,68,,69	70,71,72	73,74,75	76,77,78
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	10	10	8	7	11
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	20	30	32	20	24
Copper	mg/kg	23	31	36	25	36
Lead	mg/kg	20	24	19	16	25
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	10	8	7	15
Zinc	mg/kg	38	45	47	41	53

Acid Extractable metals in soil						
Our Reference		246598-124	246598-125	246598-126	246598-127	246598-128
Your Reference	UNITS	C06	C07	C08	C09	C10
Composite Reference		79,80,81	82,83,84	85,86,87	,88,89,90	91,92,93
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Arsenic	mg/kg	7	8	7	7	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	20	20	17	27	27
Copper	mg/kg	59	30	75	35	28
Lead	mg/kg	25	23	46	24	29
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	11	8	9	12
Zinc	mg/kg	68	46	93	37	65

Acid Extractable metals in soil		
Our Reference		246598-129
Your Reference	UNITS	6121/TP214/0.1 - [TRIPLICATE]
Composite Reference		-
Date Sampled		06/07/2020
Type of sample		soil
Date prepared	-	10/07/2020
Date analysed	-	10/07/2020
Arsenic	mg/kg	6
Cadmium	mg/kg	<0.4
Chromium	mg/kg	11
Copper	mg/kg	16
Lead	mg/kg	28
Mercury	mg/kg	<0.1
Nickel	mg/kg	3
Zinc	mg/kg	22

Moisture						
Our Reference		246598-1	246598-5	246598-7	246598-9	246598-12
Your Reference	UNITS	6121/TP201/0.1	6121/TP203/0.1	6121/TP204/0.1	6121/TP206/0.1	6121/TP207/0.6
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	16	19	18	17	20

Moisture						
Our Reference		246598-14	246598-18	246598-20	246598-22	246598-24
Your Reference	UNITS	6121/TP208/0.1	6121/TP210/0.1	6121/TP211/0.1	6121/TP212/0.1	6121/TP213/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	19	33	12	18	23

Moisture						
Our Reference		246598-26	246598-28	246598-32	246598-34	246598-36
Your Reference	UNITS	6121/TP214/0.1	6121/TP215/0.1	6121/TP217/0.1	6121/TP218/0.1	6121/TP219/0.1
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	19	11	11	12	13

Moisture						
Our Reference		246598-38	246598-40	246598-44	246598-46	246598-48
Your Reference	UNITS	6121/TP220/0.1	6121/BH222/0.1-0.2	6121/BH224/0.1-0.2	6121/BH225/0.1-0.2	6121/BH226/0.1-0.2
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	13	20	19	17	26

Moisture						
Our Reference		246598-50	246598-54	246598-58	246598-60	246598-94
Your Reference	UNITS	6121/BH227/0.1-0.2	6121/BH229/0.1-0.2	6121/BH231/0.1-0.2	6121/BH232/0.1-0.2	6121/SS31
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	19	18	19	16	21

Moisture						
Our Reference		246598-95	246598-96	246598-97	246598-98	246598-99
Your Reference	UNITS	6121/SS32	6121/SS33	6121/SS34	6121/SS35	6121/SS36
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	27	23	24	18	10

Moisture						
Our Reference		246598-100	246598-102	246598-103	246598-104	246598-105
Your Reference	UNITS	6121/SS37	6121/SS39	6121/SS40	6121/SS41	6121/SS42
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	16	17	24	18	18

Moisture						
Our Reference		246598-106	246598-107	246598-109	246598-110	246598-111
Your Reference	UNITS	6121/SS43	6121/DUP201	6121/DUP204	6121/DUP205	6121/DUP206
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	16	19	18	16	11

Moisture						
Our Reference		246598-119	246598-120	246598-121	246598-122	246598-123
Your Reference	UNITS	C01	C02	C03	C04	C05
Composite Reference		64,65,66	67,68,,69	70,71,72	73,74,75	76,77,78
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	19	22	18	24	24

Moisture						
Our Reference		246598-124	246598-125	246598-126	246598-127	246598-128
Your Reference	UNITS	C06	C07	C08	C09	C10
Composite Reference		79,80,81	82,83,84	85,86,87	,88,89,90	91,92,93
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Moisture	%	28	29	28	26	22

Asbestos ID - materials						
Our Reference		246598-112	246598-113	246598-114	246598-115	246598-116
Your Reference	UNITS	6121/MS201	6121/MS202	6121/MS203	6121/MS204	6121/MS205
Composite Reference		-	-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		material	material	material	material	material
Date analysed	-	13/07/2020	13/07/2020	13/07/2020	13/07/2020	13/07/2020
Mass / Dimension of Sample	-	65x45x5mm	45x25x5mm	92x42x5mm	100x40x5mm	100x70x5mm
Sample Description	-	Grey fibre cement material	Grey fibre cement material	Grey fibre cement material	Brown fibrous sheet	Grey fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected Amosite asbestos detected	Chrysotile asbestos detected	Chrysotile asbestos detected Amosite asbestos detected	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected	Chrysotile asbestos detected
Trace Analysis	-	[NT]	[NT]	[NT]	[NT]	[NT]

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	246598-5
Date extracted	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			11/07/2020	1	11/07/2020	11/07/2020		11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	92	85
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	92	85
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	80	72
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	106	100
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	98	90
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	88	81
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	84	76
naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	86	1	108	96	12	112	103

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	246598-96
Date extracted	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	26	11/07/2020	11/07/2020		11/07/2020	11/07/2020
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	26	<25	<25	0	103	81
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	26	<25	<25	0	103	81
Benzene	mg/kg	0.2	Org-023	[NT]	26	<0.2	<0.2	0	88	68
Toluene	mg/kg	0.5	Org-023	[NT]	26	<0.5	<0.5	0	123	99
Ethylbenzene	mg/kg	1	Org-023	[NT]	26	<1	<1	0	108	85
m+p-xylene	mg/kg	2	Org-023	[NT]	26	<2	<2	0	98	77
o-Xylene	mg/kg	1	Org-023	[NT]	26	<1	<1	0	94	73
naphthalene	mg/kg	1	Org-023	[NT]	26	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	26	117	110	6	126	112

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	46	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	46	11/07/2020	11/07/2020		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	46	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	46	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	46	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	46	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	46	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	46	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	46	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	46	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	46	107	114	6	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	95	11/07/2020	11/07/2020		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	95	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	95	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	95	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	95	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	95	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	95	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	95	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	95	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	95	117	95	21	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	99	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	99	11/07/2020	11/07/2020		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	99	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	99	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	99	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	99	1	2	67	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	99	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	99	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	99	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	99	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	99	115	92	22	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	246598-5
Date extracted	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	125	124
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	104	98
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	92	106
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	125	124
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	<100	<100	0	104	98
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	92	106
Surrogate o-Terphenyl	%		Org-020	103	1	112	108	4	91	91

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	246598-96
Date extracted	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	26	<50	<50	0	122	#
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	26	<100	<100	0	106	#
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	26	<100	<100	0	92	#
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	26	<50	<50	0	122	#
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	26	<100	<100	0	106	#
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	26	<100	<100	0	92	#
Surrogate o-Terphenyl	%		Org-020	[NT]	26	104	117	12	91	#

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	46	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	46	10/07/2020	10/07/2020		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	46	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	46	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	46	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	46	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	46	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	46	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	46	98	92	6	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	95	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	95	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	95	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	95	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	95	<100	110	10	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	95	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	95	101	93	8	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	246598-5
Date extracted	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	100
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	92
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	98
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	102
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	106	110
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	88
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	108	96
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	101	1	97	91	6	102	107

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	246598-96
Date extracted	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	98	100
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	98	116
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	98	#
Anthracene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	26	0.1	<0.1	0	94	#
Pyrene	mg/kg	0.1	Org-022/025	[NT]	26	0.1	<0.1	0	92	#
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	84	#
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	26	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	26	0.05	0.07	33	80	#
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	26	106	96	10	93	101

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	46	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	46	10/07/2020	10/07/2020		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	0.5	133	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	0.5	133	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	0.6	143	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	46	<0.2	0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	46	<0.05	0.1	67	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	46	97	103	6	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	95	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	95	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	95	106	103	3	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	246598-5
Date extracted	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	72	92
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	92
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	92
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	96
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	106
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	112
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	106	114
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	116
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	104
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	70	78
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	96	1	86	78	10	95	82

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	246598-96
Date extracted	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	90	104
HCB	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	90	88
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	82	90
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	106	110
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	90	94
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	94	96
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	98	114
Endrin	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	94	102
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	82	96
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	78	104
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	26	89	100	12	103	90

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	246598-120
Date extracted	-			[NT]	46	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	46	10/07/2020	10/07/2020		10/07/2020	10/07/2020
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	86	98
HCB	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	90	92
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	70	78
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	102	104
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	96	98
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	96	94
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	100	104
Endrin	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	82	86
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	70	76
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	70	72
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	46	81	80	1	73	85

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	95	0.4	0.3	29	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	95	91	93	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	119	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	119	10/07/2020	10/07/2020		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	119	80	72	11	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	246598-5
Date extracted	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			10/07/2020	1	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	78	100
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	78	100
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	80	90
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	72	78
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	104
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	102
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	114
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	96	1	86	78	10	95	82

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	246598-96
Date extracted	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	92	110
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	82	104
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	82	100
Malathion	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	106	109
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	114	126
Parathion	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	104	110
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	106	116
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	26	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	26	89	100	12	103	90

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	246598-120
Date extracted	-			[NT]	46	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	46	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	96	106
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	94	98
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	92	90
Malathion	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	76	88
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	106	108
Parathion	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	106	104
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	100	104
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	46	81	80	1	73	85

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	95	91	93	2	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	119	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	119	10/07/2020	10/07/2020		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	119	80	72	11	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	246598-5
Date prepared	-			14/07/2020	1	10/07/2020	10/07/2020		10/07/2020	14/07/2020
Date analysed	-			14/07/2020	1	10/07/2020	10/07/2020		10/07/2020	14/07/2020
Arsenic	mg/kg	4	Metals-020	<4	1	8	10	22	99	90
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	0.6	40	100	99
Chromium	mg/kg	1	Metals-020	<1	1	23	18	24	98	#
Copper	mg/kg	1	Metals-020	<1	1	20	24	18	97	74
Lead	mg/kg	1	Metals-020	<1	1	66	78	17	102	#
Mercury	mg/kg	0.1	Metals-021	<0.1	1	0.1	0.1	0	97	#
Nickel	mg/kg	1	Metals-020	<1	1	13	11	17	102	#
Zinc	mg/kg	1	Metals-020	<1	1	89	74	18	108	#

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	246598-96
Date prepared	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	26	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Arsenic	mg/kg	4	Metals-020	[NT]	26	6	9	40	101	90
Cadmium	mg/kg	0.4	Metals-020	[NT]	26	<0.4	<0.4	0	104	94
Chromium	mg/kg	1	Metals-020	[NT]	26	10	13	26	101	81
Copper	mg/kg	1	Metals-020	[NT]	26	14	29	70	102	92
Lead	mg/kg	1	Metals-020	[NT]	26	28	34	19	98	78
Mercury	mg/kg	0.1	Metals-021	[NT]	26	<0.1	<0.1	0	98	80
Nickel	mg/kg	1	Metals-020	[NT]	26	3	9	100	106	82
Zinc	mg/kg	1	Metals-020	[NT]	26	19	34	57	111	77

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	246598-120
Date prepared	-			[NT]	46	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Date analysed	-			[NT]	46	10/07/2020	10/07/2020		10/07/2020	10/07/2020
Arsenic	mg/kg	4	Metals-020	[NT]	46	7	8	13	99	86
Cadmium	mg/kg	0.4	Metals-020	[NT]	46	0.5	0.6	18	105	94
Chromium	mg/kg	1	Metals-020	[NT]	46	19	21	10	96	71
Copper	mg/kg	1	Metals-020	[NT]	46	42	56	29	97	70
Lead	mg/kg	1	Metals-020	[NT]	46	64	87	30	101	83
Mercury	mg/kg	0.1	Metals-021	[NT]	46	<0.1	<0.1	0	88	85
Nickel	mg/kg	1	Metals-020	[NT]	46	13	17	27	99	82
Zinc	mg/kg	1	Metals-020	[NT]	46	350	410	16	106	79

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	95	10/07/2020	10/07/2020		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	95	7	5	33	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	95	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	95	19	13	38	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	95	37	30	21	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	95	68	52	27	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	95	14	11	24	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	95	150	130	14	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	119	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	119	10/07/2020	10/07/2020		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	119	10	11	10	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	119	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	119	20	23	14	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	119	23	21	9	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	119	20	22	10	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	119	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	119	10	11	10	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	119	38	37	3	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	127	10/07/2020	10/07/2020		[NT]	[NT]
Date analysed	-			[NT]	127	10/07/2020	10/07/2020		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	127	7	7	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	127	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	127	27	26	4	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	127	35	38	8	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	127	24	24	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	127	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	127	9	8	12	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	127	37	38	3	[NT]	[NT]

Result Definitions

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

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

TRH Soil C10-C40 NEPM - # Percent recovery for the surrogate and matrix spike is not possible to report as the high concentration of analytes in samples 246598-96 and 99 have caused interference.

PAHs in Soil - # Percent recovery for the matrix spike is not possible to report as the high concentration of analytes in sample 246598-96 has caused interference.
The laboratory RPD acceptance criteria has been exceeded for 246598-46. Therefore a triplicate result has been issued as laboratory sample number 246598-130.

Acid Extractable Metals in Soil:
-The laboratory RPD acceptance criteria has been exceeded for 246598-26 for Cu, Ni & Zn. Therefore a triplicate result has been issued as laboratory sample number 246598-129.
-# Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

eurofins | Environment Testing

Certificate of Analysis

Martens & Associates Pty Ltd
Suite 201, 20 George St
Hornsby
NSW 2077

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Dean Shi**

Report **730731-S**
Project name 1111-1141 ELIZABETH DRIVE CECIL PARK NSW
Project ID P1706121
Received Date Jul 09, 2020

Client Sample ID			**DUP207**	**DUP208**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**S20-Jl15765**	**S20-Jl15766**
Date Sampled			**Jul 06, 2020**	**Jul 06, 2020**
Test/Reference	LOR	Unit		
Heavy Metals				
Arsenic	2	mg/kg	7.0	8.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	17	19
Copper	5	mg/kg	25	30
Lead	5	mg/kg	22	20
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	17	23
Zinc	5	mg/kg	56	72
% Moisture	1	%	10	12

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Metals M8	Sydney	Jul 13, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Jul 09, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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Site # 1254 & 14271

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Lane Cove West NSW 2066
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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
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NATA # 1261 Site # 20794

Perth
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

New Zealand

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35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Martens & Associates Pty Ltd	**Order No.:**	
Address:	Suite 201, 20 George St Hornsby NSW 2077	**Report #:**	730731
		Phone:	02 9476 9999
		Fax:	02 9476 8767
Project Name:	1111-1141 ELIZABETH DRIVE CECIL PARK NSW		
Project ID:	P1706121		

Received:	Jul 9, 2020 2:25 PM
Due:	Jul 16, 2020
Priority:	5 Day
Contact Name:	Dean Shi

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Metals M8	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	DUP207	Jul 06, 2020		Soil	S20-Jl15765	X	X
2	DUP208	Jul 06, 2020		Soil	S20-Jl15766	X	X
Test Counts						2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	106			70-130	Pass	
Cadmium	%	104			70-130	Pass	
Chromium	%	104			70-130	Pass	
Copper	%	102			70-130	Pass	
Lead	%	108			70-130	Pass	
Mercury	%	105			70-130	Pass	
Nickel	%	105			70-130	Pass	
Zinc	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	N20-JI20488	NCP	%	99			70-130	Pass	
Cadmium	N20-JI20488	NCP	%	97			70-130	Pass	
Chromium	N20-JI20488	NCP	%	103			70-130	Pass	
Copper	N20-JI20488	NCP	%	95			70-130	Pass	
Lead	N20-JI20488	NCP	%	110			70-130	Pass	
Mercury	N20-JI20488	NCP	%	103			70-130	Pass	
Nickel	N20-JI20488	NCP	%	101			70-130	Pass	
Zinc	N20-JI20488	NCP	%	91			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	N20-JI20487	NCP	mg/kg	2.5	2.6	4.0	30%	Pass	
Cadmium	N20-JI20487	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	N20-JI20487	NCP	mg/kg	13	12	5.0	30%	Pass	
Copper	N20-JI20487	NCP	mg/kg	21	26	21	30%	Pass	
Lead	N20-JI20487	NCP	mg/kg	70	91	26	30%	Pass	
Mercury	N20-JI20487	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	N20-JI20487	NCP	mg/kg	11	9.6	13	30%	Pass	
Zinc	N20-JI20487	NCP	mg/kg	290	340	16	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	N20-JI15728	NCP	%	14	14	1.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
I12	Where sampling date has not been provided, Eurofins | Environment Testing is not able to determine whether analysis has been performed within recommended holding times.

Authorised By

Ursula Long	Analytical Services Manager
Gabriele Cordero	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Envirolab Services Pty Ltd
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customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 246598-A

Client Details

Client	Martens & Associates Pty Ltd
Attention	Dean Shi
Address	Suite 201, 20 George St, Hornsby, NSW, 2077

Sample Details

Your Reference	**P1706121; 1111-1141 Elizabeth Dr Cecil Park**
Number of Samples	123 soil, 5 material
Date samples received	07/07/2020
Date completed instructions received	16/07/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

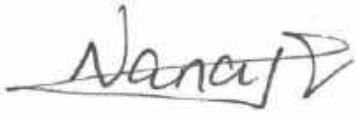
Date results requested by	21/07/2020
Date of Issue	21/07/2020

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

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

Results Approved By
Diego Bigolin, Team Leader, Inorganics
Jaimie Loa-Kum-Cheung, Metals Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

Misc Inorg - Soil					
Our Reference		246598-A-34	246598-A-40	246598-A-60	246598-A-99
Your Reference	UNITS	6121/TP218/0.1	6121/BH222/0.1-0.2	6121/BH232/0.1-0.2	6121/SS36
Composite Reference		-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil
Date prepared	-	21/07/2020	21/07/2020	21/07/2020	21/07/2020
Date analysed	-	21/07/2020	21/07/2020	21/07/2020	21/07/2020
pH 1:5 soil:$CaCl_2$	pH Units	7.3	4.4	5.2	7.0

CEC					
Our Reference		246598-A-34	246598-A-40	246598-A-60	246598-A-99
Your Reference	UNITS	6121/TP218/0.1	6121/BH222/0.1-0.2	6121/BH232/0.1-0.2	6121/SS36
Composite Reference		-	-	-	-
Date Sampled		06/07/2020	06/07/2020	06/07/2020	06/07/2020
Type of sample		soil	soil	soil	soil
Date prepared	-	21/07/2020	21/07/2020	21/07/2020	21/07/2020
Date analysed	-	21/07/2020	21/07/2020	21/07/2020	21/07/2020
Exchangeable Ca	meq/100g	20	7.0	7.4	17
Exchangeable K	meq/100g	0.3	0.3	1	0.2
Exchangeable Mg	meq/100g	4.0	4.6	6.2	1.1
Exchangeable Na	meq/100g	0.14	0.11	0.12	<0.1
Cation Exchange Capacity	meq/100g	24	12	15	18

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			21/07/2020	[NT]	[NT]	[NT]	[NT]	21/07/2020	[NT]
Date analysed	-			21/07/2020	[NT]	[NT]	[NT]	[NT]	21/07/2020	[NT]
pH 1:5 soil:$CaCl_2$	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			21/07/2020	[NT]	[NT]	[NT]	[NT]	21/07/2020	[NT]
Date analysed	-			21/07/2020	[NT]	[NT]	[NT]	[NT]	21/07/2020	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]

Result Definitions

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

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

pH - out of recommended holding time

Attachment H: 95% UCL Calculations

Nonparametric UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.122/07/2020 10:45:52 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

C0

General Statistics

Total Number of Observations	46	Number of Distinct Observations	35
		Number of Missing Observations	0
Minimum	19	Mean	129.2
Maximum	950	Median	66.5
SD	161	Std. Error of Mean	23.74
Coefficient of Variation	1.246	Skewness	3.41
Mean of logged Data	4.429	SD of logged Data	0.863

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	169	95% Adjusted-CLT UCL (Chen-1995)	180.9
		95% Modified-t UCL (Johnson-1978)	171

Nonparametric Distribution Free UCLs

95% CLT UCL	168.2	95% Jackknife UCL	169
95% Standard Bootstrap UCL	167	95% Bootstrap-t UCL	193.5
95% Hall's Bootstrap UCL	308.6	95% Percentile Bootstrap UCL	169.3
95% BCA Bootstrap UCL	189.1		
90% Chebyshev(Mean, Sd) UCL	200.4	95% Chebyshev(Mean, Sd) UCL	232.6
97.5% Chebyshev(Mean, Sd) UCL	277.4	99% Chebyshev(Mean, Sd) UCL	365.3

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	232.6		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.