Detailed Site Contamination Assessment

Stage 4 Settlers Estate Residential Subdivision
741-755 Great Western Highway, Werrington NSW 2747

18 MAY 2021

Prepared for:

Statewide Planning Pty Ltd

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Statewide Planning Pty Ltd engaged Sullivan Environmental Sciences Pty Ltd to conduct a Detailed Site Contamination Assessment of the property at 741-755 Great Western Highway, Werrington NSW 2747. The site is earmarked for a proposed residential subdivision development comprising 134 housing lots, public roads and green spaces. The site is identified as Stage 4 of the greater development area known as Settlers Estate residential development.

The detailed site contamination assessment was necessary to address pre-lodgement advice received from Penrith City Council regarding land contamination matters identifying recent use of parts of the site as a works compound and other areas of the site used for stockpiling soils, both activities being a source of potential contamination.

Our objective was to assess for the presence of soil contamination at the site and provide conclusions on the suitability of the site for its proposed residential use or provide recommendations for additional investigation and/or remediation, if needed.

Our scope comprised an intrusive soil investigation and reporting in consideration of the contaminated land guidelines made or approved by NSW EPA under the Contaminated Land Management Act (NSW), SEPP55 planning guidelines, and the ASC NEPM 2013.

The following conclusions are made based on the findings of this Detailed Site Contamination Assessment; subject to the limitations presented in Section 9:

- The site is defined as Lot 125 & Lot 126 in DP1215199 at 741-755 Great Western Highway, Werrington NSW with an area of 4.898 hectares.
- It is proposed to subdivide the land for residential allotments with accessible gardens and soil. The site is identified as Stage 4 of the larger Settlers Estate Residential subdivision development.
- At present the site is generally vacant and unused. In the recent past the site was used as a works compound for earthworks and construction activities for the adjoining Settlers Estate development including Stages 1, 2 and 3. The site also contains stockpiles of soil originating from the adjoining development lands. These adjoining lands are also owned by the site owner (Statewide Planning).
- Historically the site was used for Defence activities as part of a larger property until 1999 when the Defence property was remediated and validated as suitable for residential uses with accessible soils. The site remained unused since 1999 and ownership was transferred in 2005.
- Recent site activities identified by Council as posing a potential contamination risk were considered to be limited to the entrance area of the site as a works compound and stockpiling of soil at various locations across the site. These activities and areas of the site formed the basis to the assessment.
- Sampling and analysis of soil samples collected from the works compound, from stockpiled soils and natural soil layers show concentrations of contaminants meeting the adopted investigation levels for land to be used for residential dwellings.
- The stockpiles visually and chemically are consistent with the natural virgin ground and are considered to be stockpiled natural soils. All stockpile results and calculated 95% UCLs are below the investigation criteria.
- Onsite soils, either stockpiled or at ground level, are unlikely to pose an unacceptable health risk to human or ecological receptors under a low-density residential land use setting.
- No actual or suspected Asbestos Containing Materials (ACMs) were observed during site works or analytically detected at the surface or in subsurface soils sampled onsite.
- The presence of minor amounts (i.e. visually estimated at <0.5%) of inert foreign matter in the soil stockpiles does not cause a contamination concern. The soils are considered suitable to be beneficially used on the residential development site.

- We consider that the adopted test-pitting and sampling approach has adequately characterised the stockpiles visually and chemically as natural materials; however, we recommend prior to reuse of the stockpiled soils, the stockpiles are suitably screened to remove foreign matter, for aesthetic considerations, to improve the visual appearance of the soils.

Based on the findings of the Detailed Site Contamination Assessment, recent activities on parts of the site used as a works compound and soil stockpiling areas have not caused contamination of the land and the site is considered suitable for the proposed subdivision development as residential land.

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Introduction

Statewide Planning Pty Ltd (Statewide) engaged Sullivan Environmental Sciences Pty Ltd (Sullivan-ES) to conduct a Detailed Site Contamination Assessment of the property at 741-755 Great Western Highway, Werrington NSW 2747; henceforth referred to as 'the site'. A site locality map is shown on Figure 1 **Appendix A**.

We understand the site is earmarked for a proposed residential subdivision development comprising 134 housing lots, public roads and green spaces. The site is identified as Stage 4 of the greater development area known as Settlers Estate residential development.

The site has previously been remediated and validated in 1999. At that time, the site was part of a much larger property operated by Defence. The site was understood to be used as an army supply and signals depot. A previous contamination report (D&M 1999[1]) concluded that validation sampling of remediation undertaken at that time demonstrated that the site was suitable for residential land use with gardens and accessible soils. A subsequent Phase 1 investigation completed in 2012 (JBS 2012[2]) that stated again the conclusions by D&M 1999, that the site was suitable for residential uses, as well as concluding that the site remained relatively unchanged from the 1999 report.

Pre-lodgement advice received from Penrith City Council regarding land contamination matters identified recent use of parts of the site as a works compound and other areas of the site used for stockpiling soils, both activities being a source of potential contamination.

Assessment of land contamination is required under State Environmental Planning Policy No. 55 – Remediation of Land (SEPP55) for assessing a development application to be lodged for the subdivision.

1.1 Objective

Our objective was to assess whether recent activities on parts of the site as a works compound and soil stockpiling areas have caused contamination of the land, and to provide conclusions on the suitability of the site for its proposed subdivision for residential use or provide recommendations for additional investigation and/or remediation, if needed.

1.2 Scope of Work

Our scope of work comprised the following:

Information Review

- Reviewing site background information made available by Statewide.

Fieldwork

- Preparing a sampling work plan and safety plan for all field-based work on the site.
- Mobilising to the site and conducting a detailed site inspection to document current site conditions and surrounding environments.

[1] Dames and Moore Final Report Stage 2 Remediation & Validation, Kingswood Army Signals Depot, dated 27 October 1999 (not reviewed by Sullivan-ES).
[2] JBS Environmental Pty Ltd, Phase 1 Environmental Site Assessment, June 2012.

- Conducting a clearance of underground utilities using 'Dial Before You Dig' plans to clear and confirm soil sampling locations.
- Collecting soil samples from surface soils within the works compound area and from test pits excavated into soil stockpiles at various parts of the site.
- Returning to the site to collect additional soil samples from surface/near surface soils across broader areas of the site and from test pits excavated into other soil stockpiles.
- Dispatching collected samples of soil from both sampling events to a NATA accredited laboratory to be analysed for a broad suite of contaminants.

Reporting

Preparing a Detailed Site Contamination Assessment report in consideration of the contaminated land guidelines made or approved by NSW EPA under the Contaminated Land Management Act (NSW), SEPP55 planning guidelines, and the ASC NEPM 2013.

1.3 Regulatory Framework

The Contamination Assessment was conducted with consideration of the following regulatory framework and guideline documents. A full list of reference documents is presented in Section 8.

- Contaminated Land Management Act 1997 (CLM Act).
- National Environment Protection (Assessment of Site Contamination) Measure 2013 (ASC NEPM 2013).
- Contaminated Land Guidelines: Consultants Reporting on Contaminated Land, 2020 (NSW EPA 2020).
- Guidelines for the NSW Site Auditor Scheme (3rd Edition), 2017 (NSW EPA 2017).
- Sampling Design Guidelines, 1995 (NSW EPA 1995).
- State Environmental Planning Policy No.55 – Remediation of Land 1998 (SEPP55).
- Managing Land Contamination Planning Guidelines SEPP 55–Remediation of Land (the Planning Guidelines).

1.4 Consultant's Competency and Certification

All contamination assessment work and reporting was conducted by the professionally trained team at Sullivan-ES. The Project Team consisted of the following members:

1. Adam Sullivan who has over 20 years of experience in contaminated land assessment and remediation. Adam is a certified Site Contamination Specialist (CEnvP-SC) under the Certified Environmental Practitioner Scheme (www.cenvp.org) and has prepared and approved this report in the capacity as a CEnvP-SC and Principal Scientist.
2. Sean Guenther who has over 19 years of experience in contaminated land assessment and remediation and has reviewed this report in his capacity as Senior Associate.

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Site Information

The information provided in this section is summarised from the following:

- Information provided by Statewide.
- Fieldwork observations and sampling undertaken by Sullivan-ES.

2.1 Site Description

2.1.1 Identification

The following information identifies the site.

Table 2-1 Site Identification

Attribute	Details
Address	741-755 Great Western Highway, Werrington NSW 2747
Legal identity	Lot 125 & Lot 126 DP 1215199
Area	4.898 hectares (Ref: ECP surveyors, Drawing A, 4/9/2020)
Owner/operator	Statewide Planning Pty Ltd
Local Government Area (LGA)	Penrith City Council
Zone	R3 Medium Density Residential – Penrith Local Environmental Plan 2010
Current land use	Vacant/Unused
Future land use	Residential subdivision, public roads and green spaces areas

2.1.2 Existing, Proposed and Surrounding Land Use

The site is zoned for medium density residential (Penrith LEP 2010) and currently exists as a vacant unused parcel. It is proposed to subdivide the site for residential lots, public roads and green space areas. General layout of the proposed development is presented in **Appendix F**.

The site is bordered by the following land uses.

North: Public road (St Charbel Boulevarde) then existing residential dwellings of the adjoining Settlers Estate development (zoned R1 General Residential).

South: Public road (Great Western Highway) then the existing TAFE NSW campus (zoned SP2).

East: An unnamed water course and future reserve land (zoned E2 Environmental Conservation) then land comprising the Stage 5 development area (zoned B7 Business Park).

West: Public road (French Street) then single-storey residential dwellings (zoned R3 Medium Density Residential).

2.1.3 Site Inspection and Condition

Sullivan-ES completed a detailed site inspection of the site on 30 November 2020. Specific site features are identified on Figure 2 of **Appendix A,** while site photos are presented in **Appendix D**. The following observations were made from the site inspection.

- Entry is gained through locked security gates off French Street. A hardstand cover consisting of crushed brick and concrete has been laid down across the site entrance area and adjoining works compound.
- Large portions of the site appear relatively consistent with natural ground levels with various equipment, storage materials and soil stockpiles placed on top, as described below.
- An internal access path continues on from the site entrance to the east then curves north to the northern site boundary. Hardstand has been laid down on the path consisting of crushed rock.
- The works compound consists of a few demountable sheds and shipping containers, as well as a few large excavator machines, a dump truck and other related equipment. Materials and equipment observed in this area included:
    - a small concrete slab upon which was stacked bricks, metal pipes and other construction materials;
    - excavator buckets and other attachments;
    - office chairs and table (from the demountable offices);
    - construction site signage;
    - rolls of polypipe;
    - metal plates and coverings;
    - a few empty drums (no labels) and plastic buckets;
    - an IBC containing oil residues (no observed staining beneath or on surrounding ground was noted); and
    - various other brick-a-brack.
- There is an external materials storage area laid out on the open ground immediately east of the works compound and further east into the site. Of note were the following materials:
    - stacked concrete stormwater pipes
    - reo metal mesh and lengths of reo bars
    - lengths of metal pipe and siding/guttering
    - large diameter PVC drainage pipes
    - an empty skip bin
    - tyres
    - stockpiles of concrete slabs, concrete rubble and brick
    - a few small piles of building material waste (timber, metal, insulation, etc).
- No fibro cement materials (potentially containing asbestos) were observed in any areas of the works compound or materials/equipment storage areas.
- A large soil stockpile has been formed along the eastern site boundary, labelled as Stockpile A on Figure 2.
- On the opposite side of the access path to Stockpile A is another large soil stockpile, labelled Stockpile B.
- All additional soil stockpiles are much smaller and are either standalone piles or a series of small piles (i.e. small tipper loads) adjoining each other.
- An elongated embankment has been formed along the southern side of the access path, while another embankment has been formed by a cutting along the north boundary along St Charbel Boulevarde.

No fibro cement materials (potentially containing asbestos) were observed on or in any stockpiled soils. Refer to soil logs (**Appendix C**) and Section 5.1 for descriptions of soil materials encountered during sampling.

All materials observed in the works compound area and civil machinery storage area appear inert in substance and are considered of no consequence to potentially contaminate the land, these locations were addressed in general housekeeping duties, as described in Section 2.5.

2.1.4 Anecdotal Information

Sullivan-ES was informed by the landowner that all soils stockpiled onsite originated from the adjoining residential development properties to the north that the landowner also owns and has or is in the process of developing those properties as residential dwellings, public roads and green spaces. The adjoining developments consist of the Stage 1, Stage 2 and Stage 3 works of Settlers Residential Estate.

Sullivan-ES verified this statement by reviewing Nearmap™ aerial images from 2015 to 2017. Aerial imagery during this timeframe show the development of the adjoining residential lands and corresponding soil stockpiling activities on the Stage 4 Site. After conducting the site inspection, it was evident that the site areas of concern have been exclusively used for construction related activities, which verifies the landowner's assertion of work activity relating to development of the Stage 1, 2 and 3 lands to the north.

2.2 Site History

Based on our review of the past report (Section 2.3), it is understood that the site history involved the following:

- The site was part of a larger parcel of Commonwealth land up until 2005 and then changed ownership.
- Up to 1994 the site (and associated Commonwealth land) was operated by the Department of Defence as an Army supply and signals depot.
- Between 1994 and 1999 the following activities occurred:
    - Demolition of all site buildings.
    - Assessment, remediation and validation works at the site including:
        - Removal of two USTs (in 1996 and 1998)
        - Former RTA asphalt plant in south east area
        - Dumping ground in north east area
        - Former building areas
        - French Street residences
- From 2005 the site ownership was transferred to the developer under various company entities for future subdivision and development.
- From 2015 to 2017 the site was used as a works compound and soil stockpiling area for the adjoining land development to the north consisting of Stage 1, 2 and 3 of Settlers Estate.

2.3 Previous Reports

JBS Environmental conducted a Phase 1 investigation in 2012 of a large 22-hectare parcel of land that included the site to *"…document the site history, assess potential on and offsite sources of contamination, and whether the site is suitable for the proposed use, or provide recommendations to enable such conclusions."* **Appendix E** presents the land area subject to the Phase 1 which included

the site as well as the parcels of land to the north now identified as Stage 1, 2 and 3 of the Settlers Estate development.

At the time of the Phase 1, the site was identified as Lot 57 and Lot 58 DP1069025 as shown in **Appendix E**.

JBS conducted a review of a previous contamination report (D&M 1999) and stated that *"The report provided was an extract of a report on remediation and validation by Dames & Moore (DM 1999)[1]. The document provided comprised the text of the report but did not include analytical results tables, figure or any appendices."* JBS also stated that *"It is further noted that the report (D&M 1999) states that "A remedial action plan was prepared and approved by an independent auditor", suggesting that a site audit statement may exist for the site. It is also possible that a site audit statement was prepared subsequent to the remediation and validation reported in D&M 1999."*

JBS made the following statements relevant to the site:

- Confirmed the site to be a vacant block of land and predominantly vegetated.
- An area of raised topography was located along the northern boundary of the site and was possibly material that was removed as part of the development of St Charbel Boulevarde.
- Prior to 1999, several activities were identified as Areas of Environmental Concern (AEC) based on the site history. The conclusions in the extract from the D&M 1999 reported that *"… from a contamination perspective the site was suitable for residential use with gardens and accessible soils. However, while the works described in the report appear to have been appropriate to remediate the contamination described in the report, in the absence of analytical data and figures: to support the statement, JBS is unable to comment on that conclusion."*
- The site appeared to have remained relatively unchanged since the D&M report in 1999 that concluded the land was suitable for residential uses.

2.4 Environmental Setting

2.4.1 Topography and Drainage

The site is situated at an approximate elevation of 40 to 50m AHD (Australian Height Datum). Various locations subject to stockpiling could be artificially elevated above these levels; however, this was not confirmed. Onsite topography reveals a natural high point from the central area of the site with a gentle slope down to the east and west from that high point.

There is an unnamed creek that borders the east of the site. Runoff from the site is partially blocked by the formation of Stockpile A on the east site boundary. The creek appears to drain north, eventually joining with other small tributaries of Werrington Creek then onto South Creek further north northeast in the suburb of St Marys.

2.4.2 Geology and Soils

Review of the 1:100,000 Geological Series Map for the Penrith area[3] shows that the site is situated on Triassic period Bringelly Shales from the Wianamatta Group. Bringelly Shales consist of shale, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff.

[3] Penrith 1:100,000 Geological Series Map - Sheet 9030 NSW Department of Minerals and Energy, Edition 1 1991

The soil landscape map[4] shows that the underlying soils at the site are of the Luddenham soil landscape and has the following traits:

- Luddenham Soils: shallow (<100 cm) dark Podzolic Soils or massive Earthy Clays on crests; moderately deep (70–150 cm) Red Podzolic Soils on upper slopes; moderately deep (<150 cm) Yellow Podzolic Soils and Prairie Soils on lower slopes and drainage lines.

2.4.3 Hydrogeology

The site is situated in the Upper South Creek hydrogeological landscape for the Western Sydney Area[5]. Based on the site location and catchment area of Werrington Creek, it is assumed that local groundwater flows in a predominately northerly direction towards South Creek. The Phase 1 (JBS 2012) stated groundwater was reported in the D&M report (D&M 1999) at between 2.9m and 7.9m below ground surface.

The Phase 1 (JBS 2012) included a review of registered groundwater bore information and found there were four (4) registered groundwater bores located within 500m to the north of the site. Information was available for only three of the four registered bores (referred to as GW019680, GW020547 and GW020069). The three bores were drilled to depths of 53m, 75m and 91m below ground surface (bgs), however there was no information regarding the groundwater bearing zone or standing water levels. Two of the registered bores (GW020069 and GW020547) were registered for waste disposal and one bore (GW019680) was registered as a test bore.

Our review of the registered groundwater bore database (WaterNSW) confirmed the three groundwater bores to the north of the site. There were no other additional registered bores identified within 500m of the site in any direction.

2.5 General Housekeeping Activities

During the latter part of 2020 and into 2021, the site owner undertook an array of housekeeping activities as a general tidy-up of the site and to improve the visual appearance of the site. This work included partial disestablishment of the works compound area, removing some trash and garbage from areas of the site, removing empty tins and other various containers stored in the compound area, as well as demobilisation of some heavy machinery and equipment (e.g. some of the large excavators and dump trucks parked onsite).

As part of general housekeeping duties, Sullivan-ES identified a few localised areas that should be addressed as part of the effort to improve the visual appearance of the site. A couple of small soil and rubble piles that appeared inconsistent with all other natural soils stockpiled onsite were earmarked for removal. These materials were dealt with by sampling for waste classification requirements (represented by samples identified as Stockpile TP40, Stockpile TP42 and Stockpile TP50 and excluded from the dataset of this Assessment); followed by a transport and disposal offsite to a licenced facility in accordance with the Waste Guidelines (2014) and the POEO (Waste) Regs 2014. Records of classification and disposal of material related to general housekeeping duties can be provided upon request.

[4] www.environment.nsw.gov.au/eSpade2WebApp.
[5] www.environment.nsw.gov.au/eSpade2WebApp.

Once general housekeeping activities were completed, supplementary sampling was conducted to verify any residues from those materials had not impacted underlying localised soils. Chemical results of those samples are included in this Contamination Assessment, refer to Table 1 (**Appendix B**) as samples identified as SS15, SS16 and SS17.

2.6 Integrity Evaluation of Information

Information was collected from a number of sources for the purposes of this Contamination Assessment. Government information sources are considered accurate and without bias. Information sourced from JBS 2012 provides a reasonably clear indication of the historical land use which is sufficient for the purposes of this assessment. Sullivan-ES therefore consider the background information to be of an acceptable standard for evaluating contamination risk in accordance with the requirements under SEPP 55 and the SEPP 55 Guidelines.

3 Assessment Methodology

3.1 Data Quality Objectives

The Data Quality Objectives (DQOs) for the assessment are based on guidance presented in the ASC NEPM 2013 – Schedule B2. The DQOs establish a framework for contamination investigations, which incorporates a seven-step process that defines the problem at the site being investigated and then optimises the design of the investigation.

Step 1 - State the Problem

Pre-lodgement advice from Council (Ref: PL20/0044) stated:

> *"The site has been used as a transport and/or works compound, and has been subject to significant filling, in recent years. Both uses are potentially contaminated activities.*
>
> *As such, a contamination investigation of the site must be submitted with any application to demonstrate that the site is suitable, or can be made suitable, for the proposed use as per clause 7 of SEPP55. The investigation is to be undertaken by a suitably qualified and experienced consultant in accordance with relevant NSW EPA guidelines and NEPM 2013."*

The problem under investigation was:

- Presence of unknown contamination associated with recent activities onsite as identified by Council and limited to:
    I. Works compound area
    II. Soil stockpiling areas

Preliminary Conceptual Site Model

A preliminary Conceptual Site Model (CSM) was developed in consideration of potential historical/recent site activities and existing site condition. The preliminary CSM takes into account the future use of the land as residential land.

1. Contamination Sources and CoPCs
    a. historical construction-related activities in the works compound - heavy metals, hydrocarbon compounds (petroleum and polycyclic aromatics), pesticides, asbestos.
    b. potential imported fill and soil stockpiling – heavy metals, hydrocarbon compounds (petroleum and polycyclic aromatics), pesticides, PCBs and asbestos.
2. Receptors
    a. Human – onsite construction workers, onsite future residents, offsite residents.
    b. Ecological – onsite terrestrial and offsite aquatic ecosystems, groundwater.
3. Exposure Pathways
    a. Onsite – direct ingest/contact/inhalation (short and long term).
    b. Offsite - ingest/contact/inhalation (short and long term), aquatic contact (long term)

Step 2 - Identify the Decision

The principal study question(s) that arises from Step 1, if contamination is identified, are:

- Are or will human and environmental receptors be exposed to identified contamination onsite and is the risk posed by contamination unacceptable requiring intervention?
- Is the site suitable, in the context of land contamination, for the proposed residential land use scenario?

Step 3 - Identify Inputs to the Decision

Primary inputs to making a decision are:

- Available and reliable environmental data obtained from historical reports.
- New data and observations made during field works.
- Results of chemical analyses of samples collected.
- Statistical data of new and existing data sets.
- Assessment of the suitability of new data for the purposes of environmental assessment through application of data quality indicators (DQIs).
- Assessment of the data in the context of the adopted investigation criteria.
- Characterisation of risk.

Step 4 - Define the Study Boundaries

Study boundaries for this assessment are laterally defined by the lot boundary of the site, as shown on Figure 2 and Figure 3 and vertically defined by collection of new soil data from soil stockpiles and natural soil surfaces. Groundwater was not assessed at this stage of the site investigation.

Temporal boundaries are defined within the limitations of this report.

Step 5 - Develop a Decision Rule

The decision rule for this assessment will be:

- If the concentration of any analysed contaminant in collected samples exceed adopted investigation criteria for the land use; then characterise and assess risk to relevant receptors.
- If the risk posed by contaminants in shown to be unacceptable for the land use, then make recommendations to ameliorate contaminants such that the risk is eliminated or is made acceptable and the site made suitable.

A decision on the acceptance of analytical data will be made on the basis of the Data Quality Indicators (DQI) that are compliant with PARCC parameters (Precision, Accuracy, Representativeness, Completeness and Comparability). The quantitative and qualitative measures/criteria employed to enable application of these parameters are described as follows.

Field-Based Activities

Precision: A quantitative measure of the variability (or reproducibility) of data. Field duplicates were collected at a rate of one duplicate per 10 primary samples collected (i.e. 10% or an equivalent of 5% each). The relative percent difference (RPD) of the detected concentrations in the parent and duplicate was calculated with the following acceptable limits.

- No RPD limit <10 times LOR.
- 50% RPD limit 10-20 times LOR.
- 30% RPD limit >20 times LOR.

Accuracy: A quantitative measure of the closeness of reported data to the "true" value, applying the following acceptable limits.

- Rinsate and/or field blanks <LOR.
- Trip Spike vs Trip Spike Control recoveries between 70-130%

Representativeness: The confidence (expressed qualitatively) that data are representative of each media present on site, with the following conditions met.

- Appropriate sampling methods adopted, and media sampled, and chemicals analysed (Step 7).

Completeness: A measure of the amount of useable data from a data collection activity, with the following conditions met.

- Appropriate Standard Operating Procedures (SOPs), and experienced staff (> 2yrs experienced), and documentation collected (logs, COC, instrument calibration, water monitoring readings). Refer Step 7.

Comparability: The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event, with the following conditions met.

- Appropriate Standard Operating Procedures (SOPs), and experienced staff (> 2yrs experienced). Refer Step 7.
- Appropriate sample handling and preservation, and field conditions (Step 7).

Analytical Laboratory-Based Activities

Analytical laboratories operating under a NATA accreditation were assessed based on their internal and accreditation performance. As standard, a suitable internal QA/QC program is employed to include analysis of method blanks, matrix spikes, surrogate spikes, laboratory control samples and laboratory duplicates. The laboratory will report on whether the QA/QC analysis meets the laboratory's adopted internal data quality objectives.

Step 6 - Specify Limits on Decision Errors

Specific limits for this project are in accordance with the appropriate guidance made or endorsed by state and national regulations, appropriate indicators of data quality, and industry standard procedures for field sampling and handling.

This step also examines the certainty of conclusive statements based on the available new site data collected. This should include the following points to quantify tolerable limits:

- A decision can be made based on a certainty assumption of 95% confidence in any given data set. A limit on the decision error will be 5% that a conclusive statement may be a false positive or false negative.

In order for decision rules to be sound, they were designed to minimise decision errors. The risk of decision error was mitigated by:

- Ensuring fieldwork tasks were undertaken by suitably experienced field staff and sub-contractors, with reference to the DQOs presented in this report;
- Ensuring laboratory analyses were undertaken by NATA accredited laboratories; and
- Ensuring interpretation of data was undertaken by suitably experienced environmental consultants and/or outsourcing interpretation to technical experts (if warranted).

Step 7 - Optimise the Design

The sampling program designed for this investigation as described in Section 3.2 was aimed at obtaining the necessary data to make the decision identified in Step 2.

3.2 Basis to Sampling

The sampling approach was based on the premise of collecting critical soil quality information on a systematic and judgemental sampling pattern with a higher degree of frequency and certainty in the achieved data set.

In accordance with ASC NEPM (2013), the stockpiles were assessed adopting a 3-dimensional systematic sampling approach using an excavator. This approach is best suited for stockpiles to expose a larger surface area both vertically and horizontally to visually assess the stockpile profile, potential contamination, soil features and soil heterogeneity..

The sampling density within soil stockpiles and across natural ground surfaces was considered sufficient to characterise all soils across the site (either stockpiled, laid or natural ground) in a manner to meet the required objectives.

It should be noted that in accordance with the NSW EPA Sampling Design Guidelines 1995, it is recommended to collect samples from a minimum 55 individual locations for a land size of approximately 5.0 hectares. We have exceeded this recommended number by sampling/inspecting 75 individual locations and chemically analysing samples from 62 of those locations (including 3 composite samples).

All soils sampling locations are presented on Figure 3 (**Appendix A**).

3.3 Field Sampling Program

Details of the field sampling program are presented below.

Table 3-1 Field Sampling Summary

Activity/Item	Details
Date of Field Activities	Part 1 – 30 Nov and 1 Dec 2020 – Site inspection and soil sampling. Part 2 – 20 and 22 April 2021 – Soil sampling.
Soil Logging and Inspection of Material	Exposed soil materials during test pit and auger sampling were thoroughly inspected for the presence of potential ACM. Soil classifications and descriptions are based on Australian Standard AS1726-1993 Geotechnical Site Investigations.

Assessment Methodology

Activity/Item	Details
	Soil descriptions for the lithology encountered during sampling are presented in soil logs (**Appendix C)**.
Soil Sampling and Density	Soil samples were taken directly from the excavator bucket (1.0m wide) or from the hand auger (75mm wide) using single use disposable nitrile gloves. Stockpile density: a total of 22 locations representing the two large stockpiles identified as Stockpile A and Stockpile B was sufficient for characterising these materials as described in the ASC NEPM (2013) and VIC EPA (2010)[6] for assessing stockpiles greater than 200m^3 by calculating the 95%UCL averages. Sampling Density: 75 locations across a site area of approximately 5.0 hectares which included both stockpile and natural ground surface sampling. Frequency of chemical analysis is presented in Table 3.2.
Decontamination Procedures	Sampling tools were decontaminated between sampling locations with potable water and a solution of Decon 90. Single use disposable nitrile gloves were worn at all times and changed between each soil sample.
Sample Preservation	Samples were placed in laboratory-supplied jars containing appropriate preservatives or suitable asbestos sampling bags. Samples were stored on ice in a cooler while on-site and in transit to the laboratory.
Disposal of Soil Cuttings and Materials	Soil cuttings/spoil was used to backfill test pits and soil bores once samples had been collected. Single use materials used during sampling were placed into garbage bags and disposed off-site.

3.3.1 Sample Analyses

Samples were analysed in accordance with the table below.

Table 3-2 Sample Analysis Schedule

	TRH/TPH	BTEXN	PAHs	Metals	Asbestos ID	Physical Properties	OCP/OPP	PCBs
Primary soil samples	55	55	55	58	8	1	41	36
QA/QC – Intra-lab field duplicates	6	6	6	6	0	0	5	5
Trip spike and trip blank	3	3	0	0	0	0	0	0

[6] EPA Victoria 2010, Industrial Waste Resource Guidelines (7), Sampling and Analysis: Soil Sampling, Environment Protection Authority.

	TRH/TPH	BTEXN	PAHs	Metals	Asbestos ID	Physical Properties	OCP/OPP	PCBs
Total all samples	**64**	**64**	**62**	**64**	**8**	**1**	**46**	**41**

Table notes: Total Petroleum/Recoverable Hydrocarbons (TPH/TRH), Benzene, Toluene, Ethylbenzene, Total Xylenes and Naphthalene (BTEXN), Polycyclic Aromatic Hydrocarbons (PAHs), Metals (As, Cd, Cr (total), Cu, Hg, Ni, Pb, Zn), Organochlorine Pesticides (OCPs), Organophosphorus pesticides (OPPs), Polychlorinated Biphenyls (PCBs).

3.4 Quality Assurance and Quality Control

Quality Assurance and Quality Control (QA/QC) was governed on the basis of the Data Quality Indicators (DQI) using PARCC parameters as listed in the DQOs (Step 5) and reproduced as follows:

- Precision: A quantitative measure of the variability (or reproducibility) of data.
- Accuracy: A quantitative measure of the closeness of reported data to the “true” value.
- Representativeness: The confidence (expressed qualitatively) that data are representative of each media present on site.
- Completeness: A measure of the amount of useable data from a data collection activity.
- Comparability: The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.

The Assessment was completed following standard operating procedures for conducting site contamination investigations. Standards followed included:

- General field documentation
- Health and safety
- Use of Personal Protective Equipment (PPE)
- Representative sample collection and labelling
- Equipment calibration
- Chain of Custody documentation for analytical samples
- Decontamination
- Collection of quality control samples (that may include: intra laboratory, inter laboratory, rinsates, blanks, spikes).

The data validation adopted for this assessment was based on the following guidance documents:

- Schedule B2 of the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM 2013).
- Australian Standard 4482.1 Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds, 2005.
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA 540-R-10-011, dated January 2010).
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA 540/R-99/008, dated June 2008).

Assessment Methodology

The data validation process involves the checking of analytical procedure compliance and the assessment of the accuracy and precision of analytical data from a range of quality control measurements generated from both field sampling and analytical programs. Specific elements that have been checked and assessed for this project include:

- preservation and storage of samples upon collection and during transport to the laboratory
- holding times
- use of appropriate analytical procedures
- required LOR
- frequency of conducting quality control measurements
- laboratory blanks
- field duplicates
- laboratory duplicates
- matrix spike/matrix spike duplicates (MS/MSDs)
- surrogates (or System Monitoring Compounds)
- the occurrence of apparently unusual or anomalous results.

4

Soil Assessment Criteria

The site is proposed for residential land with single lot dwellings and accessible gardens and lawned areas. The adopted assessment criteria reflects the sensitive nature of human and environmental receptors as occupants and inhabitants of the residential land.

The following criteria were adopted from ASC NEPM 2013 for assessing soils on the site as listed in Table 1 (**Appendix B**):

- HIL A and HSL A - Residential with garden/accessible soil also including childcare centres, preschools and primary schools.
- EIL/ESL – Urban residential/public open space.
- Management Limits – Residential, park land and public open space.
- Asbestos HSLs – Residential A.
- Soil Aesthetics.

4.1 Notes on Adopted Criteria

Health-based Investigation Levels (HILs)

The National Environment Protection (Assessment of Site Contamination) Measure 2013 (ASC NEPM 2013) Health-based Investigation Levels (HILs) (Schedule B1) provides a framework that is applicable for assessing human health risk via all relevant pathways of exposure and covers a broad range of metals and organic substances. Different levels are provided for a variety of exposure settings based on the land use scenario at a particular site.

Health Screening Levels (HSLs)

The ASC NEPM 2013 HILs do not provide criteria for petroleum hydrocarbon chemicals, therefore the Health Screening Levels (HSLs) were developed and form part of the ASC NEPM 2013 in Schedule B1. The ASC NEPM 2013 – HSLs are designed to be protective of human health and are applicable to assessing human health risk via the inhalation pathway. The HSLs used in this report have not been adjusted for site specific parameters such as moisture content for this phase of work. HSLs are available for various depth profiles and predominant lithology (sand, silt and clay).

HSLs relevant to the top 1.0m of soil with a clay consistency were adopted.

HSLs for direct contact were adopted from Table 4 of CRC CARE Technical Report No. 10 by Friebel and Nadebaum (2011).

Ecological Investigation/Screening Levels

The ASC NEPM 2013 Ecological Investigation levels and Ecological Screening Levels (EILs and ESLs) have been developed for selected metals and organic substances and are applicable for assessing risk to terrestrial ecosystems. EILs depend on specific soil physicochemical properties, whereas ESLs do not, and both are relevant to land use scenarios and apply to the top two metres of soil. EILs take into account soil texture and age of the impacts, whereas ESLs account only for soil texture.

Specific EILs were calculated using the ASC NEPM EIL Calculation Spreadsheet using site specific physical parameters collected in the field (identified as natural soils at location SS07A) to calculate EILs for aged contamination sources. The site-specific parameters from laboratory testing were as follows:

- CEC (16.4cmol(+)/kg).
- pH (4.0) – CaCl method.
- iron 2.1%
- OC (<0.5%).
- Clay (56%).
- Low traffic volumes.
- Determination of selected metals Average Background Concentrations (ABC) from onsite natural soils

Asbestos Health Screening Levels

The ASC NEPM 2013 asbestos HSLs have been developed for managing land use impacts associated with asbestos and are applicable for assessing risk to human health. The guideline has been derived from the Western Australian Department of Health (WA DoH 2009) guidance. The guidance covers bonded Asbestos Containing Material (bonded ACM), Fibrous Asbestos (FA) and Asbestos Fines (AF).

Note that the quantitative criteria (i.e. percentage of asbestos materials) were not used in this assessment given that the analysis was to determine the presence of asbestos only and not to quantify asbestos materials in soils. Visual identification and subsequent laboratory analysis were used to assess for potential asbestos containing materials (ACMs) such as fibro sheeting. The ASC NEPM 2013 Asbestos HSLs include a qualitative approach such that no visible asbestos should be at the soil surface for all forms of asbestos. This qualitative approach was also adopted for this investigation.

Management Limits

The ASC NEPM 2013 Management Limits in Schedule B1 are relevant for TRH contaminants only. The Management Limits are specific for soil types (coarse and fine) and land uses. If adopted on a site, Management Limits are intended to avoid or minimise the potential effects of the following and require consideration of site-specific factors to determine the maximum depth to which the limits should apply:

- Formation of observable light non-aqueous phase liquids (LNAPL).
- Fire and explosive hazards.
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons.

Aesthetic Considerations

In accordance with the ASC NEPM 2013 in Schedule B1 the aesthetic state of sites is required to be taken into account. Aesthetic issues generally relate to the presence of materials with a negligible risk or non-hazardous inert foreign material in soil or fill resulting from human activity. Sites that have been assessed as being acceptable from a human health and environmental perspective may still contain such foreign anthropogenic material. An assessment of the site aesthetics requires consideration of the natural state of soil on any given site, and a comparison between it and the soil encountered during investigations.

In particular, soils on site should not exhibit discolouration (staining), a malodorous nature (odours), abnormal consistency (rubble and trash) or show visible evidence of industrial wastes.

5 Results and Discussion

5.1 Field Observations

The following observations were made while conducting the Assessment:

- The test pitting sampling show the stockpiled soils were generally consistent with naturally occurring materials, as described in the soil logs (**Appendix C**).
- The test pitting across the stockpiles as a whole met the frequencies described in ASC NEPM (2013) for assessing stockpiles greater than 200m^3 and adopting the method for calculating the 95%UCL averages.
- Minor amounts of foreign matter were observed in some stockpiles including the large stockpiles identified as Stockpile A and Stockpile B. Such materials included concrete, brick and bitumen pieces, clay pipe, timber offcuts, scrap metal, and hard and soft plastics (of various nature).
- We estimate that the total amount of foreign matter in Stockpile A and Stockpile B would be no greater than a rough estimate of 0.5% of total quantity of soil. Foreign matter in all other smaller stockpiles is expected to be similar or of a lesser amount.
- The foreign matter observed in stockpiles is inert in nature and pose no potential chemical impact to the soils.
- Some stockpiles included crushed rock and boulders consistent of natural materials.
- Stockpile A covers a large area along the eastern site boundary with an approximate height of up to 5-6m at some locations.
- Stockpile B covers a large area of the eastern side of the site with a height of no more than 3.0m.
- All other soil stockpiles were of a small footprint ranging from heights of no greater than 1.0m to 2.0m.
- Large areas of the site are consistent with virgin natural ground comprising red brown high clay content soils underlain by highly weathered shaley rock.
- No suspected asbestos containing materials (ACM) were observed on the ground surfaces on site or within observed stockpiled material.
- No site areas showed vegetation stress or dieback.

5.2 Soil Results

Soil analytical results are presented in Table 1 and Table 2 (**Appendix B**) and in laboratory reports provided in **Appendix G**.

The results show that the majority of all soil samples were either below the laboratory detection level (i.e. not detectable) or well below the adopted soil investigation levels for protecting human and environmental health.

The stockpile results from TP18-TP29 and TP32-39 demonstrate a consistency with soils collected from the natural virgin ground and are considered to be stockpiled natural soils. All stockpile results and calculated 95% UCLs, in accordance with ASC NEPM 2013, were below the investigation criteria.

There were three samples that reported Copper at or marginally above the site specific calculated EIL (45mg/kg) and one sample that reported Zinc above the site specific calculated EIL (130mg/kg). One of the Copper results (SS03) was a natural soil sample indicating that Copper levels exhibit moderate variability and could be naturally elevated in the native soils. We consider these results as inherent variability of the natural soils data set and do not constitute a health risk to ecological receptors given the very low ecological screening values calculated for Copper and Zinc.

Three samples reported BaP concentrations at or marginally exceeding the adopted ESL (0.7mg/kg). The presence of bitumen pieces in the soil samples at the detected locations is considered to be the BaP source. The adopted ESL is a low reliability value (as stated in ASC NEPM 2013) and should only be used as a preliminary screening value. Given that bitumen is considered the source of BaP and the screening value is low reliability, we do not consider that the presence of BaP in these samples is a cause for concern to ecological receptors that warrants any further assessment.

No asbestos materials or fibres were detected in any soil samples analysed.

5.3 Revised Conceptual Site Model

A revised CSM has been developed in consideration of the current results and field observations. The CSM takes into account the future use of the proposed residential land.

Contamination Sources and Contaminants of Concern

No onsite contamination sources were identified as a result of current or historical site activities.

Source-Pathway-Receptor Linkages

No contamination sources were identified during the investigation therefore there is no complete source-pathway-receptor linkages with future/current human or ecological users of the site.

Groundwater on the site is not considered to be at risk given the non detectable concentrations of most organic chemicals (other than very low concentrations of PAHs at three locations) and very low concentrations of inorganic metals in soils that would resemble naturally occurring conditions.

6 Quality of Analytical Data

Analytical data validation is the process of assessing whether the data is in compliance with method requirements and project specifications. The primary objective of this process is to ensure that data of known quality are reported, and to identify if data can be used to fulfil the overall project objectives.

On the basis of the analytical data validation procedure employed, the overall quality of the analytical data produced is considered to be of an acceptable standard for interpretive use. The table below provides a summary of the data validation.

Table 6-1 Data Quality

Requirement	Compliance	Comments
Field Duplicates	Yes	Intra-laboratory duplicate samples were collected by splitting a sample into the primary and duplicate sample containers. Six (6) intra-laboratory duplicates were collected for 58 primary samples resulting in greater than 1 duplicate per 10 primary samples analysed (i.e. >10%) in accordance with AS4482.1: 2005. No inter-laboratory duplicate samples were collected for this project.
RPDs	Yes	All calculated RPDs fall within the acceptable limits of <30% to <50%, refer to Table 1 and Table 3 (**Appendix B**). Where concentrations of either sample was <LOR or <10 times the LOR, then no RPD was calculated. This evaluation is in accordance with section 8 of AS4482.1: 2005.
Rinsate Blanks	N/A	No rinsate blanks were used for the detailed site contamination assessment as predominately no reusable sampling equipment was used.
Trip Blanks/Spikes	N/A	Both trip blank and trip spike samples for soil were utilised for the project to assess potential losses of volatile contaminants. Refer Table1 & 3. Results showed no detections of volatile chemicals in the trip blank. Trip spike recovery was between 70-130%. The Trip spike and Trip Spike Control (TSC) reported sufficient recovery of volatile constituents to conclude losses (if any) were negligible.
Sampling equipment properly decontaminated	Yes	Reusable sampling equipment and tools were decontaminated between sampling locations with a solution of Decon90 and rinsed with potable water. All other sampling equipment used were single use/disposable, (i.e. nitrile gloves)
Sample Preservation	Yes	Samples were properly preserved. Samples were compliant with required storage temperature. Refer laboratory SRN.

Quality of Analytical Data

Requirement	Compliance	Comments
Samples delivered to laboratory within sample holding times.	Yes	Confirmed from COCs and laboratory reports.
Equipment Calibration	N/A	No field instruments requiring calibration were used.
Analytical procedures	Yes	All analytical procedures were NATA accredited. All laboratory limits of recording were suitable for compared to the adopted investigation criteria. ***Soil Review – ES2043211 and ES2115170*** • *Quality Control Samples*: No method blank, duplicate, laboratory control or matrix spike outliers occurred. • *Analysis Holding Time*: Trip Spike 9 was analysed 1 day out of analysis time – Comparison of Trip Spike 9 recovery to TSC shows results were within acceptable limits and therefore this minor non-compliance is not considered to impact the quality of the data set. All other samples were analysed within holding time. • *Quality Control Sample Frequency*: No QCS frequency outliers occurred. With the exceptions noted above all remaining analyses meet compliance requirements.
SOPs and competent field personnel	Yes	Sampling procedures follow industry standards, and field staff (Adam Sullivan – more than 23 years' experience. Sean Guenther – 20 years' experience) are competent in sampling methods and QA/QC protocols.

7

Conclusions

The following conclusions are made based on the findings of this Detailed Site Contamination Assessment; subject to the limitations presented in Section 9:

- The site is defined as Lot 125 & Lot 126 in DP1215199 at 741-755 Great Western Highway, Werrington NSW with an area of 4.898 hectares.
- It is proposed to subdivide the land for residential allotments with accessible gardens and soil. The site is identified as Stage 4 of the larger Settlers Estate Residential subdivision development.
- At present the site is generally vacant and unused. In the recent past the site was used as a works compound for earthworks and construction activities for the adjoining Settlers Estate development including Stages 1, 2 and 3. The site also contains stockpiles of soil originating from the adjoining development lands. These adjoining lands are also owned by the site owner (Statewide Planning).
- Historically the site was used for Defence activities as part of a larger property until 1999 when the Defence property was remediated and validated as suitable for residential uses with accessible soils. The site remained unused since 1999 and ownership was transferred in 2005.
  Recent site activities identified by Council as posing a potential contamination risk were considered to be limited to the entrance area of the site as a works compound and stockpiling of soil at various locations across the site. These activities and areas of the site formed the basis to the assessment.
- Sampling and analysis of soil samples collected from the works compound, from stockpiled soils and natural soil layers show concentrations of contaminants meeting the adopted investigation levels for land to be used for residential dwellings.
- The stockpiles visually and chemically are consistent with the natural virgin ground and are considered to be stockpiled natural soils. All stockpile results and calculated 95% UCLs are below the investigation criteria.
- Onsite soils, either stockpiled or at ground level, are unlikely to pose an unacceptable health risk to human or ecological receptors under a low-density residential land use setting.
- No actual or suspected Asbestos Containing Materials (ACMs) were observed during site works or analytically detected at the surface or in subsurface soils sampled onsite.
- The presence of minor amounts (i.e. visually estimated at <0.5%) of inert foreign matter in the soil stockpiles does not cause a contamination concern. The soils are considered suitable to be beneficially used on the residential development site.
- We consider that the adopted test-pitting and sampling approach has adequately characterised the stockpiles visually and chemically as natural materials; however, we recommend prior to reuse of the stockpiled soils, the stockpiles are suitably screened to remove foreign matter, for aesthetic considerations, to improve the visual appearance of the soils.

Based on the findings of the Detailed Site Contamination Assessment, recent activities on parts of the site used as a works compound and soil stockpiling areas have not caused contamination of the land and the site is considered suitable for the proposed subdivision development as residential land.

8

References

Australian Standard 4482.1 Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds, 2005.

Contaminated Land Management Act 1997 (NSW).

Dames and Moore Final Report Stage 2 Remediation & Validation, Kingswood Army Signals Depot, 27 October 1999 (not reviewed by Sullivan-ES).

Environmental Planning and Assessment Act 1979 (NSW).

EPA Victoria 2010, Industrial Waste Resource Guidelines (7), Sampling and Analysis: Soil Sampling.

JBS Environmental Pty Ltd, Phase 1 Environmental Site Assessment, June 2012.

National Environment Protection (Assessment of Site Contamination) Measure, 2013.

NSW EPA 2017, Guidelines for the NSW Site Auditor Scheme (3rd Edition).

NSW EPA 2020, Contaminated Land Guidelines: Consultants Reporting on Contaminated Land.

NSW EPA, Sampling Design Guidelines, 1995.

Protection of the Environment Operations Act 1997.

Protection of the Environment Operations (Waste) Regulations 2014.

Penrith Local Environmental Plan (LEP) 2010.

Penrith Development Control Plan (DCP) 2014.

State Environmental Planning Policy No.55 – Remediation of Land, 1998.

Managing Land Contamination – Planning Guidelines (Department of Urban Affairs and Planning & NSW Environmental Protection Authority, 1998).

Sydney Regional Environmental Plan no 20 – Hawkesbury Nepean River (no 2 - 1997).

9

Limitations

Sullivan Environmental Sciences Pty Ltd, (Sullivan-ES) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of Statewide Planning Pty Ltd, and only those third parties who have been authorised in writing by Sullivan-ES to rely on this Report.

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Investigations undertaken in respect of this Report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and contamination may have been identified in this Report.

Subsurface conditions can vary across a particular site and cannot be exhaustively defined by the investigations described in this Report.

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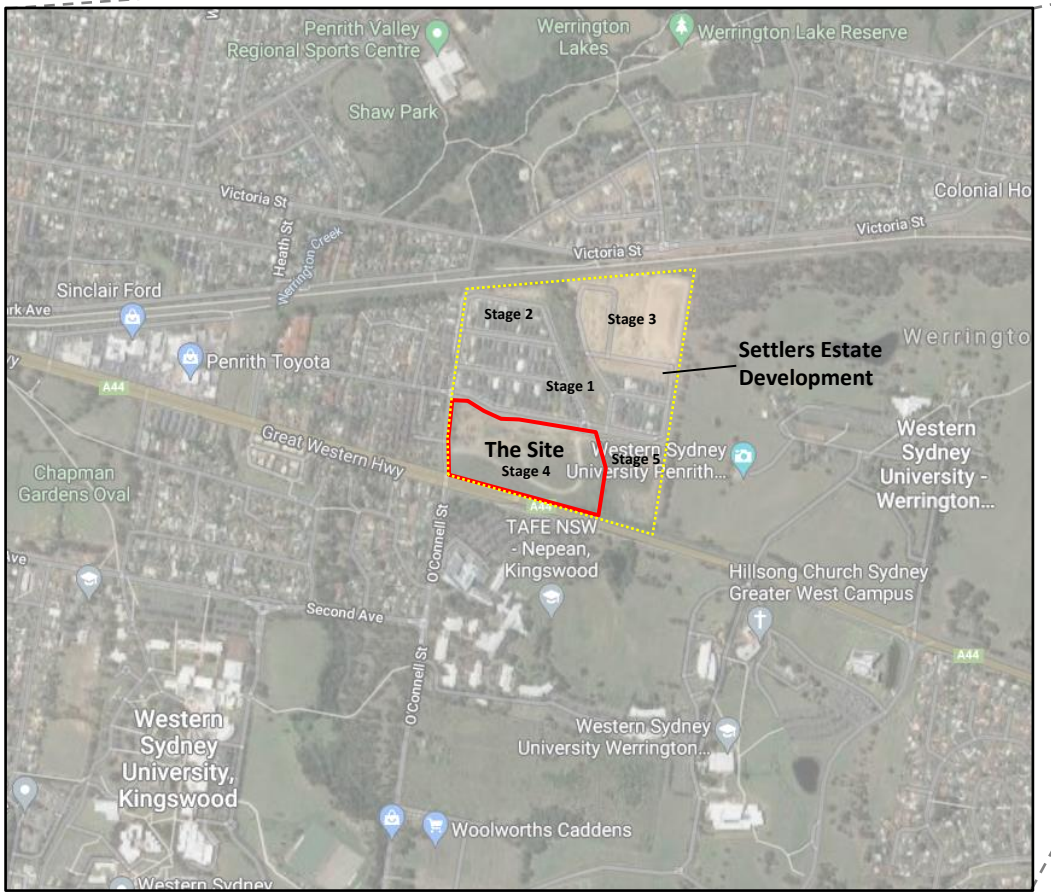
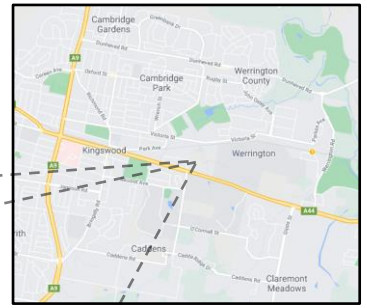
It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

A

Appendix A Figures

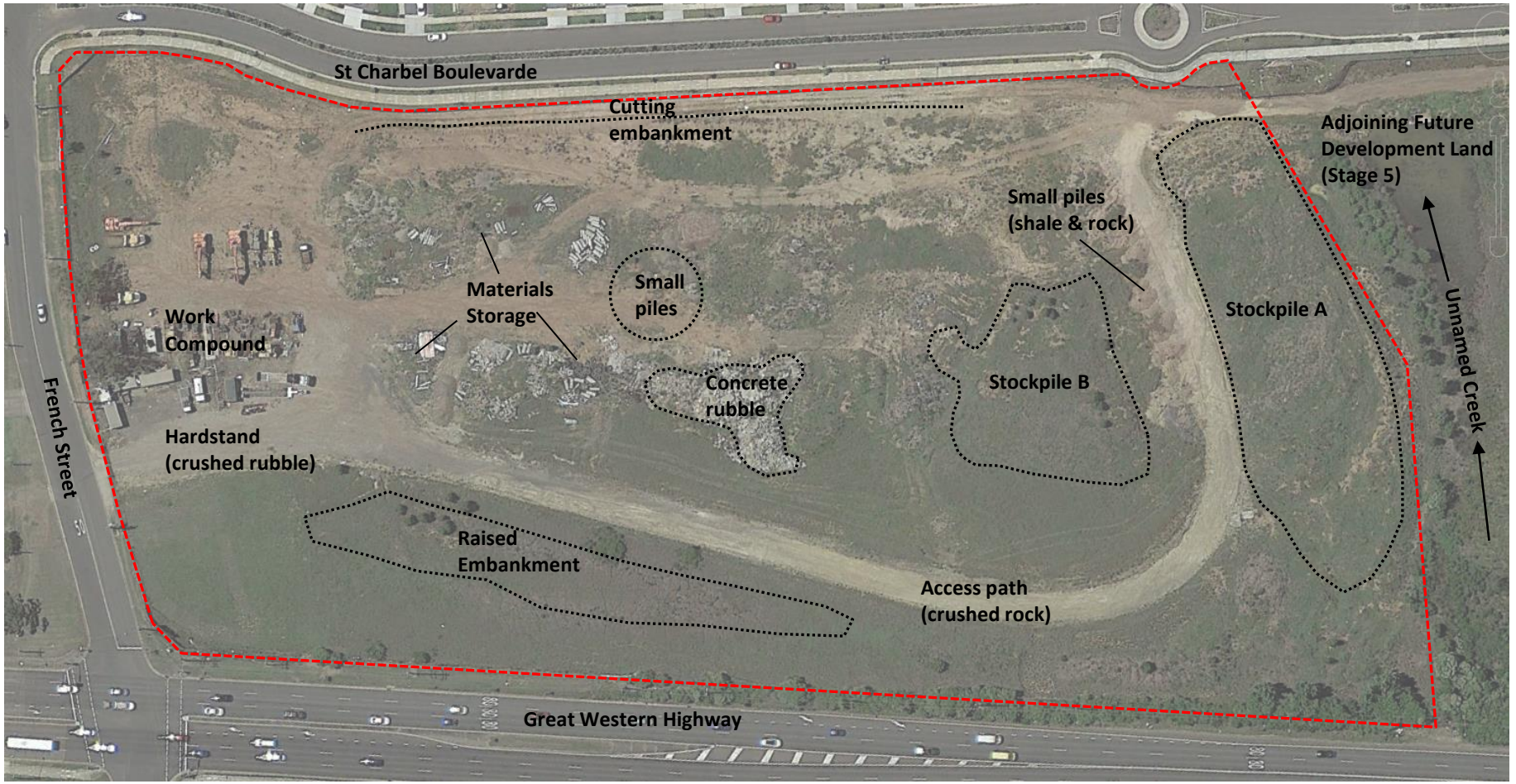




Not to scale Date: 26/04/2021

Source: Google Maps 2021

SULLIVAN environmental sciences	Project #: **SES_585**	Title: **Detailed Site Contamination Assessment**
	Figure 1: **Site Location**	Address: **741-755 Great Western Highway, Werrington NSW 2747**



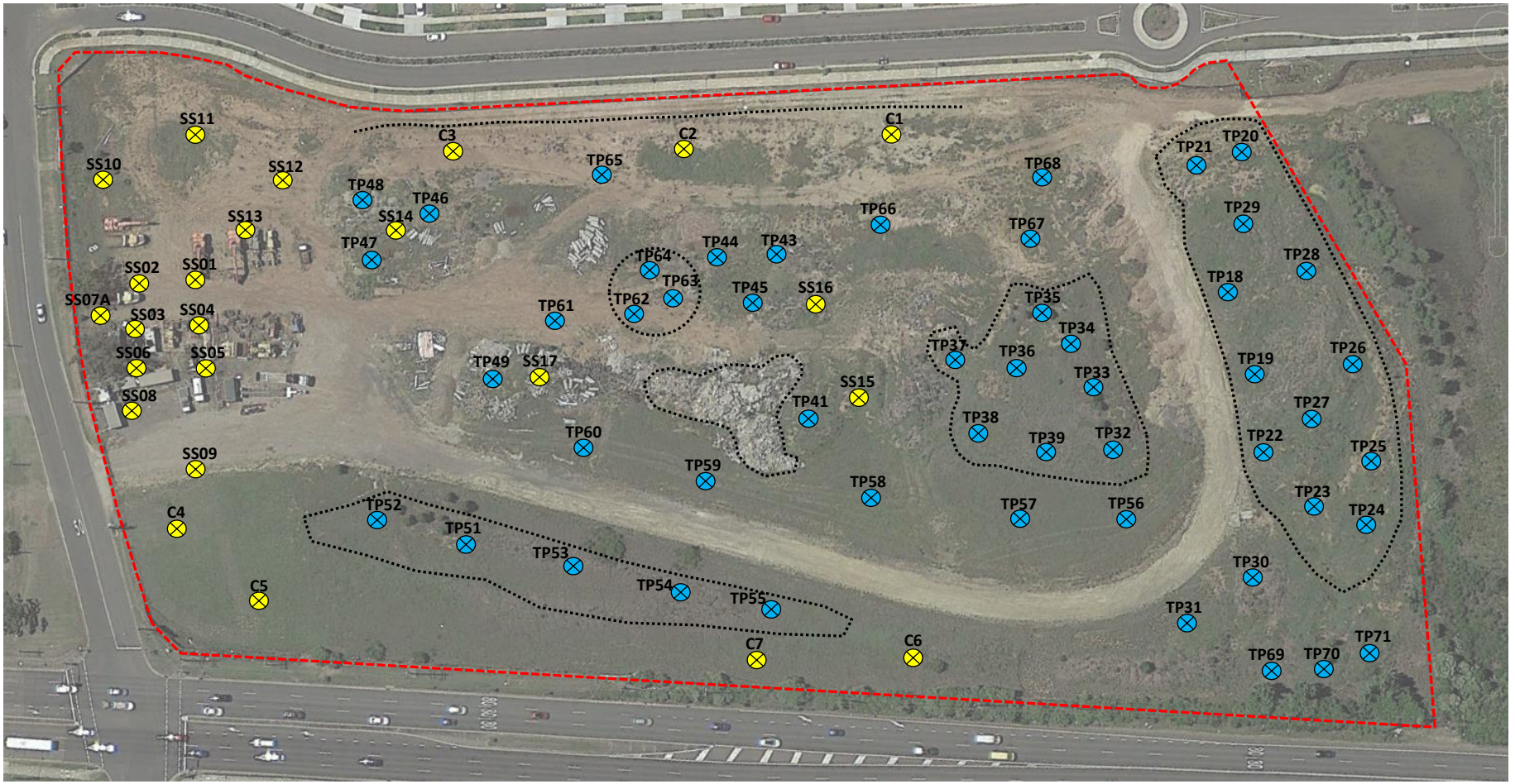
N

Added locations are approximate
Not to scale Date: 26/04/2021

Site boundary

Source: Google Earth 2021

SULLIVAN environmental sciences	Project #: **SES_585**	Title: **Detailed Site Contamination Assessment**
	Figure 2: **Site Layout and Features**	Address: **741-755 Great Western Highway, Werrington NSW 2747**



Added locations are approximate
Not to scale
Date: 26/04/2021

Testpit sampling location
Site boundary
Surface soil sampling location

Source: Google Earth 2021

SULLIVAN environmental sciences	Project #: **SES_585**	Title: **Detailed Site Contamination Assessment**
	Figure 3: **Soil Sampling Locations**	Address: **741-755 Great Western Highway, Werrington NSW 2747**

B

Appendix B Tables

Table 1
SES_585 - Soil Analytical Results
Werrington - Contamination Assessment

Stage 4 - Low Density Residential Landuse			Physical Properties								Exchangeable Cations					Asbestos ID								Total Metals by ICP-AES/FIMS								
			Moisture Content	pH (CaCl2)	pH Value	Electrical Conductivity @ 25°C	Clay (<2 µm)	Soil Particle Density (Clay/Silt/Sand)	Organic Matter	Total Organic Carbon	Exchangeable Calcium	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	Cation Exchange Capacity	Asbestos Detected	Asbestos (Trace)	Asbestos Type	Synthetic Mineral Fibre	Organic Fibre	Sample weight (dry)	Description	APPROVED IDENTIFIER:	Arsenic	Cadmium	Chromium	Copper	Iron	Lead	Nickel	Zinc	Mercury
Units			%	pH Unit	pH Unit	µS/cm	%	g/cm3	%	%	eq/100	eq/100	eq/100	eq/100	eq/100	g/kg	Fibres	--	g/kg	g/kg	g	--	--	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg
EQL			1	0.1	0.1	1	1	0.01	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	5		0.1	0.1	0.01			5	1	2	5	0.005	5	2	5	0.05
NEPM 2013 Table 1A(1) HILs Res A Soil			-	-	-	-	-	-	-	-	-	-	-	-	-	Detect	-	-	-	-	-	-	Detect	100[#5]	20	100	6,000	-	300[#6]	400	7,400	40[#4]
NEPM 2013 Table 1A(1) HILs Res A Soil - Adjusted for 3 subsamples			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	6.7	33	2000	-	100	133	2467	13
NEPM 2013 Table 1A(1) HILs Res A Soil - Adjusted for 2 subsamples			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	10.0	50	3000	-	150	200	3700	20.0
CRC Care HSL-A Residential (Low Density)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-1m			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-2m			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(5) EIL - Urban Res & Public Open Space			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100[#10]	-	720[#14]	45[#14]	-	1100[#14]	240[#14]	130[#14]	-
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample ID	**Depth**	**Date**																														
Average Background Level			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**14.3**	**21.0**	-	-	**12.1**	**45.4**	-
TP18_1.0	1.0	30/11/2020	17.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	<1	19	18	-	19	9	45	<0.1
TP19_1.0	1.0	30/11/2020	17.3	-	-	-	-	-	-	-	-	-	-	-	-	No	No	-	No	No	42.7	Mid brown soil.	A. SMYLIE	11	<1	24	19	-	23	13	48	<0.1
TP20_0.5	0.5	30/11/2020	17.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<1	17	15	-	17	4	24	<0.1
QC03	-	30/11/2020	15.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<1	18	17	-	16	4	20	<0.1
% RPD			***7.9***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***15.4***	-	***5.7***	***12.5***	-	***6.1***	***0.0***	***18.2***	-
TP21_0.5	0.5	30/11/2020	14.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<1	14	20	-	15	14	44	<0.1
TP22_2.0	2.0	30/11/2020	17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	<1	20	30	-	29	24	51	<0.1
TP23_1.0	1.0	01/12/2020	18.4	-	-	-	-	-	-	-	-	-	-	-	-	No	No	-	No	No	40.9	Mid brown soil.	A. SMYLIE	14	<1	16	28	-	17	11	46	<0.1
TP24_2.0	2.0	01/12/2020	18.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	<1	15	20	-	12	7	30	<0.1
TP25_2.0	2.0	01/12/2020	16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	<1	14	20	-	14	13	42	<0.1
TP26_2.0	2.0	01/12/2020	17	-	-	-	-	-	-	-	-	-	-	-	-	No	No	-	No	No	41.4	Mid brown soil.	A. SMYLIE	10	<1	20	33	-	32	28	50	<0.1
TP27_2.0	2.0	01/12/2020	13.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	<1	21	21	-	23	19	44	<0.1
TP28_1.5	1.5	01/12/2020	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	<1	12	21	-	13	9	39	<0.1
TP29_1.5	1.5	01/12/2020	15.5	-	-	-	-	-	-	-	-	-	-	-	-	No	No	-	No	No	50.8	Mid brown soil.	A. SMYLIE	18	<1	20	23	-	26	16	55	<0.1
TP32_1.5	1.5	01/12/2020	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	10	18	-	15	7	30	<0.1
TP33_1.5	1.5	01/12/2020	19.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	<1	16	16	-	15	5	26	<0.1
QC04	-	01/12/2020	18.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<1	12	22	-	11	3	19	<0.1
% RPD			***4.7***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***35.3***	-	***28.6***	***31.6***	-	***30.8***	***50.0***	***31.1***	-
TP34_1.0	1.0	01/12/2020	18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<1	12	20	-	18	9	27	<0.1
TP35_1.5	1.5	01/12/2020	16.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<1	12	21	-	37	8	38	<0.1
TP36_1.0	1.0	01/12/2020	14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	<1	16	23	-	19	9	39	<0.1
TP37_1.0	1.0	01/12/2020	18.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	<1	16	28	-	13	9	33	<0.1
TP38_1.0	1.0	01/12/2020	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	9	43	-	14	13	48	<0.1
TP39_1.0	1.0	01/12/2020	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	10	45	-	13	10	45	<0.1
TP41_1.0	1.0	01/12/2020	13.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	<1	23	21	-	23	9	46	<0.1
TP43_1.0	1.0	01/12/2020	15.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<1	11	23	-	19	11	60	<0.1
TP44_1.0	1.0	01/12/2020	12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<1	13	22	-	22	14	96	<0.1
TP45_0.5	0.5	01/12/2020	14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	<1	19	20	-	26	10	57	<0.1
TP46_0.5	0.5	01/12/2020	11.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	<1	14	20	-	24	11	64	<0.1
TP47_0.5	0.5	01/12/2020	8.2	-	-	-	-	-	-	-	-	-	-	-	-	No	No	-	No	No	72.5	Mid brown soil.	A. SMYLIE	14	<1	14	19	-	46	10	66	<0.1
SS01	Surface	01/12/2020	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<1	23	27	-	14	24	36	<0.1
QC06	-	01/12/2020	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	19	28	-	16	23	38	<0.1
% RPD			***31.3***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***19.0***	***3.6***	-	***13.3***	***4.3***	***5.4***	-
SS02	Surface	01/12/2020	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<1	16	28	-	16	18	42	<0.1
SS03	Surface	01/12/2020	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	13	48	-	13	30	59	<0.1
SS04	Surface	01/12/2020	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	<1	25	23	-	18	17	44	<0.1
SS05	Surface	01/12/2020	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	<1	40	16	-	8	31	31	<0.1
SS06	Surface	01/12/2020	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<1	20	17	-	16	7	21	<0.1
TRIP BLANK	-	26/11/2020	17.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP SPIKE - 9	-	24/11/2020	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TSC	-	24/11/2020	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Recovery			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07A	Surface	20/04/2021	17.8	4	5	269	56	2.54	0.5	<0.5	0.6	10.8	0.1	3.7	16.4	-	-	-	-	-	-	-	-	<5	<1	10	13	2.1	8	<2	9	<0.1
SS08_0.2-0.3	0.2-0.3	20/04/2021	18.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<1	15	14	-	16	3	12	<0.1
SS09_0.1-0.2	0.1-0.2	20/04/2021	13.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	<1	11	17	-	10	14	45	<0.1
Z01	-	20/04/2021	15.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<1	8	11	-	8	17	63	<0.1
% RPD			***9.0***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***57.1***	-	***31.6***	***42.9***	-	***22.2***	***19.4***	***33.3***	-
SS10_0.0-0.2	0.0-0.2	20/04/2021	5.7	-	-	-	-	-	-	-	-	-	-	-	-	No	No	-	No	No	62.6	Mid brown soil.	A. SMYLIE	<5	<1	18	15	-	12	19	27	<0.1
SS11_0.1-0.3	0.1-0.3	20/04/2021	13.9	-	-	-	-	-	-	-	-	-	-	-	-	No	No	-	No	No	53	Mid brown soil.	A. SMYLIE	7	<1	18	13	-	22	3	17	<0.1
SS12_0.0-0.1	0.0-0.1	20/04/2021	12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<1	14	13	-	12	3	14	<0.1
SS13_0.05-0.2	0.05-0.2	20/04/2021	12.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	14	16	-	22	7	26	<0.1
SS14_0.0-0.2	0.0-0.2	20/04/2021	16.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	<1	13	15	-	16	4	24	<0.1
SS15_0.0-0.1	0.0-0.1	20/04/2021	15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	14	29	-	38	11	57	<0.1
SS16_0.0-0.1	0.0-0.1	20/04/2021	12.7	-	-	-	-	-	-	-	-	-	-	-	-	No	No	-	No	No	424	Mid brown soil.	A. SMYLIE	7	<1	12	20	-	18	9	169	<0.1
SS17_0.0-0.1	0.0-0.1	20/04/2021	15.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	11	14	-	16	7	25	<0.1
COMP01	-	20/04/2021	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<1	12	15	-	15	10	36	<0.1
COMP02	-	20/04/2021	12.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<1	17	18	-	54	7	44	0.1
COMP03	-	20/04/2021	18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	12	25	-	40	9	55	<0.1
TP53_0.5-0.6	0.5-0.6	20/04/2021	14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	<1	16	13	-	14	9	30	<0.1
Z02	-	20/04/2021	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	<1	11	20	-	10	14	53	<0.1
% RPD			***2.0***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***22.2***	-	***37.0***	***42.4***	-	***33.3***	***43.5***	***55.4***	-
TP54_0.5-0.6	0.5-0.6	20/04/2021	21.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	14	23	-	18	13	36	<0.1
TP55_0.3-0.4	0.3-0.4	20/04/2021	15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	10	50	-	6	55	36	<0.1
TP58_0.1-0.2	0.1-0.2	20/04/2021	19.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	14	29	-	26	11	83	<0.1
TP61_0.2-0.3	0.2-0.3	20/04/2021	16.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	12	17	-	13	5	27	<0.1
TP62_0.3-0.4	0.3-0.4	20/04/2021	15.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<1	18	11	-	20	<2	13	<0.1
TP63_0.5-0.6	0.5-0.6	20/04/2021	17.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<1	8	33	-	22	22	92	<0.1
TP64_0.5-0.6	0.5-0.6	20/04/2021	22.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	<1	20	8	-	22	<2	18	<0.1
TP67_0.5-0.6	0.5-0.6	20/04/2021	17.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<1	8	15	-	9	7	24	<0.1
Z03	-	20/04/2021	14.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	<1	16	22	-	42	9	40	<0.1
% RPD			***19.0***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***88.9***	-	***66.7***	***37.8***	-	***129.4***	***25.0***	***50.0***	-
TP68_0.3-0.4	0.3-0.4	20/04/2021	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<1	41	15	-	12	11	14	<0.1
TP70_0.2-0.3	0.2-0.3	20/04/2021	13.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	<1	23	12	-	14	5	16	<0.1
TP71_0.2-0.3	0.2-0.3	20/04/2021	12.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	<1	48	27	-	16	17	36	<0.1

Stage 4 - Low Density Residential Landuse	Total Petroleum Hydrocarbons					Total Recoverable Hydrocarbons							BTEXN								Polynuclear Aromatic Hydrocarbons															
	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)	C6 - C10 Fraction	C6 - C10 Fraction minus BTEX (F1)	>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	>C10 - C16 Fraction minus Naphthalene (F2)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	Naphthalene	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a)anthracene	Chrysene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1.2.3.cd)pyrene	Dibenz(a.h)anthracene	Benzo(g.h.i)perylene
Units	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	mg/kg	mg/kg	mg/kg	mg/kg
EQL	20	20	45	45	110	25	25	25	90	120	210	25	0.1	0.1	0.1	0.2	0.1	0.3	0.6	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
NEPM 2013 Table 1A(1) HILs Res A Soil - Adjusted for 3 subsamples	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Res A Soil - Adjusted for 2 subsamples	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRC Care HSL-A Residential (Low Density)	-	-	-	-	-	-	4,400	-	4,500	6,300	-	3,300	100	14,000	4,500	-	-	12,000	-	1,400	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-1m	-	-	-	-	-	-	50[#9]	-	-	-	-	280[#8]	0.7	480	NL (68)	-	-	110	-	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-2m	-	-	-	-	-	-	90[#9]	-	-	-	-	NL (560)	1	NL (630)	NL (68)	-	-	310	-	NL (10)	NL (10)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(5) EIL - Urban Res & Public Open Space	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	170	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil	-	-	-	-	-	-	180[#9]	120[#11]	1300	5600	-	120[#12]	65	105	125	-	-	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil	-	-	-	-	-	800[#13]	-	1,000[#13]	3,500	10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample ID																																				
Average Background Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
TP19_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP20_0.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC03	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
% RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21_0.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP22_2.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP23_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP24_2.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP25_2.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP26_2.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP27_2.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP28_1.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP29_1.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP32_1.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP33_1.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC04	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
% RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP35_1.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP36_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP37_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP38_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP39_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP41_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP43_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP44_1.0	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP45_0.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP46_0.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP47_0.5	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS01	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC06	<10	<50	<100	120	120	<10	<10	<50	150	110	260	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
% RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02	<10	<50	110	120	230	<10	<10	<50	180	<100	180	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS03	<10	<50	110	230	340	<10	<10	<50	250	170	420	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS04	<10	<50	<100	100	100	<10	<10	<50	120	<100	120	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	1.7	1.6	0.6	0.5	0.7	<0.5	0.7	<0.5	<0.5	0.5
SS05	<10	<50	<100	130	130	<10	<10	<50	150	120	270	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.7	0.9	<0.5	<0.5	1.1	<0.5	1	0.8	<0.5	1.4
SS06	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRIP BLANK	<10	-	-	-	-	<10	<10	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP SPIKE - 9	-	-	-	-	-	-	-	-	-	-	-	-	0.3	16.3	2.2	10.9	4.4	15.3	34.1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TSC	-	-	-	-	-	-	-	-	-	-	-	-	0.4	19.4	2.9	14.3	5.8	20.1	42.8	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Recovery	-	-	-	-	-	-	-	-	-	-	-	-	***75.0%***	***84.0%***	***75.9%***	***76.2%***	***75.9%***	***76.1%***	***79.7%***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07A	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS08_0.2-0.3	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS09_0.1-0.2	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Z01	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
% RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_0.0-0.2	<10	<50	110	140	250	<10	<10	<50	190	150	340	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	0.5	<0.5	<0.5	1.4	0.6	1.8	1.8	0.7	0.7	1.2	0.5	1.2	0.9	<0.5	1.5
SS11_0.1-0.3	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS12_0.0-0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS13_0.05-0.2	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS14_0.0-0.2	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS15_0.0-0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS16_0.0-0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS17_0.0-0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
COMP01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COMP02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COMP03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP53_0.5-0.6	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Z02	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
% RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP54_0.5-0.6	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP55_0.3-0.4	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP58_0.1-0.2	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP61_0.2-0.3	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP62_0.3-0.4	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP63_0.5-0.6	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP64_0.5-0.6	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP67_0.5-0.6	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Z03	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
% RPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP68_0.3-0.4	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP70_0.2-0.3	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP71_0.2-0.3	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs
#2 Total PAHs: Based on sum of 16 most common reported
#3 PCBs: HIL refers to non-dioxin like PCBs only.
#4 HIL does not address elemental mercury.
#5 Arsenic: HIL assumes 70% oral bioavailability.
#6 Lead: HILs A,B,C based on blood lead models
#7 Derived soil HSL exceeds soil saturation concentraiton
#8 F2 = subtract napthalene from the >C10 - C16 fraction.
#9 F1 = subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#10 Aged values apply to arsenic contamination present in soil > 2 years.
#11 ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
#12 Errata 30 April 2014. Naphthalene should not be subtracted from >C10-C16.
#13 Separate management limits for BTEX & naphthalene are not available
#14 Site specific EILs derived based on: Low traffic NSW, CEC = 16.4, pH = 4.0, %OC = LOR of 0.5 and Iron% = 2.1%
* Criteria for total Aldrin and Dieldrin combined
\# Criteria for total DDT, DDE and DDD combined
^ Criteria for total endosulfan combined
** Criteria for total chlordane combined

Table 1
SES_585 - Soil Analytical Results
Werrington - Contamination Assessment

Stage 4 - Low Density Residential Landuse							OC Pesticides in Soil																									OP Pesticides in Soil																			PCBs
			Sum of polycyclic aromatic hydrocarbons	Benzo(a)pyrene TEQ (zero)	Benzo(a)pyrene TEQ (half LOR)	Benzo(a)pyrene TEQ (LOR)	alpha-BHC	Hexachlorobenzene (HCB)	beta-BHC	gamma-BHC	delta-BHC	Heptachlor	Aldrin	Heptachlor epoxide	Total Chlordane (sum)	trans-Chlordane	alpha-Endosulfan	cis-Chlordane	Dieldrin	4.4`-DDE	Endrin	Endosulfan (sum)	beta-Endosulfan	4.4`-DDD	Endrin aldehyde	Endosulfan sulfate	4.4`-DDT	Endrin ketone	Methoxychlor	Sum of DDD + DDE + DDT	Sum of Aldrin + Dieldrin	Dichlorvos	Demeton-S-methyl	Monocrotophos	Dimethoate	Diazinon	Chlorpyrifos-methyl	Parathion-methyl	Malathion	Fenthion	Chlorpyrifos	Parathion	Pirimphos-ethyl	Chlorfenvinphos	Bromophos-ethyl	Fenamiphos	Prothiofos	Ethion	Carbophenothion	Azinphos Methyl	Total PCBs (Arochlors)
		Units	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	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	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.2	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1
NEPM 2013 Table 1A(1) HILs Res A Soil			300	3	3	3	-	10	-	-	-	6	6*	-	50**	50**	270^	50**	6*	240#	10	270^	270^	240#	-	-	240#	-	300	240#	6*	-	-	-	-	-	-	-	-	-	160	-	-	-	-	-	-	-	-	-	1
NEPM 2013 Table 1A(1) HILs Res A Soil - Adjusted for 3 subsamples			-	-	-	-	-	3	-	-	-	2	2	-	16.7	16.7	90	16.7	2	80	3.3	90	90	80	-	-	80	-	100	80	2	-	-	-	-	-	-	-	-	-	53.3	-	-	-	-	-	-	-	-	-	0.3
NEPM 2013 Table 1A(1) HILs Res A Soil - Adjusted for 2 subsamples			-	-	-	-	-	5	-	-	-	3	3	-	25	25	135	25	3	120	5	135	135	120	-	-	120	-	150	120	3	-	-	-	-	-	-	-	-	-	80	-	-	-	-	-	-	-	-	-	0.5
CRC Care HSL-A Residential (Low Density)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-1m			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-2m			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(5) EIL - Urban Res & Public Open Space			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	10	-	-	10	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample ID	Depth	Date																																																	
Average Background Level			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18_1.0	1.0	30/11/2020	1.6	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP19_1.0	1.0	30/11/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP20_0.5	0.5	30/11/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
QC03	-	30/11/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
% RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21_0.5	0.5	30/11/2020	1.4	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22_2.0	2.0	30/11/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP23_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP24_2.0	2.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP25_2.0	2.0	01/12/2020	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26_2.0	2.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP27_2.0	2.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP28_1.5	1.5	01/12/2020	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29_1.5	1.5	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP32_1.5	1.5	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP33_1.5	1.5	01/12/2020	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC04	-	01/12/2020	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP35_1.5	1.5	01/12/2020	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP36_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP37_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP38_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP39_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP41_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP43_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP44_1.0	1.0	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP45_0.5	0.5	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1
TP46_0.5	0.5	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP47_0.5	0.5	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2
SS01	Surface	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
QC06	-	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
% RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02	Surface	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SS03	Surface	01/12/2020	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SS04	Surface	01/12/2020	7.2	0.8	1.1	1.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SS05	Surface	01/12/2020	6.6	1.2	1.5	1.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SS06	Surface	01/12/2020	1.2	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TRIP BLANK	-	26/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP SPIKE - 9	-	24/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TSC	-	24/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Recovery			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07A	Surface	20/04/2021	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_0.2-0.3	0.2-0.3	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SS09_0.1-0.2	0.1-0.2	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
Z01	-	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
% RPD			-	-	***0.0***	***0.0***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_0.0-0.2	0.0-0.2	20/04/2021	12.8	1.6	1.8	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS11_0.1-0.3	0.1-0.3	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SS12_0.0-0.1	0.0-0.1	20/04/2021	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS13_0.05-0.2	0.05-0.2	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SS14_0.0-0.2	0.0-0.2	20/04/2021	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS15_0.0-0.1	0.0-0.1	20/04/2021	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS16_0.0-0.1	0.0-0.1	20/04/2021	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS17_0.0-0.1	0.0-0.1	20/04/2021	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COMP01	-	20/04/2021	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
COMP02	-	20/04/2021	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
COMP03	-	20/04/2021	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
TP53_0.5-0.6	0.5-0.6	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
Z02	-	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
% RPD			-	-	***0.0***	***0.0***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP54_0.5-0.6	0.5-0.6	20/04/2021	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP55_0.3-0.4	0.3-0.4	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP58_0.1-0.2	0.1-0.2	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP61_0.2-0.3	0.2-0.3	20/04/2021	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP62_0.3-0.4	0.3-0.4	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP63_0.5-0.6	0.5-0.6	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP64_0.5-0.6	0.5-0.6	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP67_0.5-0.6	0.5-0.6	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
Z03	-	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
% RPD			-	-	***0.0***	***0.0***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP68_0.3-0.4	0.3-0.4	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP70_0.2-0.3	0.2-0.3	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
TP71_0.2-0.3	0.2-0.3	20/04/2021	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1

Notes
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs
#2 Total PAHs: Based on sum of 16 most common reported
#3 PCBs: HIL refers to non-dioxin like PCBs only.
#4 HIL does not address elemental mercury.
#5 Arsenic: HIL assumes 70% oral bioavailability.
#6 Lead: HILs A,B,C based on blood lead models
#7 Derived soil HSL exceeds soil saturation concentraiton
#8 F2 = subtract napthalene from the >C10 - C16 fraction.
#9 F1 = subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#10 Aged values apply to arsenic contamination present in soil > 2 years.
#11 ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
#12 Errata 30 April 2014. Naphthalene should not be subtracted from >C10-C
#13 Separate management limits for BTEX & naphthalene are not available
#14 Site specific EILs derived based on: Low traffic NSW, CEC = 16.4, pH = 4.0,
%OC = LOR of 0.5 and Iron% = 2.1%
* Criteria for total Aldrin and Dieldrin combined
# Criteria for total DDT, DDE and DDD combined
^ Criteria for total endosulfan combined
** Criteria for total chlordane combined

Table 2
SES_585 - Soil Analytical Results - Stockpile A B Only
Werrington - Contamination Assessment

Stage 4 Eastern Side Stockpile A and Stockpile B			Physical Properties	Asbestos ID							Total Metals by ICP-AES/FIMS									Total Petroleum Hydrocarbons					Total Recoverable Hydrocarbons							BTEXN				
			Moisture Content	Asbestos Detected	Asbestos (Trace)	Asbestos Type	Synthetic Mineral Fibre	Organic Fibre	Sample weight (dry)	Description	APPROVED IDENTIFIER:	Arsenic	Cadmium	Chromium	Copper	Iron	Lead	Nickel	Zinc	Mercury	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)	C6 - C10 Fraction	C6 - C10 Fraction minus BTEX (F1)	>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	>C10 - C16 Fraction minus Naphthalene (F2)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene
Units			%	g/kg	Fibres	--	g/kg	g/kg	g	--	--	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			1	0.1	5		0.1	0.1	0.01			5	1	2	5	0.005	5	2	5	0.05	20	20	45	45	110	25	25	25	90	120	210	25	0.1	0.1	0.1	0.2	0.1
NEPM 2013 Table 1A(1) HILs Res A Soil			-	Detect	-	-	-	-	-	-	Detect	100[#5]	20	100	6,000	-	300[#6]	400	7,400	40[#4]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRC Care HSL-A Residential (Low Density)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,400	-	4,500	6,300	-	3,300	100	14,000	4,500	-	-
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-1m			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50[#9]	-	-	-	-	280[#8]	0.7	480	NL (68)	-	-
1-2m			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90[#9]	-	-	-	-	NL (560)	1	NL (630)	NL (68)	-	-
NEPM 2013 Table 1B(5) EIL - Urban Res & Public Op			-	-	-	-	-	-	-	-	-	100[#10]	-	720[#14]	45[#14]	-	1100[#14]	240[#14]	130[#14]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soi			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180[#9]	120[#11]	1300	5600	-	120[#12]	65	105	125	-	-
NEPM 2013 Table 1B(7) Management Limits in Res /			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	800[#13]	-	1,000[#13]	3,500	10,000	-	-	-	-	-	-	-
Sample ID	**Depth**	**Date**																																		
Maximum Concentration			**18.8**	NA	NA	NA	NA	NA	NA	NA	NA	**18.0**	LOR	**24.0**	**33.0**	LOR	**32.0**	**28.0**	**55.0**	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR	LOR
Standard Deviation			**1.4**	-	-	-	-	-	-	-	-	**3.2**	-	**3.4**	**5.3**	-	**6.4**	**7.2**	**10.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average			**16.7**	-	-	-	-	-	-	-	-	**10.2**	-	**17.7**	**21.9**	-	**19.7**	**13.2**	**41.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95% UCL - Refer to ProUCL output table			**NA**	NA	NA	NA	NA	NA	NA	NA	NA	**10.0**	NA	**17.1**	**26.6**	NA	**21.5**	**13.4**	**42.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP18_1.0	1.0	30/11/2020	17.3	-	-	-	-	-	-	-	-	9	<1	19	18	-	19	9	45	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP19_1.0	1.0	30/11/2020	17.3	No	No	-	No	No	42.7	Mid brown soil.	A. SMYLIE	11	<1	24	19	-	23	13	48	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP20_0.5	0.5	30/11/2020	17.2	-	-	-	-	-	-	-	-	6	<1	17	15	-	17	4	24	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
QC03	-	30/11/2020	15.9	-	-	-	-	-	-	-	-	7	<1	18	17	-	16	4	20	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP21_0.5	0.5	30/11/2020	14.8	-	-	-	-	-	-	-	-	7	<1	14	20	-	15	14	44	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP22_2.0	2.0	30/11/2020	17.7	-	-	-	-	-	-	-	-	9	<1	20	30	-	29	24	51	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP23_1.0	1.0	01/12/2020	18.4	No	No	-	No	No	40.9	Mid brown soil.	A. SMYLIE	14	<1	16	28	-	17	11	46	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP24_2.0	2.0	01/12/2020	18.8	-	-	-	-	-	-	-	-	11	<1	15	20	-	12	7	30	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP25_2.0	2.0	01/12/2020	16.7	-	-	-	-	-	-	-	-	10	<1	14	20	-	14	13	42	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP26_2.0	2.0	01/12/2020	17	No	No	-	No	No	41.4	Mid brown soil.	A. SMYLIE	10	<1	20	33	-	32	28	50	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP27_2.0	2.0	01/12/2020	13.8	-	-	-	-	-	-	-	-	9	<1	21	21	-	23	19	44	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP28_1.5	1.5	01/12/2020	17	-	-	-	-	-	-	-	-	11	<1	12	21	-	13	9	39	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP29_1.5	1.5	01/12/2020	15.5	No	No	-	No	No	50.8	Mid brown soil.	A. SMYLIE	18	<1	20	23	-	26	16	55	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP32_1.5	1.5	01/12/2020	23	-	-	-	-	-	-	-	-	<5	<1	10	18	-	15	7	30	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP33_1.5	1.5	01/12/2020	19.4	-	-	-	-	-	-	-	-	10	<1	16	16	-	15	5	26	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
QC04	-	01/12/2020	18.5	-	-	-	-	-	-	-	-	7	<1	12	22	-	11	3	19	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP34_1.0	1.0	01/12/2020	18.6	-	-	-	-	-	-	-	-	6	<1	12	20	-	18	9	27	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP35_1.5	1.5	01/12/2020	16.8	-	-	-	-	-	-	-	-	7	<1	12	21	-	37	8	38	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP36_1.0	1.0	01/12/2020	14.7	-	-	-	-	-	-	-	-	9	<1	16	23	-	19	9	39	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP37_1.0	1.0	01/12/2020	18.9	-	-	-	-	-	-	-	-	8	<1	16	28	-	13	9	33	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP38_1.0	1.0	01/12/2020	14	-	-	-	-	-	-	-	-	<5	<1	9	43	-	14	13	48	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5
TP39_1.0	1.0	01/12/2020	18	-	-	-	-	-	-	-	-	<5	<1	10	45	-	13	10	45	<0.1	<10	<50	<100	<100	<50	<10	<10	<50	<100	<100	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5

Notes
Where a result is <LOR, half the detection limit has been used to calcuate 95%UCLs with ProUCL
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs
#2 Total PAHs: Based on sum of 16 most common reported
#3 PCBs: HIL refers to non-dioxin like PCBs only.
#4 HIL does not address elemental mercury.
#5 Arsenic: HIL assumes 70% oral bioavailability.
#6 Lead: HILs A,B,C based on blood lead models
#7 Derived soil HSL exceeds soil saturation concentraiton
#8 F2 = subtract napthalene from the >C10 - C16 fraction.
#9 F1 = subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#10 Aged values apply to arsenic contamination present in soil > 2 years.
#11 ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
#12 Errata 30 April 2014. Naphthalene should not be subtracted from >C10-C16.
#13 Separate management limits for BTEX &
#14 Site specific EILs derived based on: Low traffic
* Criteria for total Aldrin and Dieldrin combined
# Criteria for total DDT, DDE and DDD combined
^ Criteria for total endosulfan combined
** Criteria for total chlordane combined

Table 2
SES_585 - Soil Analytical Results - Stockpile A B Only
Werrington - Contamination Assessment

			Polynuclear Aromatic Hydrocarbons																				OC Pesticides in Soil																						
Total Xylenes	**Sum of BTEX**	**Naphthalene**	**Naphthalene**	**Acenaphthylene**	**Acenaphthene**	**Fluorene**	**Phenanthrene**	**Anthracene**	**Fluoranthene**	**Pyrene**	**Benz(a)anthracene**	**Chrysene**	**Benzo(b+j)fluoranthene**	**Benzo(k)fluoranthene**	**Benzo(a)pyrene**	**Indeno(1.2.3.cd)pyrene**	**Dibenz(a.h)anthracene**	**Benzo(g.h.i)perylene**	**Sum of polycyclic aromatic hydrocarbons**	**Benzo(a)pyrene TEQ (zero)**	**Benzo(a)pyrene TEQ (half LOR)**	**Benzo(a)pyrene TEQ (LOR)**	**alpha-BHC**	**Hexachlorobenzene (HCB)**	**beta-BHC**	**gamma-BHC**	**delta-BHC**	**Heptachlor**	**Aldrin**	**Heptachlor epoxide**	**Total Chlordane (sum)**	**trans-Chlordane**	**alpha-Endosulfan**	**cis-Chlordane**	**Dieldrin**	**4.4`-DDE**	**Endrin**	**Endosulfan (sum)**	**beta-Endosulfan**	**4.4`-DDD**	**Endrin aldehyde**	**Endosulfan sulfate**	**4.4`-DDT**	**Endrin ketone**	**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	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
0.3	0.6	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	300	3	3	3	-	10	-	-	-	6	6*	-	50**	50**	270^	50**	6*	240#	10	270^	270^	240#	-	-	240#	-	300
12,000	-	1,400	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110	-	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
310	-	NL (10)	NL (10)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	170	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	10	-	-	10	-	-
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LOR	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**0.7**	**0.7**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**0.5**	**1.6**	**LOR**	**0.6**	**1.2**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**
-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.1**	**0.1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**NA**	**0.1**	**-**	**0.0**	**0.0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.6**	**0.7**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.5**	**1.5**	**-**	**0.6**	**1.2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
NA	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.3**	**0.3**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.3**	**0.7**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	1.6	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.2
<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2
SES_585 - Soil Analytical Results - Stockpile A B Only
Werrington - Contamination Assessment

		OP Pesticides in Soil																			PCBs
Sum of DDD + DDE + DDT	**Sum of Aldrin + Dieldrin**	**Dichlorvos**	**Demeton-S-methyl**	**Monocrotophos**	**Dimethoate**	**Diazinon**	**Chlorpyrifos-methyl**	**Parathion-methyl**	**Malathion**	**Fenthion**	**Chlorpyrifos**	**Parathion**	**Pirimphos-ethyl**	**Chlorfenvinphos**	**Bromophos-ethyl**	**Fenamiphos**	**Prothiofos**	**Ethion**	**Carbophenothion**	**Azinphos Methyl**	**Total PCBs (Arochlors)**
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
0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1
240#	6*	-	-	-	-	-	-	-	-	-	160	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LOR	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**	**LOR**
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NA	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3
SES_585 - Soil DQIs
Werrington - Contmination Assessment

SOIL DQIs		Sample ID	TP20_0.5	QC03	% RPD	TP33_1.5	QC04	% RPD	SS01	QC06	% RPD
	Units	EQL	30/11/2020	30/11/2020		01/12/2020	01/12/2020		01/12/2020	01/12/2020	
Moisture	%	1	17.2	15.9	7.9	19.4	18.5	4.7	7.4	5.4	31.3
Arsenic	mg/kg	5	6	7	15.4	10	7	35.3	6	<5	-
Cadmium	mg/kg	1	<1	<1	-	<1	<1	-	<1	<1	-
Chromium	mg/kg	2	17	18	5.7	16	12	28.6	23	19	19.0
Copper	mg/kg	5	15	17	12.5	16	22	31.6	27	28	3.6
Lead	mg/kg	5	17	16	6.1	15	11	30.8	14	16	13.3
Nickel	mg/kg	2	4	4	0.0	5	3	50.0	24	23	4.3
Zinc	mg/kg	5	24	20	18.2	26	19	31.1	36	38	5.4
Mercury	mg/kg	0.05	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	-
C6 - C9 Fraction	mg/kg	20	<10	<10	-	<10	<10	-	<10	<10	-
C10 - C14 Fraction	mg/kg	20	<50	<50	-	<50	<50	-	<50	<50	-
C15 - C28 Fraction	mg/kg	45	<100	<100	-	<100	<100	-	<100	<100	-
C29 - C36 Fraction	mg/kg	45	<100	<100	-	<100	<100	-	<100	120	-
C10 - C36 Fraction (sum)	mg/kg	110	<50	<50	-	<50	<50	-	<50	120	-
C6 - C10 Fraction	mg/kg	25	<10	<10	-	<10	<10	-	<10	<10	-
C6 - C10 Fraction minus BTEX (F1)	mg/kg	25	<10	<10	-	<10	<10	-	<10	<10	-
>C10 - C16 Fraction	mg/kg	25	<50	<50	-	<50	<50	-	<50	<50	-
>C16 - C34 Fraction	mg/kg	90	<100	<100	-	<100	<100	-	<100	150	-
>C34 - C40 Fraction	mg/kg	120	<100	<100	-	<100	<100	-	<100	110	-
>C10 - C40 Fraction (sum)	mg/kg	210	<50	<50	-	<50	<50	-	<50	260	-
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	25	<50	<50	-	<50	<50	-	<50	<50	-
Benzene	mg/kg	0.1	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-
Toluene	mg/kg	0.1	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Ethylbenzene	mg/kg	0.1	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
meta- & para-Xylene	mg/kg	0.2	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
ortho-Xylene	mg/kg	0.1	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Total Xylenes	mg/kg	0.3	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Sum of BTEX	mg/kg	0.6	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-
Naphthalene	mg/kg	0.1	<1	<1	-	<1	<1	-	<1	<1	-
Naphthalene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Acenaphthylene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Acenaphthene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Fluorene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Phenanthrene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Anthracene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Fluoranthene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Pyrene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Chrysene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Dibenz(a.h)anthracene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(g.h.i)perylene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Sum of PAHs	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	-	0.6	0.6	-	0.6	0.6	-
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	-	1.2	1.2	-	1.2	1.2	-
alpha-BHC	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Hexachlorobenzene (HCB)	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
beta-BHC	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
gamma-BHC	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
delta-BHC	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Heptachlor	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Aldrin	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Total Chlordane (sum)	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
trans-Chlordane	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
alpha-Endosulfan	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
cis-Chlordane	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Dieldrin	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
4.4`-DDE	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Endrin	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Endosulfan (sum)	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
beta-Endosulfan	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
4.4`-DDD	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
4.4`-DDT	mg/kg	0.2	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-
Endrin ketone	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Methoxychlor	mg/kg	0.2	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-

Table 3
SES_585 - Soil DQIs
Werrington - Contmination Assessment

SOIL DQIs		Sample ID	TP20_0.5	QC03	% RPD	TP33_1.5	QC04	% RPD	SS01	QC06	% RPD
	Units	EQL	30/11/2020	30/11/2020		01/12/2020	01/12/2020		01/12/2020	01/12/2020	
Sum of DDD + DDE + DDT	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Sum of Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Dichlorvos	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Monocrotophos	mg/kg	0.2	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-
Dimethoate	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Diazinon	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Parathion-methyl	mg/kg	0.2	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-
Malathion	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Fenthion	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Parathion	mg/kg	0.2	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-
Pirimphos-ethyl	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Chlorfenvinphos	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Fenamiphos	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Prothiofos	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Ethion	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Carbophenothion	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Azinphos Methyl	mg/kg	0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-
Total PCBs (Arochlors)	mg/kg	0.1	<0.1	<0.1	-	-	-	-	<0.1	<0.1	-

Table 3
SES_585 - Soil DQIs
Werrington - Contmination Assessment

SOIL DQIs		Sample ID	SS09_0.1-0.2	Z01	% RPD	TP53_0.5-0.6	Z02	% RPD	TP67_0.5-0.6	Z03	% RPD
	Units	EQL	20/04/2021	20/04/2021		20/04/2021	20/04/2021		20/04/2021	20/04/2021	
Moisture	%	1	13.8	15.1	9.0	14.7	15	2.0	17.9	14.8	19.0
Arsenic	mg/kg	5	9	5	57.1	8	10	22.2	5	13	88.9
Cadmium	mg/kg	1	<1	<1	-	<1	<1	-	<1	<1	-
Chromium	mg/kg	2	11	8	31.6	16	11	37.0	8	16	66.7
Copper	mg/kg	5	17	11	42.9	13	20	42.4	15	22	37.8
Lead	mg/kg	5	10	8	22.2	14	10	33.3	9	42	129.4
Nickel	mg/kg	2	14	17	19.4	9	14	43.5	7	9	25.0
Zinc	mg/kg	5	45	63	33.3	30	53	55.4	24	40	50.0
Mercury	mg/kg	0.05	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	-
C6 - C9 Fraction	mg/kg	20	<10	<10	-	<10	<10	-	<10	<10	-
C10 - C14 Fraction	mg/kg	20	<50	<50	-	<50	<50	-	<50	<50	-
C15 - C28 Fraction	mg/kg	45	<100	<100	-	<100	<100	-	<100	<100	-
C29 - C36 Fraction	mg/kg	45	<100	<100	-	<100	<100	-	<100	<100	-
C10 - C36 Fraction (sum)	mg/kg	110	<50	<50	-	<50	<50	-	<50	<50	-
C6 - C10 Fraction	mg/kg	25	<10	<10	-	<10	<10	-	<10	<10	-
C6 - C10 Fraction minus BTEX (F1)	mg/kg	25	<10	<10	-	<10	<10	-	<10	<10	-
>C10 - C16 Fraction	mg/kg	25	<50	<50	-	<50	<50	-	<50	<50	-
>C16 - C34 Fraction	mg/kg	90	<100	<100	-	<100	<100	-	<100	<100	-
>C34 - C40 Fraction	mg/kg	120	<100	<100	-	<100	<100	-	<100	<100	-
>C10 - C40 Fraction (sum)	mg/kg	210	<50	<50	-	<50	<50	-	<50	<50	-
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	25	<50	<50	-	<50	<50	-	<50	<50	-
Benzene	mg/kg	0.1	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-
Toluene	mg/kg	0.1	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Ethylbenzene	mg/kg	0.1	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
meta- & para-Xylene	mg/kg	0.2	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
ortho-Xylene	mg/kg	0.1	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Total Xylenes	mg/kg	0.3	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Sum of BTEX	mg/kg	0.6	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-
Naphthalene	mg/kg	0.1	<1	<1	-	<1	<1	-	<1	<1	-
Naphthalene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Acenaphthylene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Acenaphthene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Fluorene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Phenanthrene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Anthracene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Fluoranthene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Pyrene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Chrysene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Dibenz(a.h)anthracene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(g.h.i)perylene	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Sum of PAHs	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	0.0	0.6	0.6	0.0	0.6	0.6	0.0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	0.0	1.2	1.2	0.0	1.2	1.2	0.0
alpha-BHC	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Hexachlorobenzene (HCB)	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
beta-BHC	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
gamma-BHC	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
delta-BHC	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Heptachlor	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Aldrin	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Total Chlordane (sum)	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
trans-Chlordane	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
alpha-Endosulfan	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
cis-Chlordane	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Dieldrin	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
4.4`-DDE	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Endrin	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Endosulfan (sum)	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
beta-Endosulfan	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
4.4`-DDD	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
4.4`-DDT	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-
Endrin ketone	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Methoxychlor	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-

Table 3
SES_585 - Soil DQIs
Werrington - Contmination Assessment

SOIL DQIs		Sample ID	SS09_0.1-0.2	Z01	% RPD	TP53_0.5-0.6	Z02	% RPD	TP67_0.5-0.6	Z03	% RPD
	Units	EQL	20/04/2021	20/04/2021		20/04/2021	20/04/2021		20/04/2021	20/04/2021	
Sum of DDD + DDE + DDT	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Sum of Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Dichlorvos	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Monocrotophos	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-
Dimethoate	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Diazinon	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Parathion-methyl	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-
Malathion	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Fenthion	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Parathion	mg/kg	0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-
Pirimphos-ethyl	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Chlorfenvinphos	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Fenamiphos	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Prothiofos	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Ethion	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Carbophenothion	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Azinphos Methyl	mg/kg	0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-
Total PCBs (Arochlors)	mg/kg	0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	-

Table 3
SES_585 - Soil DQIs
Werrington - Contmination Assessment

SOIL DQIs		Sample ID	TRIP BLANK	TRIP SPIKE - 9	TSC	Recovery
	Units	EQL	26/11/2020	24/11/2020	24/11/2020	
Moisture	%	1	**17.1**	**7.4**	**7.8**	***94.9%***
Arsenic	mg/kg	5	-	-	-	-
Cadmium	mg/kg	1	-	-	-	-
Chromium	mg/kg	2	-	-	-	-
Copper	mg/kg	5	-	-	-	-
Lead	mg/kg	5	-	-	-	-
Nickel	mg/kg	2	-	-	-	-
Zinc	mg/kg	5	-	-	-	-
Mercury	mg/kg	0.05	-	-	-	-
C6 - C9 Fraction	mg/kg	20	<10	-	-	-
C10 - C14 Fraction	mg/kg	20	-	-	-	-
C15 - C28 Fraction	mg/kg	45	-	-	-	-
C29 - C36 Fraction	mg/kg	45	-	-	-	-
C10 - C36 Fraction (sum)	mg/kg	110	-	-	-	-
C6 - C10 Fraction	mg/kg	25	<10	-	-	-
C6 - C10 Fraction minus BTEX (F1)	mg/kg	25	<10	-	-	-
>C10 - C16 Fraction	mg/kg	25	-	-	-	-
>C16 - C34 Fraction	mg/kg	90	-	-	-	-
>C34 - C40 Fraction	mg/kg	120	-	-	-	-
>C10 - C40 Fraction (sum)	mg/kg	210	-	-	-	-
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	25	-	-	-	-
Benzene	mg/kg	0.1	<0.2	**0.3**	**0.4**	***75.0%***
Toluene	mg/kg	0.1	<0.5	**16.3**	**19.4**	***84.0%***
Ethylbenzene	mg/kg	0.1	<0.5	**2.2**	**2.9**	***75.9%***
meta- & para-Xylene	mg/kg	0.2	<0.5	**10.9**	**14.3**	***76.2%***
ortho-Xylene	mg/kg	0.1	<0.5	**4.4**	**5.8**	***75.9%***
Total Xylenes	mg/kg	0.3	<0.5	**15.3**	**20.1**	***76.1%***
Sum of BTEX	mg/kg	0.6	<0.2	**34.1**	**42.8**	***79.7%***
Naphthalene	mg/kg	0.1	<1	<1	<1	-
Naphthalene	mg/kg	0.5	-	-	-	-
Acenaphthylene	mg/kg	0.5	-	-	-	-
Acenaphthene	mg/kg	0.5	-	-	-	-
Fluorene	mg/kg	0.5	-	-	-	-
Phenanthrene	mg/kg	0.5	-	-	-	-
Anthracene	mg/kg	0.5	-	-	-	-
Fluoranthene	mg/kg	0.5	-	-	-	-
Pyrene	mg/kg	0.5	-	-	-	-
Benz(a)anthracene	mg/kg	0.5	-	-	-	-
Chrysene	mg/kg	0.5	-	-	-	-
Benzo(b+j)fluoranthene	mg/kg	0.5	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-
Benzo(a)pyrene	mg/kg	0.5	-	-	-	-
Indeno(1.2.3.cd)pyrene	mg/kg	0.5	-	-	-	-
Dibenz(a.h)anthracene	mg/kg	0.5	-	-	-	-
Benzo(g.h.i)perylene	mg/kg	0.5	-	-	-	-
Sum of PAHs	mg/kg	0.5	-	-	-	-
Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	-	-	-	-
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	-	-	-	-
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	-	-	-	-
alpha-BHC	mg/kg	0.05	-	-	-	-
Hexachlorobenzene (HCB)	mg/kg	0.05	-	-	-	-
beta-BHC	mg/kg	0.05	-	-	-	-
gamma-BHC	mg/kg	0.05	-	-	-	-
delta-BHC	mg/kg	0.05	-	-	-	-
Heptachlor	mg/kg	0.05	-	-	-	-
Aldrin	mg/kg	0.05	-	-	-	-
Heptachlor epoxide	mg/kg	0.05	-	-	-	-
Total Chlordane (sum)	mg/kg	0.05	-	-	-	-
trans-Chlordane	mg/kg	0.05	-	-	-	-
alpha-Endosulfan	mg/kg	0.05	-	-	-	-
cis-Chlordane	mg/kg	0.05	-	-	-	-
Dieldrin	mg/kg	0.05	-	-	-	-
4.4`-DDE	mg/kg	0.05	-	-	-	-
Endrin	mg/kg	0.05	-	-	-	-
Endosulfan (sum)	mg/kg	0.05	-	-	-	-
beta-Endosulfan	mg/kg	0.05	-	-	-	-
4.4`-DDD	mg/kg	0.05	-	-	-	-
Endrin aldehyde	mg/kg	0.05	-	-	-	-
Endosulfan sulfate	mg/kg	0.05	-	-	-	-
4.4`-DDT	mg/kg	0.2	-	-	-	-
Endrin ketone	mg/kg	0.05	-	-	-	-
Methoxychlor	mg/kg	0.2	-	-	-	-

Table 3
SES_585 - Soil DQIs
Werrington - Contmination Assessment

SOIL DQIs		Sample ID	TRIP BLANK	TRIP SPIKE - 9	TSC	*Recovery*
	Units	EQL	26/11/2020	24/11/2020	24/11/2020	
Sum of DDD + DDE + DDT	mg/kg	0.05	-	-	-	-
Sum of Aldrin + Dieldrin	mg/kg	0.05	-	-	-	-
Dichlorvos	mg/kg	0.05	-	-	-	-
Demeton-S-methyl	mg/kg	0.05	-	-	-	-
Monocrotophos	mg/kg	0.2	-	-	-	-
Dimethoate	mg/kg	0.05	-	-	-	-
Diazinon	mg/kg	0.05	-	-	-	-
Chlorpyrifos-methyl	mg/kg	0.05	-	-	-	-
Parathion-methyl	mg/kg	0.2	-	-	-	-
Malathion	mg/kg	0.05	-	-	-	-
Fenthion	mg/kg	0.05	-	-	-	-
Chlorpyrifos	mg/kg	0.05	-	-	-	-
Parathion	mg/kg	0.2	-	-	-	-
Pirimphos-ethyl	mg/kg	0.05	-	-	-	-
Chlorfenvinphos	mg/kg	0.05	-	-	-	-
Bromophos-ethyl	mg/kg	0.05	-	-	-	-
Fenamiphos	mg/kg	0.05	-	-	-	-
Prothiofos	mg/kg	0.05	-	-	-	-
Ethion	mg/kg	0.05	-	-	-	-
Carbophenothion	mg/kg	0.05	-	-	-	-
Azinphos Methyl	mg/kg	0.05	-	-	-	-
Total PCBs (Arochlors)	mg/kg	0.1	-	-	-	-

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

User Selected Options	
Date/Time of Computation	ProUCL 5.111/05/2021 4:06:54 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Arsenic

General Statistics

Total Number of Observations	22	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	5	Mean	8.818
Maximum	18	Median	9
SD	3.111	Std. Error of Mean	0.663
Coefficient of Variation	0.353	Skewness	1.24

Normal GOF Test

Shapiro Wilk Test Statistic	0.896	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.151	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	9.96	95% Adjusted-CLT UCL (Chen-1995)	10.1
		95% Modified-t UCL (Johnson-1978)	9.989

Gamma GOF Test

A-D Test Statistic	0.387	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.744	cted data appear Gamma Distributed at 5% Significance l	
K-S Test Statistic	0.125	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.185	cted data appear Gamma Distributed at 5% Significance l	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	9.367	k star (bias corrected MLE)	8.12
Theta hat (MLE)	0.941	Theta star (bias corrected MLE)	1.086
nu hat (MLE)	412.1	nu star (bias corrected)	357.3
MLE Mean (bias corrected)	8.818	MLE Sd (bias corrected)	3.095
		Approximate Chi Square Value (0.05)	314.5
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	311.5

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	10.02	5% Adjusted Gamma UCL (use when n<50)	10.11

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.956	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.134	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.609	Mean of logged Data	2.122
Maximum of Logged Data	2.89	SD of logged Data	0.334

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Assuming Lognormal Distribution

95% H-UCL	10.11	90% Chebyshev (MVUE) UCL	10.72
95% Chebyshev (MVUE) UCL	11.59	97.5% Chebyshev (MVUE) UCL	12.79
99% Chebyshev (MVUE) UCL	15.15		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	9.909	95% Jackknife UCL	9.96
95% Standard Bootstrap UCL	9.894	95% Bootstrap-t UCL	10.29
95% Hall's Bootstrap UCL	10.56	95% Percentile Bootstrap UCL	9.909
95% BCA Bootstrap UCL	10		
90% Chebyshev(Mean, Sd) UCL	10.81	95% Chebyshev(Mean, Sd) UCL	11.71
97.5% Chebyshev(Mean, Sd) UCL	12.96	99% Chebyshev(Mean, Sd) UCL	15.42

Suggested UCL to Use

95% Student's-t UCL 9.96

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

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.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Chromium

General Statistics

Total Number of Observations	22	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	9	Mean	15.59
Maximum	24	Median	16
SD	4.032	Std. Error of Mean	0.86
Coefficient of Variation	0.259	Skewness	0.19

Normal GOF Test

Shapiro Wilk Test Statistic	0.967	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.132	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	17.07	95% Adjusted-CLT UCL (Chen-1995)	17.04
		95% Modified-t UCL (Johnson-1978)	17.08

Gamma GOF Test

A-D Test Statistic	0.333	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.742	cted data appear Gamma Distributed at 5% Significance l	
K-S Test Statistic	0.132	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.185	cted data appear Gamma Distributed at 5% Significance l	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	15.22	k star (bias corrected MLE)	13.17
Theta hat (MLE)	1.025	Theta star (bias corrected MLE)	1.184
nu hat (MLE)	669.5	nu star (bias corrected)	579.6
MLE Mean (bias corrected)	15.59	MLE Sd (bias corrected)	4.296
		Approximate Chi Square Value (0.05)	524.7
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	520.8

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	17.22	5% Adjusted Gamma UCL (use when n<50)	17.35

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.962	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.133	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.197	Mean of logged Data	2.713
Maximum of Logged Data	3.178	SD of logged Data	0.267

Assuming Lognormal Distribution

95% H-UCL	17.38	90% Chebyshev (MVUE) UCL	18.3
95% Chebyshev (MVUE) UCL	19.53	97.5% Chebyshev (MVUE) UCL	21.22
99% Chebyshev (MVUE) UCL	24.56		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	17	95% Jackknife UCL	17.07
95% Standard Bootstrap UCL	17.02	95% Bootstrap-t UCL	17.17
95% Hall's Bootstrap UCL	16.99	95% Percentile Bootstrap UCL	16.95
95% BCA Bootstrap UCL	16.95		
90% Chebyshev(Mean, Sd) UCL	18.17	95% Chebyshev(Mean, Sd) UCL	19.34
97.5% Chebyshev(Mean, Sd) UCL	20.96	99% Chebyshev(Mean, Sd) UCL	24.14

Suggested UCL to Use

95% Student's-t UCL 17.07

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.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Copper

General Statistics

Total Number of Observations	22	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	15	Mean	23.68
Maximum	45	Median	21
SD	7.978	Std. Error of Mean	1.701
Coefficient of Variation	0.337	Skewness	1.648

Normal GOF Test

Shapiro Wilk Test Statistic	0.804	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.261	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	26.61	95% Adjusted-CLT UCL (Chen-1995)	27.12
		95% Modified-t UCL (Johnson-1978)	26.71

Gamma GOF Test

A-D Test Statistic	1.121	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.743	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.227	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.185	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	11.43	k star (bias corrected MLE)	9.905
Theta hat (MLE)	2.071	Theta star (bias corrected MLE)	2.391
nu hat (MLE)	503.1	nu star (bias corrected)	435.8
MLE Mean (bias corrected)	23.68	MLE Sd (bias corrected)	7.525
		Approximate Chi Square Value (0.05)	388.4
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	385.1

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	26.57	5% Adjusted Gamma UCL (use when n<50)	26.8

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.899	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.207	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.708	Mean of logged Data	3.12
Maximum of Logged Data	3.807	SD of logged Data	0.291

Assuming Lognormal Distribution

95% H-UCL	26.56	90% Chebyshev (MVUE) UCL	28.05
95% Chebyshev (MVUE) UCL	30.06	97.5% Chebyshev (MVUE) UCL	32.87
99% Chebyshev (MVUE) UCL	38.37		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	26.48	95% Jackknife UCL	26.61
95% Standard Bootstrap UCL	26.42	95% Bootstrap-t UCL	27.66
95% Hall's Bootstrap UCL	28.21	95% Percentile Bootstrap UCL	26.55
95% BCA Bootstrap UCL	27.14		
90% Chebyshev(Mean, Sd) UCL	28.78	95% Chebyshev(Mean, Sd) UCL	31.1
97.5% Chebyshev(Mean, Sd) UCL	34.3	99% Chebyshev(Mean, Sd) UCL	40.61

Suggested UCL to Use

95% Student's-t UCL	26.61	or 95% Modified-t UCL	26.71

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.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Lead

General Statistics

Total Number of Observations	22	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	11	Mean	18.68
Maximum	37	Median	16.5
SD	6.931	Std. Error of Mean	1.478
Coefficient of Variation	0.371	Skewness	1.333

Normal GOF Test

Shapiro Wilk Test Statistic	0.856	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.209	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	21.22	95% Adjusted-CLT UCL (Chen-1995)	21.56
		95% Modified-t UCL (Johnson-1978)	21.29

Gamma GOF Test

A-D Test Statistic	0.775	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.744	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.163	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.185	cted data appear Gamma Distributed at 5% Significance l	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	9.071	k star (bias corrected MLE)	7.864
Theta hat (MLE)	2.059	Theta star (bias corrected MLE)	2.375
nu hat (MLE)	399.1	nu star (bias corrected)	346
MLE Mean (bias corrected)	18.68	MLE Sd (bias corrected)	6.662
		Approximate Chi Square Value (0.05)	303.9
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	301

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	21.27	5% Adjusted Gamma UCL (use when n<50)	21.48

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.932	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.144	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.398	Mean of logged Data	2.871
Maximum of Logged Data	3.611	SD of logged Data	0.331

Assuming Lognormal Distribution

95% H-UCL	21.34	90% Chebyshev (MVUE) UCL	22.62
95% Chebyshev (MVUE) UCL	24.44	97.5% Chebyshev (MVUE) UCL	26.96
99% Chebyshev (MVUE) UCL	31.91		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	21.11	95% Jackknife UCL	21.22
95% Standard Bootstrap UCL	21.07	95% Bootstrap-t UCL	21.64
95% Hall's Bootstrap UCL	21.63	95% Percentile Bootstrap UCL	21.23
95% BCA Bootstrap UCL	21.45		
90% Chebyshev(Mean, Sd) UCL	23.11	95% Chebyshev(Mean, Sd) UCL	25.12
97.5% Chebyshev(Mean, Sd) UCL	27.91	99% Chebyshev(Mean, Sd) UCL	33.38

Suggested UCL to Use

95% Adjusted Gamma UCL 21.48

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

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.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Nickel

General Statistics

Total Number of Observations	22	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	3	Mean	11.09
Maximum	28	Median	9
SD	6.279	Std. Error of Mean	1.339
Coefficient of Variation	0.566	Skewness	1.262

Normal GOF Test

Shapiro Wilk Test Statistic	0.892	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.176	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	13.39	95% Adjusted-CLT UCL (Chen-1995)	13.68
		95% Modified-t UCL (Johnson-1978)	13.45

Gamma GOF Test

A-D Test Statistic	0.312	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.748	cted data appear Gamma Distributed at 5% Significance l	
K-S Test Statistic	0.125	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.186	cted data appear Gamma Distributed at 5% Significance l	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	3.558	k star (bias corrected MLE)	3.103
Theta hat (MLE)	3.117	Theta star (bias corrected MLE)	3.574
nu hat (MLE)	156.6	nu star (bias corrected)	136.5
MLE Mean (bias corrected)	11.09	MLE Sd (bias corrected)	6.296
		Approximate Chi Square Value (0.05)	110.5
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	108.8

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	13.7	5% Adjusted Gamma UCL (use when n<50)	13.92

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.972	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.138	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.099	Mean of logged Data	2.259
Maximum of Logged Data	3.332	SD of logged Data	0.565

Assuming Lognormal Distribution

95% H-UCL	14.49	90% Chebyshev (MVUE) UCL	15.37
95% Chebyshev (MVUE) UCL	17.28	97.5% Chebyshev (MVUE) UCL	19.94
99% Chebyshev (MVUE) UCL	25.16		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	13.29	95% Jackknife UCL	13.39
95% Standard Bootstrap UCL	13.23	95% Bootstrap-t UCL	13.86
95% Hall's Bootstrap UCL	14.79	95% Percentile Bootstrap UCL	13.41
95% BCA Bootstrap UCL	13.5		
90% Chebyshev(Mean, Sd) UCL	15.11	95% Chebyshev(Mean, Sd) UCL	16.93
97.5% Chebyshev(Mean, Sd) UCL	19.45	99% Chebyshev(Mean, Sd) UCL	24.41

Suggested UCL to Use

95% Student's-t UCL	13.39

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

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.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Zinc

General Statistics

Total Number of Observations	22	Number of Distinct Observations	17
		Number of Missing Observations	0
Minimum	19	Mean	38.32
Maximum	55	Median	40.5
SD	10.58	Std. Error of Mean	2.256
Coefficient of Variation	0.276	Skewness	-0.414

Normal GOF Test

Shapiro Wilk Test Statistic	0.942	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.159	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	42.2	95% Adjusted-CLT UCL (Chen-1995)	41.82
		95% Modified-t UCL (Johnson-1978)	42.17

Gamma GOF Test

A-D Test Statistic	0.735	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.743	cted data appear Gamma Distributed at 5% Significance l	
K-S Test Statistic	0.175	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.185	cted data appear Gamma Distributed at 5% Significance l	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	11.95	k star (bias corrected MLE)	10.35
Theta hat (MLE)	3.205	Theta star (bias corrected MLE)	3.701
nu hat (MLE)	526	nu star (bias corrected)	455.6
MLE Mean (bias corrected)	38.32	MLE Sd (bias corrected)	11.91
		Approximate Chi Square Value (0.05)	407.1
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	403.7

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	42.88	5% Adjusted Gamma UCL (use when n<50)	43.24

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.905	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.18	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data appear Lognormal at 5% Significance Level	

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.944	Mean of logged Data	3.604
Maximum of Logged Data	4.007	SD of logged Data	0.311

Assuming Lognormal Distribution

95% H-UCL	43.68	90% Chebyshev (MVUE) UCL	46.21
95% Chebyshev (MVUE) UCL	49.73	97.5% Chebyshev (MVUE) UCL	54.61
99% Chebyshev (MVUE) UCL	64.19		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	42.03	95% Jackknife UCL	42.2
95% Standard Bootstrap UCL	41.98	95% Bootstrap-t UCL	42.12
95% Hall's Bootstrap UCL	41.97	95% Percentile Bootstrap UCL	42.05
95% BCA Bootstrap UCL	41.64		
90% Chebyshev(Mean, Sd) UCL	45.09	95% Chebyshev(Mean, Sd) UCL	48.15
97.5% Chebyshev(Mean, Sd) UCL	52.41	99% Chebyshev(Mean, Sd) UCL	60.76

Suggested UCL to Use

95% Student's-t UCL 42.2

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.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Fluoranthene

General Statistics

Total Number of Observations	22	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.25	Mean	0.282
Maximum	0.7	Median	0.25
SD	0.108	Std. Error of Mean	0.0229
Coefficient of Variation	0.381	Skewness	3.493

Normal GOF Test

Shapiro Wilk Test Statistic	0.336	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.525	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.321	95% Adjusted-CLT UCL (Chen-1995)	0.338
		95% Modified-t UCL (Johnson-1978)	0.324

Gamma GOF Test

A-D Test Statistic	7.144	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.743	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.532	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.185	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	12.21	k star (bias corrected MLE)	10.58
Theta hat (MLE)	0.0231	Theta star (bias corrected MLE)	0.0266
nu hat (MLE)	537.4	nu star (bias corrected)	465.5
MLE Mean (bias corrected)	0.282	MLE Sd (bias corrected)	0.0866
		Approximate Chi Square Value (0.05)	416.5
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	413

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.315	5% Adjusted Gamma UCL (use when n<50)	0.318

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.34	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.528	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.386	Mean of logged Data	-1.308
Maximum of Logged Data	-0.357	SD of logged Data	0.259

Assuming Lognormal Distribution

95% H-UCL	0.31	90% Chebyshev (MVUE) UCL	0.326
95% Chebyshev (MVUE) UCL	0.347	97.5% Chebyshev (MVUE) UCL	0.376
99% Chebyshev (MVUE) UCL	0.434		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	0.32	95% Jackknife UCL	0.321
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	0.351	95% Chebyshev(Mean, Sd) UCL	0.382
97.5% Chebyshev(Mean, Sd) UCL	0.425	99% Chebyshev(Mean, Sd) UCL	0.51

Suggested UCL to Use

95% Student's-t UCL	0.321	or 95% Modified-t UCL	0.324

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.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Pyrene

General Statistics

Total Number of Observations	22	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.25	Mean	0.286
Maximum	0.7	Median	0.25
SD	0.119	Std. Error of Mean	0.0253
Coefficient of Variation	0.415	Skewness	3.152

Normal GOF Test

Shapiro Wilk Test Statistic	0.34	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.529	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.33	95% Adjusted-CLT UCL (Chen-1995)	0.346
		95% Modified-t UCL (Johnson-1978)	0.333

Gamma GOF Test

A-D Test Statistic	7.3	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.743	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.535	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.185	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	10.33	k star (bias corrected MLE)	8.947
Theta hat (MLE)	0.0277	Theta star (bias corrected MLE)	0.032
nu hat (MLE)	454.3	nu star (bias corrected)	393.7
MLE Mean (bias corrected)	0.286	MLE Sd (bias corrected)	0.0957
		Approximate Chi Square Value (0.05)	348.7
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	345.5

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.323	5% Adjusted Gamma UCL (use when n<50)	0.326

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.338	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.53	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.386	Mean of logged Data	-1.3
Maximum of Logged Data	-0.357	SD of logged Data	0.281

Assuming Lognormal Distribution

95% H-UCL	0.317	90% Chebyshev (MVUE) UCL	0.335
95% Chebyshev (MVUE) UCL	0.358	97.5% Chebyshev (MVUE) UCL	0.39
99% Chebyshev (MVUE) UCL	0.454		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	0.328	95% Jackknife UCL	0.33
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	0.362	95% Chebyshev(Mean, Sd) UCL	0.397
97.5% Chebyshev(Mean, Sd) UCL	0.444	99% Chebyshev(Mean, Sd) UCL	0.538

Suggested UCL to Use

95% Student's-t UCL	0.33	or 95% Modified-t UCL	0.333

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.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Benzo(g.h.i)perylene

General Statistics

Total Number of Observations	22	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	0.25	Mean	0.261
Maximum	0.5	Median	0.25
SD	0.0533	Std. Error of Mean	0.0114
Coefficient of Variation	0.204	Skewness	4.69

Normal GOF Test

Shapiro Wilk Test Statistic	0.221	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.539	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.281	95% Adjusted-CLT UCL (Chen-1995)	0.292
		95% Modified-t UCL (Johnson-1978)	0.283

Gamma GOF Test

A-D Test Statistic	8.017	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.742	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.542	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.185	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	38.79	k star (bias corrected MLE)	33.53
Theta hat (MLE)	0.00674	Theta star (bias corrected MLE)	0.00779
nu hat (MLE)	1707	nu star (bias corrected)	1475
MLE Mean (bias corrected)	0.261	MLE Sd (bias corrected)	0.0451
		Approximate Chi Square Value (0.05)	1387
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	1381

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.278	5% Adjusted Gamma UCL (use when n<50)	0.279

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.221	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.539	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.184	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.386	Mean of logged Data	-1.355
Maximum of Logged Data	-0.693	SD of logged Data	0.148

Assuming Lognormal Distribution

95% H-UCL	0.276	90% Chebyshev (MVUE) UCL	0.285
95% Chebyshev (MVUE) UCL	0.297	97.5% Chebyshev (MVUE) UCL	0.312
99% Chebyshev (MVUE) UCL	0.343		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	0.28	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	0.295	95% Chebyshev(Mean, Sd) UCL	0.311
97.5% Chebyshev(Mean, Sd) UCL	0.332	99% Chebyshev(Mean, Sd) UCL	0.374

Suggested UCL to Use

95% Student's-t UCL	0.281	or 95% Modified-t UCL	0.283

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.

UCL Statistics for Uncensored Full Data Sets - Stockpiles A and B Combined

Sum of polycyclic aromatic hydrocarbons

General Statistics

Total Number of Observations	22	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.25	Mean	0.364
Maximum	1.6	Median	0.25
SD	0.369	Std. Error of Mean	0.0787
Coefficient of Variation	1.015	Skewness	3.098

Normal GOF Test

Shapiro Wilk Test Statistic	0.337	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.911	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.53	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.184	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.499	95% Adjusted-CLT UCL (Chen-1995)	0.549
		95% Modified-t UCL (Johnson-1978)	0.508

Gamma GOF Test

A-D Test Statistic	7.431	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.753	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.543	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.187	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.513	k star (bias corrected MLE)	2.2
Theta hat (MLE)	0.145	Theta star (bias corrected MLE)	0.165
nu hat (MLE)	110.6	nu star (bias corrected)	96.81
MLE Mean (bias corrected)	0.364	MLE Sd (bias corrected)	0.245
		Approximate Chi Square Value (0.05)	75.11
Adjusted Level of Significance	0.0386	Adjusted Chi Square Value	73.69

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.469	5% Adjusted Gamma UCL (use when n<50)	0.478

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.334	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.911	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.53	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.184	Data Not Lognormal at 5% Significance Level

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.386	Mean of logged Data	-1.224
Maximum of Logged Data	0.47	SD of logged Data	0.527

Assuming Lognormal Distribution

95% H-UCL	0.426	90% Chebyshev (MVUE) UCL	0.454
95% Chebyshev (MVUE) UCL	0.507	97.5% Chebyshev (MVUE) UCL	0.581
99% Chebyshev (MVUE) UCL	0.727		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	0.493	95% Jackknife UCL	0.499
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	0.6	95% Chebyshev(Mean, Sd) UCL	0.707
97.5% Chebyshev(Mean, Sd) UCL	0.855	99% Chebyshev(Mean, Sd) UCL	1.147

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	0.707

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.

C

Appendix C Soil Logs

SOIL DESCRIPTION LOG SS01

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE Surface scrap
TOTAL DEPTH Surface - 0.2m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS Surface soils scraped with excavator

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS01	Y			Gravelly clay, extremely dry, powdery, brown	No anthropogenic items observed
0.5						End of surface scrap at 0.2m	

SOIL DESCRIPTION LOG SS02

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE Surface scrap
TOTAL DEPTH Surface - 0.2m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS Surface soils scraped with excavator

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS02	Y			Gravelly clay, extremely dry, powdery, brown	No anthropogenic items observed
0.5						End of surface scrap at 0.2m	

SOIL DESCRIPTION LOG SS03

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE Surface scrap
TOTAL DEPTH Surface - 0.2m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS Surface soils scraped with excavator

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS03	Y			Gravelly clay, extremely dry, powdery, brown	No anthropogenic items observed
0.5						End of surface scrap at 0.2m	

SOIL DESCRIPTION LOG SS04

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE Surface scrap
TOTAL DEPTH Surface - 0.2m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS Surface soils scraped with excavator

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS04	Y			Gravelly clay, extremely dry, powdery, brown	No anthropogenic items observed
0.5						End of surface scrap at 0.2m	

SOIL DESCRIPTION LOG SS05

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE Surface scrap
TOTAL DEPTH Surface - 0.2m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS Surface soils scraped with excavator

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS05	Y			Gravelly clay, extremely dry, powdery, brown Some bitumen fragments observed in surface soils	Anthropogenic items observed include: Bitumen
0.5						End of surface scrap at 0.2m	

SOIL DESCRIPTION LOG SS06

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE Surface scrap
TOTAL DEPTH Surface - 0.3m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS Surface soils scraped with excavator

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS06	Y			FILL: Crushed rock hardstand layer	Imported layer for compound area
						Gravelly clay, extremely dry, powdery, brown Some bitumen fragments observed	Anthropogenic items observed include: Bitumen
0.5						End of surface scrap at 0.3m	

Disclaimer This log is intended for environmental not geotechnical purposes.

STOCKPILE DESCRIPTION LOG Stage 4 Eastern Side Stockpile A

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 30/11/2020 &1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 2.5m deep x 1.0m wide
TOTAL DEPTH 2.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS Stockpile is approximately 8m high. Represented by testpits TP18 - TP29. Test pit 23 onwards conducted on 1/12/2020

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0						FILL: Silty Clay, medium plasticity - 0.0-0.5m	Anthroprogenic items observed include TP18 - Nil TP19 - Nil TP20 - Some sandstone and concrete with other crushed rubble (bricks) TP21 - bitumen and soft plastic TP22 - metal pipe and some bitumen TP23 - broken pavers and styrofoam material TP24 - no ballast, clay pipe, green hessian material and soft plastic TP25 - agg pipe, brick, metal and concrete chunks TP26 - green hessian material and agg pipe length TP27 - bricks, green hessian, cloths and rusted wire TP28 - Nil TP29 - Only 1 piece of clay pipe observed
0.5		TP20_0.5 (QC03) TP21_0.5				FILL various Clay mixtures 0.5-1.4m TP18 - TP21 Silty Clay Fill, medium plasticity, brown with some gravels, dry and stiff. TP22 - TP29 Sandy Clay fill, relatively wet, tan brown, high plasticity, soft to firm Some to minor foreign materials observed in stockpile testpits throughout profile	
1		TP18_1.0 TP19_1.0 TP23_1.0					
1.5		TP28_1.5 TP29_1.5				FILL: various Clay mixtures 1.4-2.5m TP18 - TP21 Silty Clay Fill, medium plasticity, generally brown with no odours and moist. A pocket of wet grey clay with anoxic odour observed in TP20 at 1.6m TP22 - TP29 Sandy Clay fill, moist to wet, tan brown to red brown, medium to high plasticity, soft to firm	
2		TP22_2.0 TP24_2.0 TP25_2.0 TP26_2.0 TP27_2.0					
2.5						End of Testpit at 2.5m at reach of excavator	

Disclaimer This log is intended for environmental not geotechnical purposes.

STOCKPILE DESCRIPTION LOG Stage 4 Eastern Side Stockpile B

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 2.5m deep x 1.0m wide
TOTAL DEPTH 2.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS Stockpile represented by testpits TP32 - TP39

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0						FILL: Silty CLAY fill mixtures	
0.5						Silty Clay Fill, low to medium plasticity, brown, some gravels observed, firm, moist. Soft band of clay and rotting organic matter at 0.7m observed in TP34 Some foreign materials observed in stockpile testpits	Anthroprogenic items observed include TP32 - Nil TP33 - Nil TP34 - Large piece of soft plastic (industrial wrap?) TP35 - Nil TP36 - Nil TP37 - Nil TP38 - 1x acetylene gas bottle TP39 - Nil
1		TP34_1.0 TP36_1.0 TP37_1.0 TP38_1.0 TP39_1.0					
1.5		TP32_1.5 TP33_1.5 TP35_1.5				Silty Clay Fill mixture uniform, some gravels observed TP32 Ashy clay layer, low plasticity, black to dark brown observed TP37 - TP39 White grey and red clays observed at the base of excavation, possibly natural.	
2							
2.5						End of Testpit at 2.5m at reach of excavator	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT DESCRIPTION LOG TP30

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5						Silty Clay Fill, low to medium plasticity, brown to dark brown, firm, moist with some large rocks. No foreign materials observed in stockpile testpits	No anthropogenic items observed
1		No samples collected					
1.5						End of Testpit at 1.5m	
2							
2.5							

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT DESCRIPTION LOG TP31

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5						Silty Clay Fill, low to medium plasticity, brown to dark brown, firm, moist with some large rocks. No foreign materials observed in stockpile testpits	No anthropogenic items observed
1		No samples collected					
1.5						End of Testpit at 1.5m	
2							
2.5							

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT DESCRIPTION LOG TP41

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5						Silty Clay and Sandy Clay Fill mixture with some gravels, low plasticity, brown, moist, firm. Some foreign materials observed in stockpile testpits	Anthropogenic items observed include: Hard and soft plastics, PVC, tiles, concrete, cloth and scrap metal fragments, broken plywood pieces
1		TP41_1.0					
1.5						End of Testpit at1.5m	
2							
2.5							

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT DESCRIPTION LOG TP43

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5						Silty Clay and Sandy Clay Fill Mixture; with some gravels, low plasticity, brown, moist, firm. Some foreign materials observed in testpit	Anthroprogenic items observed include Hard and soft plastics, PVC, tiles, concrete, cloth and scrap metal fragments
1		TP43_1.0					
1.5						End of Testpit at 1.5m	
2							
2.5							

TESTPIT DESCRIPTION LOG TP44

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5						Silty and Sandy Clay mixture with gravels Minor foreign materials observed in testpit	Anthroprogenic items observed include: Minor foreign materials observed, soft plastic and tiles
1		TP44_1.0					
1.5						End of Testpit at 1.5m	
2							
2.5							

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT DESCRIPTION LOG TP44

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		TP45_0.5				Silty and Sandy Clay mixture with gravels Minor foreign materials observed in testpit	Anthroprogenic items observed include: Minor foreign materials observed, soft plastic and tiles
1							
1.5						End of Testpit at 1.5m	
2							
2.5							

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT DESCRIPTION LOG TP46

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.0m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		TP46_0.5				Topsoil, gravelly clay fill mixture, brown, moist, firm. Some foreign materials observed in testpit	Anthroprogenic items observed include Timber, scrap metal and plastics (hard and soft).
1						End of Testpit at 1.0m	
1.5							
2							
2.5							

TESTPIT DESCRIPTION LOG TP47

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.0m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		TP47_0.5				Topsoil, gravelly clay fill mixture, brown, moist, firm. Some foreign materials observed in testpit	Anthroprogenic items observed include Minor hard and soft plastics and concrete chunks.
1						End of Testpit at 1.0m	
1.5							
2							
2.5							

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT DESCRIPTION LOG TP48

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.0m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		No sample collected				Topsoil, gravelly clay fill mixture, brown, moist, firm. Some foreign materials observed in testpit	Anthroprogenic items observed include Minor hard and soft plastics and concrete chunks.
1						End of Testpit at 1.0m	
1.5							
2							
2.5							

TESTPIT DESCRIPTION LOG TP49

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		No Sample collected				Gravelly clay fill: low plasticity, brown, moist, firm.. Some foreign materials observed in testpit	Anthropogenic items observed include: PVC, scrap metal and plastics (hard and soft), concrete chunks.
1							
1.5						End of Testpit at 1.5m at reach of excavator	
2							
2.5							

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT DESCRIPTION LOG TP51

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Western Hwy, Werringt
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		No sample collected				Reworked natural clay with topsoil layer. No foreign materials observed	No anthroprogenic items observed
1							
1.5						End of Testpit at 1.5m	
2							
2.5							

TESTPIT DESCRIPTION LOG TP52

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 1/12/2020
DRILLING COMPANY Client Provided Excavator
DRILLING METHOD Excavator

TRENCH SIZE 1.0m wide
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Relevant Testpit Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		No sample collected				Reworked natural clay with topsoil layer. No foreign materials observed	No anthroprogenic items observed
1							
1.5						End of Testpit at 1.5m	
2							
2.5							

SOIL BOREHOLE LOG C1 - C2 - C3

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Western Hwy, Werringt
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS COMP01 comprises three sub-samples C1, C2 and C3

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		COMP01				CLAY: low plasticity, brown with with some gravels, dry, hard	No foreign materials observed
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG C4 - C5

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Western Hwy, Werringt
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS COMP02 comprises 2 sub-samples C4 and C5

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		COMP02				Silty CLAY: low plasticity, brown with with some gravels, moist, firm with roots	No foreign materials observed
0.5						End of surface log at 0.5m	

SOIL BOREHOLE LOG C6 - C7

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Western Hwy, Werringt
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS COMP03 comprises 2 sub-samples C6 and C7

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		COMP03				Silty CLAY: low plasticity, brown with with some gravels, moist, firm with roots	No foreign materials observed
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS07A

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS07A - (Jar and Bag for soil properties)				CLAY: high plasticity, red/brown, stiff, moist	Anthropogenic items observed - Nil
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS08

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
						FILL: crushed rock hardstand material	Anthropogenic items observed - Nil
		SS08_0.2-0.3				CLAY: high plasticity, red/brown, stiff, moist	
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS09

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
						FILL: Crushed rock hardstand material	
		SS09_0.1-0.2 (Z01)				CLAY: high plasticity, red/brown, stiff, moist	Anthropogenic items observed - Nil
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS10

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.2m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS10_0.0-0.2				FILL: Sandy Gravelly fill: dry hard set.	Anthropogenic items observed - asphalt
						Asphalt Layer encountered	
0.5						End of surface log at 0.2m, refusal on asphalt	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS11

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS11_0.1-0.3				FILL (reworked natural?): Silty Clay, low plasticity, brown, roots, firm and moist	Anthropogenic items observed - Nil
0.5						End of surface log at 0.5m	

SOIL BOREHOLE LOG SS12

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Western Hwy, Werringt
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS12_0.0-0.1				CLAY: medium plasticity, brown with orange hues, firm, moist	Anthropogenic items observed - Nil
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS13

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Western Hwy, Werringt
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
						FILL: Clay with gravels and some bitumen pieces	Bitumen fragments observed
		SS13_0.05-0.2				CLAY: medium plasticity, brown with orange hues, firm, moist	
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS14

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Western Hwy, Werringt
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS14_0.0-0.2				FILL: Gravel layer	No foreign materials observed
						CLAY: medium plasticity, brown with orange hues, firm, moist	
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS15

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS15_0.0-0.1				CLAY: medium plasticity, brown with orange/grey hues, moist, stiff	No foreign materials observed
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

SOIL BOREHOLE LOG SS16

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS16_0.0-0.1				CLAY (reworked natural?): medium plasticity, brown with orange/grey hues, moist, stiff	No foreign materials observed
0.5						End of surface log at 0.5m	

SOIL BOREHOLE LOG SS17

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY N.A.
DRILLING METHOD Hand Auger

BOREHOLE SIZE 75mm
TOTAL DEPTH Surface - 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		SS17_0.0-0.1				CLAY: medium plasticity, brown with orangey hues, moist, stiff	No foreign materials observed
0.5						End of surface log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP53

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Western Hwy, Werringt
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 20/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m wide
TOTAL DEPTH 1.2m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		TP53_0.5-0.6 (Z02)				FILL: Silty CLAY: low to medium plasticity, brown red with some white hues, moist, firm	No foreign materials observed No ACM observed
1							
						End of testpit log at 1.2m at natural clay soils	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP54

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/04/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m wide
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		TP54_0.3-0.4				FILL: Silty CLAY: low to medium plasticity, reddish brown, moist, firm at southern end of pit. Remaining Pit natural clay materials as below	No foreign materials observed No ACM observed
						Silty CLAY; dark brown, then CLAY; medium plasticity, yellow brown then hard grey and extremely weathered	
0.5						End of testpit log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP55

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/04/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		TP55_0.3-0.4				Southern end of Pit - CLAY Northern end is 0.5m of FILL; Gravelly Silty CLAY, reworked natural, grass roots and rotting material inclusions	No foreign materials observed No ACM observed
0.5						End of testpit log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP56

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/04/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		No sample collected				Silty CLAY; topsoil, dark brown, friable, then CLAY medium plasticity, yellow brown	No foreign materials observed No ACM observed
0.5						End of testpit log at 0.5m	

TESTPIT LOG TP57

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/04/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		No sample collected				Silty CLAY; topsoil, dark brown, friable, then CLAY medium plasticity, yellow brown	No foreign materials observed No ACM observed
0.5						End of testpit log at 0.5m	

TESTPIT LOG TP58

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/04/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		TP58_0.1-0.2				Silty CLAY; topsoil, dark brown, friable, then CLAY medium plasticity, yellow brown	No foreign materials observed No ACM observed
0.5						End of testpit log at 0.5m	

TESTPIT LOG TP59

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Cleint Client Provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		No sample collected				Silty CLAY; topsoil, dark brown, friable, then CLAY medium plasticity, yellow brown	No foreign materials observed No ACM observed
0.5						End of testpit log at 0.5m	

TESTPIT LOG TP60

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		No sample collected				Silty CLAY; topsoil, dark brown, friable, then CLAY medium plasticity, yellow brown CLAY: Red/white, extremely weathered material	No foreign materials observed No ACM observed
0.5						End of testpit log at 0.5m	

TESTPIT LOG TP61

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
						Silty CLAY; topsoil, dark brown, friable, then	
						CLAY medium plasticity, yellow brown	No foreign materials observed No ACM observed
		TP61_0.2-0.3				CLAY: Red/white, extremely weathered material	
0.5						End of testpit log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP62

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		TP62_0.3-0.4				Small stockpile then Silty CLAY and gravels; low plasticity, dark brown, firm, moist. Very minor brick and concrete fragments	Concrete and brick fragments observed No ACM observed
0.5						End of testpit log at 0.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP63

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.6m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		TP63_0.5-0.6				Silty CLAY and gravels; low plasticity, dark brown, firm, moist. A piece of material strap and metal stake observed	material strap and metal stake observed No ACM observed
						End of testpit log at 0.6m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP64

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.6m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		TP64_0.5-0.6				Silty CLAY and gravels; low plasticity, dark brown, firm, moist. Some brick and concrete fragments and multiple tile pieces	Tile, concrete and brick fragments observed No ACM observed
						End of testpit log at 0.6m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP65

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.6m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		No sample collected				Silty CLAY and gravels; low plasticity, dark brown, firm, moist.	No foreign materials observed No ACM observed
						End of testpit log at 0.6m	

TESTPIT LOG TP66

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 1.0m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		No sample collected				CLAY; medium high plasticity, grey becoming red grey at 1.0m	No foreign materials observed No ACM observed
0.5							
1						End of testpit log at 1.0m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP67

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 2.0m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0						CLAY (Reworked natural) with gravel, fragments of hard plastic observed	Hard plastic observed No ACM observed
0.5		TP67_0.5-0.6 (Z03)					
1							
1.5							
2						End of testpit log at 2.0m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP68

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 2.0m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
						FILL: Clays, hard plastic fragment observed	Hard plastic observed No ACM observed
		TP68_0.3-0.4					
0.5						CLAY: medium plasticity	
1							
						End of testpit log at 1.2m, refusal on bedrock?	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP69

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 0.6m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0.5		No sample collected				Silty CLAY and gravels; low plasticity, dark brown, firm, moist.	No foreign materials observed No ACM observed
						End of testpit log at 0.6m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP70

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
		TP70_0.2-0.3				CLAY (reworked natural?); low plasticity, dark brown, firm, moist. Glass and hard plastic fragments observed	Glass and hard plastic observed No ACM observed
0.5							
1							
1.5						End of testpit log at 1.5m	

Disclaimer This log is intended for environmental not geotechnical purposes.

TESTPIT LOG TP71

PROJECT NUMBER SES_585
CLIENT Statewide Planning Pty Ltd
LOCATION 731-755 Great Wrn Hwy, Werrington
PROJECT NAME Stage 4 Development - Contamination Assessment

DRILLING DATE 22/4/2021
DRILLING COMPANY Client provided
DRILLING METHOD Excavator

TESTPIT SIZE 1.0m
TOTAL DEPTH 1.5m
LOGGED BY A.S.
CHECKED BY S.G.

COMMENTS

Depth (m)	PID	Soil Samples	Is Analysed?	Graphic Log	USCS	General Material Description	Testpit Foreign Materials Observations
0						FILL: Silty Clay fill, tile and metal fragments observed	Tile and metal observed No ACM observed
		TP71_0.2-0.3					
0.5							
1						CLAY (reworked natural?); low plasticity, dark brown, firm, moist.	
						End of testpit log at 1.2m	

Disclaimer This log is intended for environmental not geotechnical purposes.

D

Appendix D Site Photos

Photo 1: Work compound area with crushed rock hardstand surface

Photo 3: External storage of concrete stormwater pipes and reo mesh/bars

Photo 2: Work compound area showing sheds, machinery and general construction materials in external storage areas

SULLIVAN environmental sciences	Project: **SES_585**	Title: **Detailed Site Contamination Assessment - Site Photographs**
		Address: **741-755 Great Western Highway, Werrington NSW 2747**

Photo 4: Stockpile of concrete slabs and rubble

Photo 5: Example of small piles of crushed rock and shales – east end of site

SULLIVAN environmental sciences	Project: **SES_585**	Title: **Detailed Site Contamination Assessment - Site Photographs**
		Address: **741-755 Great Western Highway, Werrington NSW 2747**

E

Appendix E Phase 1 (2012) Investigation Area

Source: Base Image - Google Earth, Image date 01-01-2009, Image sourced 24-04-2012

0 40 80 160 m

Scale: 1:4,000

Datum: MGA94 Zone 56 - AHD

Rev	Description	Drn.	Date:
A4			
0	Original Issue - R01	SE	21-05-2012

Legend:

- Approximate Site Boundary
- Approximate Lot Boundaries
- Stockpiles Location
- Unkown Pit Location
- Creek and Lake
- Dumping and Household Waste
- Raised Topography

JBS ENVIRONMENTAL

Figure 2: Site Layout

Client: Statewide Planning

Project: Werrington, NSW - Phase 1

Job No: 42138 File Name: 42138_02

F

Appendix F Development Plans

LEGEND

- PROPOSED STAGE 04 SITE AREA
- PROPOSED LOTS
- EXISTING/ FUTURE LOTS

ISSUE	DATE	REVISION	BY
D	30/11/2020	AMENDMENTS SUBDIVISION	CHD
C	5/11/2020	AMENDMENTS SUBDIVISION	CHD
B	15/09/2020	AMENDED AS PER PRE-DA	CHD
A	21/04/2020	ISSUED FOR REVIEW	CHD

IMPORTANT NOTES:

Do not scale from drawings. All dimensions to be checked on site before commencement of work. All discrepancies to be brought to the attention of the Designer. Larger scale drawings and written dimensions take preference. This drawing is copyright and the property of the author, and must not be retained, copied or used without the express authority of STATEWIDE PLANNING

STATEWIDE PLANNING
Level 2, 31 Cowper street
Parramatta NSW 2150
T: +61 2 8830 0400

PROJECT: STAGE 04
741-755 GREAT WESTERN HIGHWAY, WERRINGTON

DRAWING TITLE:
SITE PLAN

NORTH:

PROJECT NO:	DATE:	DRAWING No:	REV:
01	30/11/2020	DA102	D
DRAWN BY:	SCALE:		
CHD	1 : 2500		

A3

G

Appendix G Laboratory Analytical Report

CERTIFICATE OF ANALYSIS

Work Order	: **ES2043211-AC**	Page	: 1 of 32
Amendment	: **2**		
Client	: **SULLIVAN ENVIRONMENTAL SCIENCES**	Laboratory	: Environmental Division Sydney
Contact	: ADAM SULLIVAN	Contact	: Loren Schiavon
Address	: PO Box 5248 TURRAMURRA NSW 2074	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: SES_585	Date Samples Received	: 04-Dec-2020 18:30
Order number	: ----	Date Analysis Commenced	: 05-Dec-2020
C-O-C number	: ----	Issue Date	: 07-May-2021 08:12
Sampler	: ADAM SULLIVAN		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 38		
No. of samples analysed	: 38		

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

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP066 : Positive PCB results are confirmed by re-extraction and re-analysis.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP18_1.0	TP19_1.0	TP20_0.5	QC03	TP21_0.5
			Sampling date / time	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-018	ES2043211-019	ES2043211-020	ES2043211-021	ES2043211-022
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.3	17.3	17.2	15.9	14.8
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	----	----	----
Asbestos Type	1332-21-4	-	--	----	-	----	----	----
Sample weight (dry)	----	0.01	g	----	42.7	----	----	----
APPROVED IDENTIFIER:	----	-	--	----	A. SMYLIE	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	----	----	----
Organic Fibre	----	0.1	g/kg	----	No	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	11	6	7	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	19	24	17	18	14
Copper	7440-50-8	5	mg/kg	18	19	15	17	20
Lead	7439-92-1	5	mg/kg	19	23	17	16	15
Nickel	7440-02-0	2	mg/kg	9	13	4	4	14
Zinc	7440-66-6	5	mg/kg	45	48	24	20	44
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP18_1.0	TP19_1.0	TP20_0.5	QC03	TP21_0.5
				Sampling date / time	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-018	ES2043211-019	ES2043211-020	ES2043211-021	ES2043211-022
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP18_1.0	TP19_1.0	TP20_0.5	QC03	TP21_0.5
				Sampling date / time	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-018	ES2043211-019	ES2043211-020	ES2043211-021	ES2043211-022
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		**0.5**	<0.5	<0.5	<0.5	**0.7**
Pyrene	129-00-0	0.5	mg/kg		**0.6**	<0.5	<0.5	<0.5	**0.7**
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**0.5**	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**1.6**	<0.5	<0.5	<0.5	**1.4**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP18_1.0	TP19_1.0	TP20_0.5	QC03	TP21_0.5
			Sampling date / time	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00	30-Nov-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-018	ES2043211-019	ES2043211-020	ES2043211-021	ES2043211-022
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**101**	**111**	**108**	**114**	**----**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**87.9**	**89.8**	**80.2**	**91.2**	**----**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**94.6**	**84.5**	**83.1**	**91.7**	**----**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**119**	**114**	**121**	**120**	**114**
2-Chlorophenol-D4	93951-73-6	0.5	%	**117**	**108**	**116**	**116**	**111**
2.4.6-Tribromophenol	118-79-6	0.5	%	**103**	**96.6**	**105**	**103**	**94.7**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**112**	**113**	**112**	**121**	**116**
Anthracene-d10	1719-06-8	0.5	%	**118**	**117**	**119**	**126**	**120**
4-Terphenyl-d14	1718-51-0	0.5	%	**115**	**106**	**116**	**115**	**108**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**99.9**	**98.5**	**100**	**103**	**94.7**
Toluene-D8	2037-26-5	0.2	%	**105**	**102**	**103**	**104**	**95.0**
4-Bromofluorobenzene	460-00-4	0.2	%	**114**	**108**	**110**	**112**	**102**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP22_2.0	TP23_1.0	TP24_2.0	TP25_2.0	TP26_2.0
			Sampling date / time	30-Nov-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-023	ES2043211-024	ES2043211-025	ES2043211-026	ES2043211-027
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.7	18.4	18.8	16.7	17.0
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	----	----	No
Asbestos Type	1332-21-4	-	--	----	-	----	----	-
Sample weight (dry)	----	0.01	g	----	40.9	----	----	41.4
APPROVED IDENTIFIER:	----	-	--	----	A. SMYLIE	----	----	A. SMYLIE
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	----	----	No
Organic Fibre	----	0.1	g/kg	----	No	----	----	No
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	14	11	10	10
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	20	16	15	14	20
Copper	7440-50-8	5	mg/kg	30	28	20	20	33
Lead	7439-92-1	5	mg/kg	29	17	12	14	32
Nickel	7440-02-0	2	mg/kg	24	11	7	13	28
Zinc	7440-66-6	5	mg/kg	51	46	30	42	50
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP22_2.0	TP23_1.0	TP24_2.0	TP25_2.0	TP26_2.0
				Sampling date / time	30-Nov-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-023	ES2043211-024	ES2043211-025	ES2043211-026	ES2043211-027
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP22_2.0	TP23_1.0	TP24_2.0	TP25_2.0	TP26_2.0
				Sampling date / time	30-Nov-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-023	ES2043211-024	ES2043211-025	ES2043211-026	ES2043211-027
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP22_2.0	TP23_1.0	TP24_2.0	TP25_2.0	TP26_2.0
			Sampling date / time	30-Nov-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-023	ES2043211-024	ES2043211-025	ES2043211-026	ES2043211-027
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**96.7**	**----**	**117**	**----**	**130**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**88.1**	**----**	**81.5**	**----**	**96.5**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**74.2**	**----**	**74.2**	**----**	**72.2**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**114**	**114**	**107**	**110**	**116**
2-Chlorophenol-D4	93951-73-6	0.5	%	**111**	**110**	**105**	**108**	**113**
2.4.6-Tribromophenol	118-79-6	0.5	%	**91.5**	**95.8**	**89.9**	**85.4**	**90.1**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**116**	**116**	**111**	**113**	**119**
Anthracene-d10	1719-06-8	0.5	%	**117**	**120**	**113**	**114**	**124**
4-Terphenyl-d14	1718-51-0	0.5	%	**107**	**108**	**101**	**103**	**113**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**101**	**106**	**106**	**105**	**104**
Toluene-D8	2037-26-5	0.2	%	**102**	**103**	**103**	**105**	**104**
4-Bromofluorobenzene	460-00-4	0.2	%	**104**	**108**	**108**	**109**	**107**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP27_2.0	TP28_1.5	TP29_1.5	TP32_1.5	TP33_1.5
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-028	ES2043211-029	ES2043211-030	ES2043211-031	ES2043211-032
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.8	17.0	15.5	23.0	19.4
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	No	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	No	----	----
Asbestos Type	1332-21-4	-	--	----	----	-	----	----
Sample weight (dry)	----	0.01	g	----	----	50.8	----	----
APPROVED IDENTIFIER:	----	-	--	----	----	A. SMYLIE	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	No	----	----
Organic Fibre	----	0.1	g/kg	----	----	No	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	11	18	<5	10
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	21	12	20	10	16
Copper	7440-50-8	5	mg/kg	21	21	23	18	16
Lead	7439-92-1	5	mg/kg	23	13	26	15	15
Nickel	7440-02-0	2	mg/kg	19	9	16	7	5
Zinc	7440-66-6	5	mg/kg	44	39	55	30	26
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP27_2.0	TP28_1.5	TP29_1.5	TP32_1.5	TP33_1.5
				Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-028	ES2043211-029	ES2043211-030	ES2043211-031	ES2043211-032
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg		<0.2	----	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	<0.05	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP27_2.0	TP28_1.5	TP29_1.5	TP32_1.5	TP33_1.5
				Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-028	ES2043211-029	ES2043211-030	ES2043211-031	ES2043211-032
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP27_2.0	TP28_1.5	TP29_1.5	TP32_1.5	TP33_1.5
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-028	ES2043211-029	ES2043211-030	ES2043211-031	ES2043211-032
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**120**	**----**	**110**	**113**	**----**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**96.4**	**----**	**102**	**93.1**	**----**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**87.8**	**----**	**89.4**	**96.0**	**----**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**113**	**105**	**107**	**112**	**106**
2-Chlorophenol-D4	93951-73-6	0.5	%	**109**	**102**	**104**	**108**	**102**
2.4.6-Tribromophenol	118-79-6	0.5	%	**84.8**	**83.4**	**81.6**	**92.4**	**82.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**119**	**108**	**110**	**117**	**108**
Anthracene-d10	1719-06-8	0.5	%	**120**	**110**	**111**	**120**	**112**
4-Terphenyl-d14	1718-51-0	0.5	%	**110**	**99.2**	**100**	**110**	**100**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**112**	**105**	**108**	**89.3**	**100**
Toluene-D8	2037-26-5	0.2	%	**108**	**106**	**106**	**83.1**	**99.6**
4-Bromofluorobenzene	460-00-4	0.2	%	**114**	**109**	**109**	**83.1**	**103**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC04	TP34_1.0	TP35_1.5	TP36_1.0	TP37_1.0
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-033	ES2043211-034	ES2043211-035	ES2043211-036	ES2043211-037
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.5	18.6	16.8	14.7	18.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	6	7	9	8
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	12	12	16	16
Copper	7440-50-8	5	mg/kg	22	20	21	23	28
Lead	7439-92-1	5	mg/kg	11	18	37	19	13
Nickel	7440-02-0	2	mg/kg	3	9	8	9	9
Zinc	7440-66-6	5	mg/kg	19	27	38	39	33
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC04	TP34_1.0	TP35_1.5	TP36_1.0	TP37_1.0
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-033	ES2043211-034	ES2043211-035	ES2043211-036	ES2043211-037
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC04	TP34_1.0	TP35_1.5	TP36_1.0	TP37_1.0
				Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-033	ES2043211-034	ES2043211-035	ES2043211-036	ES2043211-037
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC04	TP34_1.0	TP35_1.5	TP36_1.0	TP37_1.0
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-033	ES2043211-034	ES2043211-035	ES2043211-036	ES2043211-037
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	99.6	----	120	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	78.1	----	89.4	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	90.1	----	90.4	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	106	100	109	112	114
2-Chlorophenol-D4	93951-73-6	0.5	%	102	96.1	108	110	112
2.4.6-Tribromophenol	118-79-6	0.5	%	86.8	83.0	96.8	96.5	100
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	112	110	117	118	120
Anthracene-d10	1719-06-8	0.5	%	114	110	117	119	124
4-Terphenyl-d14	1718-51-0	0.5	%	101	102	108	109	112
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	97.6	105	97.7	103	105
Toluene-D8	2037-26-5	0.2	%	92.8	102	99.0	98.7	101
4-Bromofluorobenzene	460-00-4	0.2	%	96.4	108	101	104	108

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP38_1.0	TP39_1.0	TP41_1.0	TP43_1.0	TP44_1.0
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-038	ES2043211-039	ES2043211-042	ES2043211-044	ES2043211-045
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.0	18.0	13.3	15.2	12.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	16	6	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	9	10	23	11	13
Copper	7440-50-8	5	mg/kg	43	45	21	23	22
Lead	7439-92-1	5	mg/kg	14	13	23	19	22
Nickel	7440-02-0	2	mg/kg	13	10	9	11	14
Zinc	7440-66-6	5	mg/kg	48	45	46	60	96
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP38_1.0	TP39_1.0	TP41_1.0	TP43_1.0	TP44_1.0
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-038	ES2043211-039	ES2043211-042	ES2043211-044	ES2043211-045
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP38_1.0	TP39_1.0	TP41_1.0	TP43_1.0	TP44_1.0
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-038	ES2043211-039	ES2043211-042	ES2043211-044	ES2043211-045
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP38_1.0	TP39_1.0	TP41_1.0	TP43_1.0	TP44_1.0
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-038	ES2043211-039	ES2043211-042	ES2043211-044	ES2043211-045
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	118	----	111	110	102
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	90.2	----	78.1	88.1	103
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	88.4	----	86.8	93.4	105
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	98.9	98.0	99.0	100	96.8
2-Chlorophenol-D4	93951-73-6	0.5	%	96.4	96.0	96.2	99.3	96.6
2.4.6-Tribromophenol	118-79-6	0.5	%	78.9	80.0	79.3	84.1	80.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	106	106	104	105	104
Anthracene-d10	1719-06-8	0.5	%	107	107	107	109	106
4-Terphenyl-d14	1718-51-0	0.5	%	97.4	97.1	96.8	97.4	96.0
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	78.2	78.2	92.1	77.7	84.3
Toluene-D8	2037-26-5	0.2	%	90.7	92.8	108	95.4	97.7
4-Bromofluorobenzene	460-00-4	0.2	%	89.2	90.9	102	93.8	92.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP45_0.5	TP46_0.5	TP47_0.5	SS01	QC06
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-046	ES2043211-047	ES2043211-048	ES2043211-050	ES2043211-051
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.7	11.2	8.2	7.4	5.4
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	No	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	No	----	----
Asbestos Type	1332-21-4	-	--	----	----	-	----	----
Sample weight (dry)	----	0.01	g	----	----	72.5	----	----
APPROVED IDENTIFIER:	----	-	--	----	----	A. SMYLIE	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	No	----	----
Organic Fibre	----	0.1	g/kg	----	----	No	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	14	14	14	6	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	19	14	14	23	19
Copper	7440-50-8	5	mg/kg	20	20	19	27	28
Lead	7439-92-1	5	mg/kg	26	24	46	14	16
Nickel	7440-02-0	2	mg/kg	10	11	10	24	23
Zinc	7440-66-6	5	mg/kg	57	64	66	36	38
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	0.1	<0.1	0.2	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP45_0.5	TP46_0.5	TP47_0.5	SS01	QC06
				Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-046	ES2043211-047	ES2043211-048	ES2043211-050	ES2043211-051
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP45_0.5	TP46_0.5	TP47_0.5	SS01	QC06
				Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit		ES2043211-046	ES2043211-047	ES2043211-048	ES2043211-050	ES2043211-051
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	**120**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	**120**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	**150**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	**110**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	**260**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP45_0.5	TP46_0.5	TP47_0.5	SS01	QC06
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-046	ES2043211-047	ES2043211-048	ES2043211-050	ES2043211-051
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**101**	**109**	**113**	**124**	**124**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**84.4**	**88.8**	**74.9**	**102**	**97.0**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**95.1**	**97.7**	**85.6**	**106**	**100**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**95.8**	**98.0**	**95.1**	**97.9**	**97.0**
2-Chlorophenol-D4	93951-73-6	0.5	%	**94.4**	**98.2**	**94.8**	**98.2**	**96.0**
2.4.6-Tribromophenol	118-79-6	0.5	%	**79.0**	**82.2**	**81.1**	**80.8**	**83.0**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**101**	**105**	**103**	**105**	**105**
Anthracene-d10	1719-06-8	0.5	%	**103**	**107**	**106**	**109**	**112**
4-Terphenyl-d14	1718-51-0	0.5	%	**93.1**	**96.4**	**96.2**	**97.6**	**101**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**81.5**	**90.1**	**85.3**	**105**	**105**
Toluene-D8	2037-26-5	0.2	%	**97.0**	**106**	**95.6**	**110**	**112**
4-Bromofluorobenzene	460-00-4	0.2	%	**92.0**	**100**	**93.4**	**109**	**104**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS02	SS03	SS04	SS05	SS06
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-052	ES2043211-053	ES2043211-054	ES2043211-055	ES2043211-056
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**2.5**	**1.1**	**2.7**	**2.9**	**8.1**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**6**	<5	**9**	**15**	**7**
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**16**	**13**	**25**	**40**	**20**
Copper	7440-50-8	5	mg/kg	**28**	**48**	**23**	**16**	**17**
Lead	7439-92-1	5	mg/kg	**16**	**13**	**18**	**8**	**16**
Nickel	7440-02-0	2	mg/kg	**18**	**30**	**17**	**31**	**7**
Zinc	7440-66-6	5	mg/kg	**42**	**59**	**44**	**31**	**21**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS02	SS03	SS04	SS05	SS06
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-052	ES2043211-053	ES2043211-054	ES2043211-055	ES2043211-056
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	**0.7**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	**0.9**	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	**1.7**	**0.7**	**0.6**
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	**1.6**	**0.9**	**0.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS02	SS03	SS04	SS05	SS06
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-052	ES2043211-053	ES2043211-054	ES2043211-055	ES2043211-056
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	**0.6**	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	**0.5**	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	**0.7**	**1.1**	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	**0.7**	**1.0**	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	**0.8**	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	**0.5**	**1.4**	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	**7.2**	**6.6**	**1.2**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	**0.8**	**1.2**	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**1.1**	**1.5**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.4**	**1.8**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**110**	**110**	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	**120**	**230**	**100**	**130**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**230**	**340**	**100**	**130**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**180**	**250**	**120**	**150**	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	**170**	<100	**120**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**180**	**420**	**120**	**270**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS02	SS03	SS04	SS05	SS06
			Sampling date / time	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00	01-Dec-2020 00:00
Compound	CAS Number	LOR	Unit	ES2043211-052	ES2043211-053	ES2043211-054	ES2043211-055	ES2043211-056
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	108	110	122	98.8	120
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	81.0	97.4	88.9	90.8	86.8
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	90.4	90.1	95.0	94.0	90.0
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	101	94.4	95.8	100	98.9
2-Chlorophenol-D4	93951-73-6	0.5	%	100	97.0	95.1	98.6	97.3
2.4.6-Tribromophenol	118-79-6	0.5	%	78.9	77.4	79.1	81.8	83.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	106	104	102	104	106
Anthracene-d10	1719-06-8	0.5	%	110	107	105	107	107
4-Terphenyl-d14	1718-51-0	0.5	%	98.5	98.6	94.8	97.3	94.0
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	101	108	92.4	98.1	84.5
Toluene-D8	2037-26-5	0.2	%	112	127	95.7	105	97.5
4-Bromofluorobenzene	460-00-4	0.2	%	113	124	94.9	99.7	93.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP BLANK	TRIP SPIKE - 9	TSC	----	----
				Sampling date / time	26-Nov-2020 00:00	24-Nov-2020 00:00	24-Nov-2020 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2043211-058	ES2043211-059	ES2043211-060	--------	--------
					Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**17.1**	**7.4**	**7.8**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	**----**	**----**	**----**	**----**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	**----**	**----**	**----**	**----**
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	**----**	**----**	**----**	**----**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	**0.3**	**0.4**	**----**	**----**
Toluene	108-88-3	0.5	mg/kg		<0.5	**16.3**	**19.4**	**----**	**----**
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	**2.2**	**2.9**	**----**	**----**
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	**10.9**	**14.3**	**----**	**----**
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	**4.4**	**5.8**	**----**	**----**
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	**34.1**	**42.8**	**----**	**----**
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	**15.3**	**20.1**	**----**	**----**
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.3**	**80.7**	**76.6**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**93.2**	**96.2**	**92.4**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**91.0**	**89.0**	**85.9**	**----**	**----**

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	TP19_1.0 - 30-Nov-2020 00:00	Mid brown soil.
EA200: Description	TP23_1.0 - 01-Dec-2020 00:00	Mid brown soil.
EA200: Description	TP26_2.0 - 01-Dec-2020 00:00	Mid brown soil.
EA200: Description	TP29_1.5 - 01-Dec-2020 00:00	Mid brown soil.
EA200: Description	TP47_0.5 - 01-Dec-2020 00:00	Mid brown soil.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

QUALITY CONTROL REPORT

Work Order	: **ES2043211-AC**	Page	: 1 of 21
Amendment	: **2**		
Client	: **SULLIVAN ENVIRONMENTAL SCIENCES**	Laboratory	: Environmental Division Sydney
Contact	: ADAM SULLIVAN	Contact	: Loren Schiavon
Address	: PO Box 5248 TURRAMURRA NSW 2074	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: SES_585	Date Samples Received	: 04-Dec-2020
Order number	: ----	Date Analysis Commenced	: 05-Dec-2020
C-O-C number	: ----	Issue Date	: 07-May-2021
Sampler	: ADAM SULLIVAN		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 38		
No. of samples analysed	: 38		

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

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

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

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3405772)									
ES2043211-018	TP18_1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	17	7.14	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	11	18.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	9	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	18	21	13.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	19	24	21.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	45	60	28.6	0% - 50%
ES2043211-027	TP26_2.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	20	18	6.14	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	28	25	11.6	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	10	10	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	33	27	22.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	32	27	16.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	50	50	0.00	0% - 50%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3405774)									
ES2043211-037	TP37_1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	14	7.15	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	8	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	6	22.8	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	28	25	9.11	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	14	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	33	32	4.34	No Limit
ES2043211-047	TP46_0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	11	21.3	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3405774) - continued									
ES2043211-047	TP46_0.5	EG005T: Arsenic	7440-38-2	5	mg/kg	14	14	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	20	20	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	19	22.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	64	62	3.97	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3405777)									
ES2043211-019	TP19_1.0	EA055: Moisture Content	----	0.1	%	17.3	16.5	4.63	0% - 50%
ES2043211-030	TP29_1.5	EA055: Moisture Content	----	0.1	%	15.5	15.2	2.02	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3405778)									
ES2043211-039	TP39_1.0	EA055: Moisture Content	----	0.1	%	18.0	17.7	1.76	0% - 50%
ES2043211-050	SS01	EA055: Moisture Content	----	0.1	%	7.4	6.8	8.42	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3410864)									
EM2021677-005	Anonymous	EA055: Moisture Content	----	0.1	%	23.6	23.3	1.18	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3410949)									
EB2031494-050	Anonymous	EA055: Moisture Content	----	0.1	%	4.4	5.2	16.1	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3405773)									
ES2043211-018	TP18_1.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2043211-027	TP26_2.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3405775)									
ES2043211-037	TP37_1.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2043211-047	TP46_0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3403861)									
ES2043211-018	TP18_1.0	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2043211-034	TP34_1.0	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3403865)									
ES2043211-038	TP38_1.0	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2043211-049	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3403860)									
ES2043211-018	TP18_1.0	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3403860) - continued									
ES2043211-018	TP18_1.0	EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2043211-034	TP34_1.0	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3403864)									
ES2043211-038	TP38_1.0	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3403864) - continued									
ES2043211-038	TP38_1.0	EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2043211-049	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3403860)									
ES2043211-018	TP18_1.0	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3403860) - continued									
ES2043211-018	TP18_1.0	EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2043211-034	TP34_1.0	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3403864)									
ES2043211-038	TP38_1.0	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3403864) - continued									
ES2043211-038	TP38_1.0	EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2043211-049	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3403859)									
ES2043211-018	TP18_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	0.5	0.8	45.5	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3403859) - continued									
ES2043211-018	TP18_1.0	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	0.6	0.9	47.3	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	0.6	18.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.5	0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.6	3.3	69.4	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	0.6	0.00	No Limit
ES2043211-034	TP34_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3403863)									
ES2043211-038	TP38_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3403863) - continued									
ES2043211-038	TP38_1.0	EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2043211-049	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.0	0.7	33.7	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	1.8	1.2	42.3	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	1.6	1.2	31.2	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.8	0.6	32.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	0.8	0.6	30.4	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.0	0.7	33.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.8	0.6	27.1	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	7.8	5.6	32.8	0% - 50%
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	1.0	0.7	29.2	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3403656)									
ES2043211-018	TP18_1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2043211-028	TP27_2.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3403858)									
ES2043211-018	TP18_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3403858) - continued									
ES2043211-018	TP18_1.0	EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2043211-034	TP34_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3403862)									
ES2043211-038	TP38_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2043211-049	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3404175)									
ES2043081-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2043211-041	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3404268)									
ES2043115-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2043115-011	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3403656)									
ES2043211-018	TP18_1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2043211-028	TP27_2.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3403858)									
ES2043211-018	TP18_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2043211-034	TP34_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3403862)									
ES2043211-038	TP38_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2043211-049	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	120	100	13.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3404175)									
ES2043081-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2043211-041	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3404268)									
ES2043115-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3404268) - continued									
ES2043115-011	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 3403656)									
ES2043211-018	TP18_1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2043211-028	TP27_2.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 3404175)									
ES2043081-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2043211-041	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 3404268)									
ES2043115-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2043115-011	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 3404268) - continued									
ES2043115-011	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3405772)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	104	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	75.3	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	90.8	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	107	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	104	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	97.1	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.8	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3405774)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	92.8	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	75.3	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	81.3	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	99.3	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	94.1	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	88.4	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	73.5	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3405773)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	99.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3405775)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	83.5	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3403861)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	104	62.0	126
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3403865)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	107	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 3403860)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.5	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	85.4	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.5	63.0	117

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3403860) - continued								
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	77.8	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	78.4	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	81.6	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	77.5	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	83.0	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.2	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	89.3	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	83.1	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	83.2	54.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3403864)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	106	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	107	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	99.0	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	105	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	103	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	99.6	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.5	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	100	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	104	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.3	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	103	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.8	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	102	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	95.1	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3403860)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	77.3	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	82.9	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	67.0	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3403860) - continued								
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	77.9	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	87.4	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.9	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	97.8	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.5	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	76.0	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	77.7	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	76.3	41.0	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3403864)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	87.2	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	104	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	87.8	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	104	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	96.4	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	103	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	105	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	107	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	107	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	106	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	100	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	106	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	41.0	123
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3403859)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	114	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	113	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	108	73.0	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3403859) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	113	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	118	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	123	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	121	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	121	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	108	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	112	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	104	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	109	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	108	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	107	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	109	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	110	63.0	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3403863)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	104	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	101	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	97.7	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	101	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	106	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	111	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	105	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	106	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	94.6	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	98.5	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	91.5	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	98.0	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	93.6	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	92.8	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	93.8	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	93.0	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3403656)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	99.3	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3403858)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	105	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	99.0	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	91.2	71.0	129

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3403862)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	100	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	96.0	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	88.9	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3404175)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	93.2	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3404268)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	106	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3403656)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	98.6	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3403858)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	101	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	97.1	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	79.9	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3403862)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	97.4	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	94.6	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	75.2	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3404175)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	93.3	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3404268)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	107	68.4	128
EP080: BTEXN (QCLot: 3403656)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	102	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	99.4	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	104	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	102	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	63.0	119
EP080: BTEXN (QCLot: 3404175)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	103	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.3	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	94.8	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.0	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.0	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	90.9	63.0	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 3404268)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	109	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	106	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	106	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	104	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	107	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	63.0	119

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3405772)							
ES2043211-018	TP18_1.0	EG005T: Arsenic	7440-38-2	50 mg/kg	97.4	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	100	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	81.3	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	98.7	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	100	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	103	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	97.9	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3405774)							
ES2043211-037	TP37_1.0	EG005T: Arsenic	7440-38-2	50 mg/kg	88.0	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.4	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	74.9	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	94.8	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	94.3	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	91.4	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	92.0	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3405773)							
ES2043211-018	TP18_1.0	EG035T: Mercury	7439-97-6	5 mg/kg	79.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3405775)							
ES2043211-037	TP37_1.0	EG035T: Mercury	7439-97-6	5 mg/kg	80.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3403861)							
ES2043211-018	TP18_1.0	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	99.4	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3403865)							
ES2043211-038	TP38_1.0	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	93.0	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3403860)							
ES2043211-018	TP18_1.0	EP068: gamma-BHC	58-89-9	0.5 mg/kg	86.7	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	89.7	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	92.5	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	83.3	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	96.2	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	80.6	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3403864)							
ES2043211-038	TP38_1.0	EP068: gamma-BHC	58-89-9	0.5 mg/kg	97.4	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	90.5	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	101	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	94.8	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	92.4	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	88.5	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3403860)							
ES2043211-018	TP18_1.0	EP068: Diazinon	333-41-5	0.5 mg/kg	89.6	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	81.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	88.1	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	82.7	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	95.0	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3403864)							
ES2043211-038	TP38_1.0	EP068: Diazinon	333-41-5	0.5 mg/kg	102	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	89.6	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	90.7	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	84.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	92.0	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3403859)							
ES2043211-018	TP18_1.0	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	102	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	114	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3403863)							
ES2043211-038	TP38_1.0	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	92.0	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	96.9	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3403656)							
ES2043211-018	TP18_1.0	EP080: C6 - C9 Fraction	----	32.5 mg/kg	102	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3403858)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3403858) - continued							
ES2043211-018	TP18_1.0	EP071: C10 - C14 Fraction	----	523 mg/kg	92.8	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	112	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	130	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3403862)							
ES2043211-038	TP38_1.0	EP071: C10 - C14 Fraction	----	523 mg/kg	100	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	109	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	118	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3404175)							
ES2043081-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	99.2	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3404268)							
ES2043115-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	120	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3403656)							
ES2043211-018	TP18_1.0	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	101	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3403858)							
ES2043211-018	TP18_1.0	EP071: >C10 - C16 Fraction	----	860 mg/kg	112	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	115	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	128	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3403862)							
ES2043211-038	TP38_1.0	EP071: >C10 - C16 Fraction	----	860 mg/kg	101	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	111	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	113	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3404175)							
ES2043081-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	97.5	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3404268)							
ES2043115-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	116	70.0	130
EP080: BTEXN (QCLot: 3403656)							
ES2043211-018	TP18_1.0	EP080: Benzene	71-43-2	2.5 mg/kg	95.3	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	96.3	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	104	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	101	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	101	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	100	70.0	130
EP080: BTEXN (QCLot: 3404175)							
ES2043081-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	104	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	97.1	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 3404175) - continued							
ES2043081-001	Anonymous	EP080: Ethylbenzene	100-41-4	2.5 mg/kg	98.6	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	96.1	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	97.0	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	102	70.0	130
EP080: BTEXN (QCLot: 3404268)							
ES2043115-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	108	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	113	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	114	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	115	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	114	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	85.8	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2043211**	Page	: 1 of 14
Amendment	: **2**		
Client	: **SULLIVAN ENVIRONMENTAL SCIENCES**	Laboratory	: Environmental Division Sydney
Contact	: ADAM SULLIVAN	Telephone	: +61 2 8784 8555
Project	: SES_585	Date Samples Received	: 04-Dec-2020
Site	: ----	Issue Date	: 07-May-2021
Sampler	: ADAM SULLIVAN	No. of samples received	: 60
Order number	: ----	No. of samples analysed	: 43

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved							
TRIP SPIKE - 9,	TSC	----	----	----	09-Dec-2020	08-Dec-2020	**1**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
TP23_1.0,	TP24_2.0,	**01-Dec-2020**	**----**	----	----	**07-Dec-2020**	15-Dec-2020	✓
TP25_2.0,	TP26_2.0,							
TP27_2.0,	TP28_1.5,							
TP29_1.5,	TP32_1.5,							
TP33_1.5,	QC04,							
TP34_1.0,	TP35_1.5,							
TP36_1.0,	TP37_1.0,							
TP38_1.0,	TP39_1.0,							
TP40_1.0,	QC05,							
TP41_1.0,	TP42_0.5,							
TP43_1.0,	TP44_1.0,							
TP45_0.5,	TP46_0.5,							
TP47_0.5,	TP50_0.5,							
SS01,	QC06,							
SS02,	SS03,							
SS04,	SS05,							
SS06								
Soil Glass Jar - Unpreserved (EA055)								
TRIP SPIKE - 9,	TSC	**24-Nov-2020**	**----**	----	----	**09-Dec-2020**	08-Dec-2020	×
Soil Glass Jar - Unpreserved (EA055)								
TRIP BLANK		**26-Nov-2020**	**----**	----	----	**09-Dec-2020**	10-Dec-2020	✓
Soil Glass Jar - Unpreserved (EA055)								

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C) - Continued							
TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP21_0.5, TP22_2.0	**30-Nov-2020**	**----**	----	----	**07-Dec-2020**	14-Dec-2020	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
TP23_1.0, TP26_2.0, TP29_1.5, TP40_1.0, TP42_0.5, TP47_0.5, TP50_0.5	**01-Dec-2020**	**----**	----	----	**08-Dec-2020**	30-May-2021	✓
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
TP19_1.0	**30-Nov-2020**	**----**	----	----	**08-Dec-2020**	29-May-2021	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
TP23_1.0, TP24_2.0, TP25_2.0, TP26_2.0, TP27_2.0, TP28_1.5, TP29_1.5, TP32_1.5, TP33_1.5, QC04, TP34_1.0, TP35_1.5, TP36_1.0, TP37_1.0, TP38_1.0, TP39_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5, TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	30-May-2021	✓	**09-Dec-2020**	30-May-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP21_0.5, TP22_2.0	**30-Nov-2020**	**07-Dec-2020**	29-May-2021	✓	**09-Dec-2020**	29-May-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
TP23_1.0, TP24_2.0, TP25_2.0, TP26_2.0, TP27_2.0, TP28_1.5, TP29_1.5, TP32_1.5, TP33_1.5, QC04, TP34_1.0, TP35_1.5, TP36_1.0, TP37_1.0, TP38_1.0, TP39_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5, TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	29-Dec-2020	✓	**10-Dec-2020**	29-Dec-2020	✓
Soil Glass Jar - Unpreserved (EG035T)							
TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP21_0.5, TP22_2.0	**30-Nov-2020**	**07-Dec-2020**	28-Dec-2020	✓	**10-Dec-2020**	28-Dec-2020	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
TP24_2.0, TP26_2.0, TP27_2.0, TP29_1.5, TP32_1.5, TP34_1.0, TP36_1.0, TP38_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5, TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**09-Dec-2020**	16-Jan-2021	✓
Soil Glass Jar - Unpreserved (EP066)							
TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP22_2.0	**30-Nov-2020**	**07-Dec-2020**	14-Dec-2020	✓	**09-Dec-2020**	16-Jan-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
TP24_2.0, TP26_2.0, TP27_2.0, TP29_1.5, TP32_1.5, TP34_1.0, TP36_1.0, TP38_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5, TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**09-Dec-2020**	16-Jan-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP22_2.0	**30-Nov-2020**	**07-Dec-2020**	14-Dec-2020	✓	**09-Dec-2020**	16-Jan-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
TP24_2.0, TP26_2.0, TP27_2.0, TP29_1.5, TP32_1.5, TP34_1.0, TP36_1.0, TP38_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5, TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**09-Dec-2020**	16-Jan-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP22_2.0	**30-Nov-2020**	**07-Dec-2020**	14-Dec-2020	✓	**09-Dec-2020**	16-Jan-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP23_1.0, TP24_2.0, TP25_2.0, TP26_2.0, TP27_2.0, TP28_1.5, TP29_1.5, TP32_1.5, TP33_1.5, QC04, TP34_1.0, TP35_1.5, TP36_1.0, TP37_1.0, TP38_1.0, TP39_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5, TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**09-Dec-2020**	16-Jan-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP21_0.5, TP22_2.0	**30-Nov-2020**	**07-Dec-2020**	14-Dec-2020	✓	**09-Dec-2020**	16-Jan-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
TP23_1.0, TP24_2.0, TP25_2.0, TP26_2.0, TP27_2.0, TP28_1.5, TP29_1.5, TP32_1.5, TP33_1.5, QC04, TP34_1.0, TP35_1.5, TP36_1.0, TP37_1.0	**01-Dec-2020**	**05-Dec-2020**	15-Dec-2020	✓	**11-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080)							
TP38_1.0, TP39_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**07-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP071)							
TP23_1.0, TP24_2.0, TP25_2.0, TP26_2.0, TP27_2.0, TP28_1.5, TP29_1.5, TP32_1.5, TP33_1.5, QC04, TP34_1.0, TP35_1.5, TP36_1.0, TP37_1.0, TP38_1.0, TP39_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5, TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**08-Dec-2020**	16-Jan-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**10-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080)							
TRIP BLANK	**26-Nov-2020**	**07-Dec-2020**	10-Dec-2020	✓	**10-Dec-2020**	10-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080)							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons - Continued								
TP18_1.0, TP20_0.5, TP21_0.5,	TP19_1.0, QC03, TP22_2.0	**30-Nov-2020**	**05-Dec-2020**	14-Dec-2020	✓	**11-Dec-2020**	14-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP071)								
TP18_1.0, TP20_0.5, TP21_0.5,	TP19_1.0, QC03, TP22_2.0	**30-Nov-2020**	**07-Dec-2020**	14-Dec-2020	✓	**08-Dec-2020**	16-Jan-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
TP23_1.0, TP24_2.0, TP25_2.0, TP26_2.0, TP27_2.0, TP28_1.5, TP29_1.5, TP32_1.5, TP33_1.5, QC04, TP34_1.0, TP35_1.5, TP36_1.0, TP37_1.0	**01-Dec-2020**	**05-Dec-2020**	15-Dec-2020	✓	**11-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080)							
TP38_1.0, TP39_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**07-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP071)							
TP23_1.0, TP24_2.0, TP25_2.0, TP26_2.0, TP27_2.0, TP28_1.5, TP29_1.5, TP32_1.5, TP33_1.5, QC04, TP34_1.0, TP35_1.5, TP36_1.0, TP37_1.0, TP38_1.0, TP39_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5, TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**08-Dec-2020**	16-Jan-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**10-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080)							
TRIP BLANK	**26-Nov-2020**	**07-Dec-2020**	10-Dec-2020	✓	**10-Dec-2020**	10-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080)							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued							
TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP21_0.5, TP22_2.0	**30-Nov-2020**	**05-Dec-2020**	14-Dec-2020	✓	**11-Dec-2020**	14-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP071) TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP21_0.5, TP22_2.0	**30-Nov-2020**	**07-Dec-2020**	14-Dec-2020	✓	**08-Dec-2020**	16-Jan-2021	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) TP23_1.0, TP24_2.0, TP25_2.0, TP26_2.0, TP27_2.0, TP28_1.5, TP29_1.5, TP32_1.5, TP33_1.5, QC04, TP34_1.0, TP35_1.5, TP36_1.0, TP37_1.0	**01-Dec-2020**	**05-Dec-2020**	15-Dec-2020	✓	**11-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080) TP38_1.0, TP39_1.0, TP40_1.0, QC05, TP41_1.0, TP42_0.5, TP43_1.0, TP44_1.0, TP45_0.5, TP46_0.5, TP47_0.5	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**07-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080) TP50_0.5, SS01, QC06, SS02, SS03, SS04, SS05, SS06	**01-Dec-2020**	**07-Dec-2020**	15-Dec-2020	✓	**10-Dec-2020**	15-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080) TRIP SPIKE - 9, TSC	**24-Nov-2020**	**07-Dec-2020**	08-Dec-2020	✓	**07-Dec-2020**	08-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080) TRIP BLANK	**26-Nov-2020**	**07-Dec-2020**	10-Dec-2020	✓	**10-Dec-2020**	10-Dec-2020	✓
Soil Glass Jar - Unpreserved (EP080) TP18_1.0, TP19_1.0, TP20_0.5, QC03, TP21_0.5, TP22_2.0	**30-Nov-2020**	**05-Dec-2020**	14-Dec-2020	✓	**11-Dec-2020**	14-Dec-2020	✓

Matrix: **SOLID**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **SOLID**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
ACM01	**01-Dec-2020**	**----**	----	----	**08-Dec-2020**	30-May-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	6	59	**10.17**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	4	30	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	4	30	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	6	60	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Asbestos Identification in Bulk Solids	EA200	SOLID	In house: Referenced to AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2043211**		
Client	: **SULLIVAN ENVIRONMENTAL SCIENCES**	Laboratory	: Environmental Division Sydney
Contact	: ADAM SULLIVAN	Contact	: Loren Schiavon
Address	: PO Box 5248 TURRAMURRA NSW 2074	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: adam@sullivan-es.com.au	E-mail	: Loren.Schiavon@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: SES_585	Page	: 1 of 4
Order number	: ----	Quote number	: ES2015SULENV0034 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: ADAM SULLIVAN		

Dates

Date Samples Received	: 04-Dec-2020 18:30	Issue Date	: 05-Dec-2020
Client Requested Due Date	: 11-Dec-2020	Scheduled Reporting Date	: **11-Dec-2020**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 10.2 - Ice present
Receipt Detail	:	No. of samples received / analysed	: 60 / 43

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200G Asbestos Identification in Soils -	SOIL - EP080 BTEXN	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2043211-001	30-Nov-2020 00:00	TP01_2.0	✓						
ES2043211-002	30-Nov-2020 00:00	TP02_1.0	✓						
ES2043211-003	30-Nov-2020 00:00	QC01	✓						
ES2043211-004	30-Nov-2020 00:00	TP03_1.5	✓						
ES2043211-005	30-Nov-2020 00:00	TP04_1.5	✓						
ES2043211-006	30-Nov-2020 00:00	TP05_0.5	✓						
ES2043211-007	30-Nov-2020 00:00	TP06_1.0	✓						
ES2043211-008	30-Nov-2020 00:00	TP07_1.0	✓						
ES2043211-009	30-Nov-2020 00:00	TP08_1.0	✓						
ES2043211-010	30-Nov-2020 00:00	TP09_1.5	✓						
ES2043211-011	30-Nov-2020 00:00	TP10_1.0	✓						
ES2043211-012	30-Nov-2020 00:00	TP11_2.0	✓						
ES2043211-013	30-Nov-2020 00:00	QC02	✓						
ES2043211-014	30-Nov-2020 00:00	TP12_1.5	✓						
ES2043211-015	30-Nov-2020 00:00	TP13_2.0	✓						
ES2043211-016	30-Nov-2020 00:00	TP14_1.5	✓						
ES2043211-017	30-Nov-2020 00:00	TP15_1.0	✓						
ES2043211-018	30-Nov-2020 00:00	TP18_1.0		✓			✓		
ES2043211-019	30-Nov-2020 00:00	TP19_1.0		✓	✓		✓		
ES2043211-020	30-Nov-2020 00:00	TP20_0.5		✓			✓		
ES2043211-021	30-Nov-2020 00:00	QC03		✓			✓		
ES2043211-022	30-Nov-2020 00:00	TP21_0.5		✓					✓
ES2043211-023	30-Nov-2020 00:00	TP22_2.0		✓			✓		
ES2043211-024	01-Dec-2020 00:00	TP23_1.0		✓	✓				✓
ES2043211-025	01-Dec-2020 00:00	TP24_2.0		✓			✓		
ES2043211-026	01-Dec-2020 00:00	TP25_2.0		✓					✓
ES2043211-027	01-Dec-2020 00:00	TP26_2.0		✓	✓		✓		
ES2043211-028	01-Dec-2020 00:00	TP27_2.0		✓			✓		
ES2043211-029	01-Dec-2020 00:00	TP28_1.5		✓					✓
ES2043211-030	01-Dec-2020 00:00	TP29_1.5		✓	✓		✓		
ES2043211-031	01-Dec-2020 00:00	TP32_1.5		✓			✓		
ES2043211-032	01-Dec-2020 00:00	TP33_1.5		✓					✓
ES2043211-033	01-Dec-2020 00:00	QC04		✓					✓
ES2043211-034	01-Dec-2020 00:00	TP34_1.0		✓			✓		
ES2043211-035	01-Dec-2020 00:00	TP35_1.5		✓					✓

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200G Asbestos Identification in Soils -	SOIL - EP080 BTEXN	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2043211-036	01-Dec-2020 00:00	TP36_1.0		✓			✓		
ES2043211-037	01-Dec-2020 00:00	TP37_1.0		✓					✓
ES2043211-038	01-Dec-2020 00:00	TP38_1.0		✓			✓		
ES2043211-039	01-Dec-2020 00:00	TP39_1.0		✓					✓
ES2043211-040	01-Dec-2020 00:00	TP40_1.0		✓	✓		✓		
ES2043211-041	01-Dec-2020 00:00	QC05		✓			✓		
ES2043211-042	01-Dec-2020 00:00	TP41_1.0		✓			✓		
ES2043211-043	01-Dec-2020 00:00	TP42_0.5		✓	✓		✓		
ES2043211-044	01-Dec-2020 00:00	TP43_1.0		✓			✓		
ES2043211-045	01-Dec-2020 00:00	TP44_1.0		✓			✓		
ES2043211-046	01-Dec-2020 00:00	TP45_0.5		✓			✓		
ES2043211-047	01-Dec-2020 00:00	TP46_0.5		✓			✓		
ES2043211-048	01-Dec-2020 00:00	TP47_0.5		✓	✓		✓		
ES2043211-049	01-Dec-2020 00:00	TP50_0.5		✓	✓		✓		
ES2043211-050	01-Dec-2020 00:00	SS01		✓			✓		
ES2043211-051	01-Dec-2020 00:00	QC06		✓			✓		
ES2043211-052	01-Dec-2020 00:00	SS02		✓			✓		
ES2043211-053	01-Dec-2020 00:00	SS03		✓			✓		
ES2043211-054	01-Dec-2020 00:00	SS04		✓			✓		
ES2043211-055	01-Dec-2020 00:00	SS05		✓			✓		
ES2043211-056	01-Dec-2020 00:00	SS06		✓			✓		
ES2043211-057	01-Dec-2020 00:00	ACM01			✓				
ES2043211-058	26-Nov-2020 00:00	TRIP BLANK		✓				✓	
ES2043211-059	24-Nov-2020 00:00	TRIP SPIKE - 9		✓		✓			
ES2043211-060	24-Nov-2020 00:00	TSC		✓		✓			

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ADAM SULLIVAN

- *AU Certificate of Analysis - NATA (COA)	Email	adam@sullivan-es.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	adam@sullivan-es.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	adam@sullivan-es.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	adam@sullivan-es.com.au
- A4 - AU Tax Invoice (INV)	Email	adam@sullivan-es.com.au
- Attachment - Report (SUBCO)	Email	adam@sullivan-es.com.au
- Chain of Custody (CoC) (COC)	Email	adam@sullivan-es.com.au
- EDI Format - ENMRG (ENMRG)	Email	adam@sullivan-es.com.au
- EDI Format - XTab (XTAB)	Email	adam@sullivan-es.com.au

SEAN

- *AU Certificate of Analysis - NATA (COA)	Email	sean@sullivan-es.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sean@sullivan-es.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sean@sullivan-es.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	sean@sullivan-es.com.au
- A4 - AU Tax Invoice (INV)	Email	sean@sullivan-es.com.au
- Attachment - Report (SUBCO)	Email	sean@sullivan-es.com.au
- Chain of Custody (CoC) (COC)	Email	sean@sullivan-es.com.au
- EDI Format - ENMRG (ENMRG)	Email	sean@sullivan-es.com.au
- EDI Format - XTab (XTAB)	Email	sean@sullivan-es.com.au

CHAIN OF CUSTODY FORM

FOR L ILY

FROM: Sullivan Environmental Sciences
PO Box 5248
Turramurra NSW 2074
Ph: 0400 500 264

DATE: 3/12/20

TO: ALS Environmental Smithfield

Email: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Job Code:

Due Date:

Project No: SES_585
Project Manager: A.Sullivan
Agreement No: EN/222/19

Sampler(s): Adam Sullivan
Signature(s):
Checked:

Custody seal intact? YES / NO

Sample cold? YES / NO

Released by:
Date: 3/12/20 Time: 11am

Received by:
Date: 4/12/20 Time: 10:25 / 18:30

Lab identification	Date	Time	Matrix	Sample Number	Comments	Total no	Container Size, Type, Preservative and Analysis: Container Identification						
Size													
Type*													
Preservative Code													
Analytes							S-26	S-13	Asbestos ID	BTEXN	HOLD		
Tick required analytes													
1	3/12/20		Soil	TP01_2.0	+ bag	2					X		
2				TP02_1.0		1					X		
3				QC01		1					X		
4				TP03_1.5		1					X		
5				TP04_1.5	+ Bag	2					X		
6				TP05_0.5		1					X		
7				TP06_1.0		1					X		
8				TP07_1.0	+ Bag	2					X		
9				TP08_1.0		1					X		
10				TP09_1.5		1					X		
11	↓		↓	TP10_1.0	+ Bag	2					X		
12				TP11_2.0		1					X		
					TOTAL	16	0	0	0	0	12		

Remarks:

* Container Type and Preservative Codes: Bottle; VC = Hydrochloric Acid Preserved; ...erved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass ...S = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle

Courier Job No:

Specify Turnaround Time:

Environmental Division Sydney
Work Order Reference
ES2043211

Telephone : +61-2-8784 8555

NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES

CHAIN OF CUSTODY FORM

THIS COLUMN FOR LAB USE ONLY

FROM: Sullivan Environmental Sciences
PO Box 5248
Turramurra NSW 2074
Ph: 0400 500 264

DATE: 3/12/20

TO: ALS Environmental Smithfield

Email: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Job Code:

Due Date:

Project No: SES_585
Project Manager: A.Sullivan
Agreement No: EN/222/19

Sampler(s): Adam Sullivan
Signature(s):
Checked:

Custody seal intact? YES / NO

Sample cold? YES / NO

Released by:
Date: 4/12/20 Time: 11am

Received by:
Date: 4/12/20 Time: 1830

Container Size, Type, Preservative and Analysis

Container Identification

Lab identification	Date	Time	Matrix	Sample Number	Comments	Total no	Tick required analytes						
Size													
Type*													
Preservative Code													
Analytes							S-26	S-13	Asbestos ID	BTEXN	HOLD		
13	30/11/20		Soil	QC02		1					X		
14				TP12_1.5	+ Bag	2					X		
15				TP13_2.0		1					X		
16				TP14_1.5		1					X		
17				TP15_1.0	+ Bag	2					X		
18				TP18_1.0		1	X	X					
19				TP19_1.0	+ Bag	2	X	X	X				
20				TP20_0.5		1	X	X					
21				QC03		1	X	X					
22				TP21_0.5		1	X						
23				TP22_2.0		1	X	X					
24	1/12/20			TP23_1.0	+ Bag	2	X		X				
					TOTAL	16	7	5	2	0	5		

Remarks:

* Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle

Courier Job No:

Specify Turnaround Time:

NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES

CHAIN OF CUSTODY FORM

Sheet 3 of 5

THIS COLUMN FOR LAB USE ONLY	
Job Code:	FROM: Sullivan Environmental Sciences, PO Box 5248, Turramurra NSW 2074
Due Date:	Ph: 0400 500 264

DATE: 3/12/20

TO: ALS Environmental Smithfield

SULLIVAN environmental sciences

Email: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Project No: SES_585
Project Manager: A.Sullivan
Agreement No: EN/222/19

Sampler(s): Adam Sullivan
Signature(s): [signature]
Checked:

Custody seal intact? YES NO
Sample cold? YES NO

Released by: [signature] Date: 4/12/20 Time: 11am

Received by: [illegible] ALS [illegible] Date: 4/12/20 Time: 1830

Container Size, Type, Preservative and Analysis — Container Identification

							Size							
							Type*							
							Preservative Code							
							Analytes	S-26	S-13	Asbestos ID	BTEXN	HOLD		
Lab identification	**Date**	**Time**	**Matrix**	**Sample Number**	**Comments**		**Total no**	**Tick required analytes**						
25	1/12/20		Soil	TP24_2.0			1	X	X					
26	↓		↓	TP25_2.0			1	X						
27				TP26_2.0	+ Bag		2	X	X	X				
28				TP27_2.0			1	X	X					
29				TP28_1.5			1	X						
30				TP29_1.5	+ Bag		2	X	X	X				
31				TP32_1.5			1	X	X					
32				TP33_1.5			1	X						
33				QC04			1	X						
34				TP34_1.0			1	X	X					
35				TP35_1.5			1	X						
36				TP36_1.0			1	X	X					
Remarks:						TOTAL	14	12	7	2	0	0		

* Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle

Courier Job No:

Specify Turnaround Time:

NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES

CHAIN OF CUSTODY FORM

THIS COLUMN FOR LAB USE ONLY	
Job Code:	
Due Date:	
Custody seal intact? YES / NO	
Sample cold? YES / NO	

FROM: Sullivan Environmental Sciences
PO Box 5248
Turramurra NSW 2074
Ph: 0400 500 264
Email: adam@sullivan-es.com.au and sean@sullivan-es.com.au

DATE: 3/12/20

TO: ALS Environmental Smithfield

SULLIVAN environmental sciences

Project No: SES_585
Project Manager: A.Sullivan
Agreement No: EN/222/18

Sampler(s): Adam Sullivan
Signature(s): [signature]
Checked:

Released by: [signature]
Date: 4/12/20 Time: 11am

Received by: [signature] SCOTT / ALS
Date: 4/12/20 Time: 1830 1026

Container Size, Type, Preservative and Analysis

	Container Identification						
Size							
Type*							
Preservative Code							
Analytes	S-26	S-13	Asbestos ID	BTEXN	HOLD		

Lab identification	Date	Time	Matrix	Sample Number	Comments	Total no	S-26	S-13	Asbestos ID	BTEXN	HOLD		
37	1/12/20		Soil	TP37_1.0		1	X						
38	↓		↓	TP38_1.0		1	X	X					
39	↓		↓	TP39_1.0		1	X						
40	↓		↓	TP40_1.0	+ Bag	2	X	X	X				
41	↓		↓	QC05		1	X	X					
42	↓		↓	TP41_1.0		1	X	X					
43	↓		↓	TP42_0.5	+ Bag	2	X	X	X				
44	↓		↓	TP43_1.0		1	X	X					
45	↓		↓	TP44_1.0		1	X	X					
46	↓		↓	TP45_0.5		1	X	X					
47	↓		↓	TP46_0.5		1	X	X					
48	↓		↓	TP47_0.5	+ Bag	2	X	X	X				
Remarks:					TOTAL	15	12	10	3	0	0		

* Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle

Courier Job No:

Specify Turnaround Time:

NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES

CHAIN OF CUSTODY FORM

THIS COLUMN FOR LAB USE ONLY

FROM: Sullivan Environmental Sciences
PO Box 5248
Turramurra NSW 2074
Ph: 0400 500 264

DATE: 3/12/20

TO: ALS Environmental Smithfield

Email: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Job Code:

Due Date:

Project No: SES_585
Project Manager: A.Sullivan
Agreement No: EN/222/19

Sampler(s): Adam Sullivan
Signature(s):
Checked:

Custody seal intact? YES / NO
Sample cold? YES / NO

Released by:
Date: 4/12/20 Time: 11am

Received by:
Date: 4/12/20 Time: 1830

Container Size, Type, Preservative and Analysis

	Container Identification						
Size							
Type*							
Preservative Code							
Analytes	S-26	S-13	Asbestos ID	BTEX	TPH		

Lab identification	Date	Time	Matrix	Sample Number	Comments	Total no	Tick required analytes						
49	1/12/20		soil	TP50_0.5	+ Bag	2	X	X	X				
50				SS01		1	X	X					
51				QC06			X	X					
52				SS02			X	X					
53				SS03			X	X					
54				SS04			X	X					
55				SS05			X	X					
56				SS06			X	X					
57			Bulk	ACM01					X				
58			soil	TMP Blank						X			
59			"	TMP Spike - 9						X			
~~60~~													
					TOTAL	13	8	8	2	2	0		

Remarks:

* Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle

Courier Job No:

Specify Turnaround Time:

NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2115170**	Page	: 1 of 28
Client	: **SULLIVAN ENVIRONMENTAL SCIENCES**	Laboratory	: Environmental Division Sydney
Contact	: ADAM SULLIVAN	Contact	: Loren Schiavon
Address	: PO Box 5248 TURRAMURRA NSW 2074	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: SES_585	Date Samples Received	: 23-Apr-2021 12:50
Order number	: ----	Date Analysis Commenced	: 27-Apr-2021
C-O-C number	: ----	Issue Date	: 04-May-2021 18:02
Sampler	: A. SULLIVAN		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 29		
No. of samples analysed	: 29		

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

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Aleksandar Vujkovic	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP071: Results of sample SS10_0.0-0.2 have been confirmed by re-extraction and re-analysis.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS07A	SS08_0.2-0.3	SS09_0.1-0.2	Z01	SS10_0.0-0.2
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-001	ES2115170-002	ES2115170-003	ES2115170-004	ES2115170-005
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	4.0	----	----	----	----
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	5.0	----	----	----	----
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	269	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	17.8	----	----	----	----
Moisture Content	----	1.0	%	----	18.9	13.8	15.1	5.7
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	56	----	----	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	2.54	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	----	----	No
Asbestos Type	1332-21-4	-	--	----	----	----	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	----	----	No
Organic Fibre	----	0.1	g/kg	----	----	----	----	No
Sample weight (dry)	----	0.01	g	----	----	----	----	62.6
APPROVED IDENTIFIER:	----	-	--	----	----	----	----	A. SMYLIE
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	0.6	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	10.8	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	0.1	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	3.7	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	16.4	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Iron	7439-89-6	0.005	%	2.10	----	----	----	----
Arsenic	7440-38-2	5	mg/kg	<5	5	9	5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	10	15	11	8	18
Copper	7440-50-8	5	mg/kg	13	14	17	11	15
Lead	7439-92-1	5	mg/kg	8	16	10	8	12
Nickel	7440-02-0	2	mg/kg	<2	3	14	17	19

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS07A	SS08_0.2-0.3	SS09_0.1-0.2	Z01	SS10_0.0-0.2
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-001	ES2115170-002	ES2115170-003	ES2115170-004	ES2115170-005
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		9	12	45	63	27
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP004: Organic Matter									
Organic Matter	----	0.5	%		0.5	----	----	----	----
Total Organic Carbon	----	0.5	%		<0.5	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	<0.1	<0.1	<0.1	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS07A	SS08_0.2-0.3	SS09_0.1-0.2	Z01	SS10_0.0-0.2
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-001	ES2115170-002	ES2115170-003	ES2115170-004	ES2115170-005
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	<0.05	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**0.5**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**1.4**
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**0.6**
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**1.8**
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**1.8**
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**0.7**
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**0.7**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**1.2**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**0.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS07A	SS08_0.2-0.3	SS09_0.1-0.2	Z01	SS10_0.0-0.2
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-001	ES2115170-002	ES2115170-003	ES2115170-004	ES2115170-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.2**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**0.9**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.5**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**12.8**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.6**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**1.8**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**2.0**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	**110**
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	**140**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	**250**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	**190**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	**150**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	**340**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS07A	SS08_0.2-0.3	SS09_0.1-0.2	Z01	SS10_0.0-0.2
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-001	ES2115170-002	ES2115170-003	ES2115170-004	ES2115170-005
					Result	Result	Result	Result	Result
EP066S: PCB Surrogate - Continued									
Decachlorobiphenyl	2051-24-3	0.1	%		----	84.5	83.2	81.7	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	119	85.8	89.1	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	104	92.5	91.9	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		84.8	91.2	81.7	85.5	83.9
2-Chlorophenol-D4	93951-73-6	0.5	%		84.0	90.0	81.6	85.5	83.1
2.4.6-Tribromophenol	118-79-6	0.5	%		79.7	84.7	86.5	86.8	85.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		94.2	103	96.8	100	101
Anthracene-d10	1719-06-8	0.5	%		99.5	108	103	104	102
4-Terphenyl-d14	1718-51-0	0.5	%		101	108	94.8	95.5	94.0
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		76.2	89.4	98.6	100	92.5
Toluene-D8	2037-26-5	0.2	%		75.6	88.6	100	102	95.8
4-Bromofluorobenzene	460-00-4	0.2	%		85.9	97.2	111	93.1	93.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS11_0.1-0.3	SS12_0.0-0.1	SS13_0.05-0.2	SS14_0.0-0.2	SS15_0.0-0.1
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-006	ES2115170-007	ES2115170-008	ES2115170-009	ES2115170-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.9	12.3	12.2	16.1	15.7
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----
Organic Fibre	----	0.1	g/kg	No	----	----	----	----
Sample weight (dry)	----	0.01	g	53.0	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	5	<5	9	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	18	14	14	13	14
Copper	7440-50-8	5	mg/kg	13	13	16	15	29
Lead	7439-92-1	5	mg/kg	22	12	22	16	38
Nickel	7440-02-0	2	mg/kg	3	3	7	4	11
Zinc	7440-66-6	5	mg/kg	17	14	26	24	57
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS11_0.1-0.3	SS12_0.0-0.1	SS13_0.05-0.2	SS14_0.0-0.2	SS15_0.0-0.1
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-006	ES2115170-007	ES2115170-008	ES2115170-009	ES2115170-010
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	<0.05	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS11_0.1-0.3	SS12_0.0-0.1	SS13_0.05-0.2	SS14_0.0-0.2	SS15_0.0-0.1
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-006	ES2115170-007	ES2115170-008	ES2115170-009	ES2115170-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS11_0.1-0.3	SS12_0.0-0.1	SS13_0.05-0.2	SS14_0.0-0.2	SS15_0.0-0.1
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-006	ES2115170-007	ES2115170-008	ES2115170-009	ES2115170-010
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**101**	**----**	**86.5**	**----**	**----**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**108**	**----**	**92.8**	**----**	**----**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**109**	**----**	**98.7**	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**82.7**	**83.0**	**83.2**	**85.1**	**87.5**
2-Chlorophenol-D4	93951-73-6	0.5	%	**81.7**	**83.0**	**82.1**	**83.2**	**85.2**
2.4.6-Tribromophenol	118-79-6	0.5	%	**87.1**	**89.7**	**87.1**	**87.2**	**93.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**95.1**	**96.4**	**97.1**	**99.9**	**99.6**
Anthracene-d10	1719-06-8	0.5	%	**100**	**102**	**102**	**104**	**105**
4-Terphenyl-d14	1718-51-0	0.5	%	**94.5**	**95.4**	**93.9**	**96.6**	**96.3**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**98.6**	**92.6**	**93.3**	**88.7**	**101**
Toluene-D8	2037-26-5	0.2	%	**103**	**95.5**	**93.6**	**108**	**103**
4-Bromofluorobenzene	460-00-4	0.2	%	**104**	**103**	**104**	**109**	**86.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS16_0.0-0.1	SS17_0.0-0.1	COMP01	COMP02	COMP03
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-011	ES2115170-012	ES2115170-013	ES2115170-014	ES2115170-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	12.7	15.2	9.3	12.8	18.6
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----
Organic Fibre	----	0.1	g/kg	No	----	----	----	----
Sample weight (dry)	----	0.01	g	424	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	<5	5	5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	11	12	17	12
Copper	7440-50-8	5	mg/kg	20	14	15	18	25
Lead	7439-92-1	5	mg/kg	18	16	15	54	40
Nickel	7440-02-0	2	mg/kg	9	7	10	7	9
Zinc	7440-66-6	5	mg/kg	169	25	36	44	55
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	----	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS16_0.0-0.1	SS17_0.0-0.1	COMP01	COMP02	COMP03
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-011	ES2115170-012	ES2115170-013	ES2115170-014	ES2115170-015
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS16_0.0-0.1	SS17_0.0-0.1	COMP01	COMP02	COMP03
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-011	ES2115170-012	ES2115170-013	ES2115170-014	ES2115170-015
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS16_0.0-0.1	SS17_0.0-0.1	COMP01	COMP02	COMP03
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-011	ES2115170-012	ES2115170-013	ES2115170-014	ES2115170-015
					Result	Result	Result	Result	Result
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	102	79.7	93.5
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	91.2	81.2	97.9
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		89.7	86.7	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		87.2	85.5	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		93.4	88.9	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		103	100.0	----	----	----
Anthracene-d10	1719-06-8	0.5	%		108	104	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		98.9	95.6	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		101	98.0	----	----	----
Toluene-D8	2037-26-5	0.2	%		120	130	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		114	107	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP53_0.5-0.6	Z02	TP54_0.5-0.6	TP55_0.3-0.4	TP58_0.1-0.2
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-016	ES2115170-017	ES2115170-018	ES2115170-019	ES2115170-020
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		14.7	15.0	21.2	15.7	19.6
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	10	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		16	11	14	10	14
Copper	7440-50-8	5	mg/kg		13	20	23	50	29
Lead	7439-92-1	5	mg/kg		14	10	18	6	26
Nickel	7440-02-0	2	mg/kg		9	14	13	55	11
Zinc	7440-66-6	5	mg/kg		30	53	36	36	83
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	----	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP53_0.5-0.6	Z02	TP54_0.5-0.6	TP55_0.3-0.4	TP58_0.1-0.2
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-016	ES2115170-017	ES2115170-018	ES2115170-019	ES2115170-020
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP53_0.5-0.6	Z02	TP54_0.5-0.6	TP55_0.3-0.4	TP58_0.1-0.2
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-016	ES2115170-017	ES2115170-018	ES2115170-019	ES2115170-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP53_0.5-0.6	Z02	TP54_0.5-0.6	TP55_0.3-0.4	TP58_0.1-0.2
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-016	ES2115170-017	ES2115170-018	ES2115170-019	ES2115170-020
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		71.2	86.6	----	89.1	86.1
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		73.9	95.3	----	99.8	95.4
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		69.4	91.5	----	95.4	99.1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		86.0	90.6	91.8	85.3	88.1
2-Chlorophenol-D4	93951-73-6	0.5	%		84.8	87.0	89.8	83.6	85.2
2.4.6-Tribromophenol	118-79-6	0.5	%		88.5	86.9	92.5	84.3	87.2
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		100	98.8	105	99.2	99.7
Anthracene-d10	1719-06-8	0.5	%		105	104	110	103	101
4-Terphenyl-d14	1718-51-0	0.5	%		95.6	94.2	100	94.0	94.6
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		99.7	113	99.2	77.2	102
Toluene-D8	2037-26-5	0.2	%		104	73.4	114	85.9	85.4
4-Bromofluorobenzene	460-00-4	0.2	%		105	102	87.6	86.6	86.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP61_0.2-0.3	TP62_0.3-0.4	TP63_0.5-0.6	TP64_0.5-0.6	TP67_0.5-0.6
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-021	ES2115170-022	ES2115170-023	ES2115170-024	ES2115170-025
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**16.6**	**15.3**	**17.4**	**22.2**	**17.9**
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	**6**	**7**	**11**	**5**
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		**12**	**18**	**8**	**20**	**8**
Copper	7440-50-8	5	mg/kg		**17**	**11**	**33**	**8**	**15**
Lead	7439-92-1	5	mg/kg		**13**	**20**	**22**	**22**	**9**
Nickel	7440-02-0	2	mg/kg		**5**	<2	**22**	<2	**7**
Zinc	7440-66-6	5	mg/kg		**27**	**13**	**92**	**18**	**24**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP61_0.2-0.3	TP62_0.3-0.4	TP63_0.5-0.6	TP64_0.5-0.6	TP67_0.5-0.6
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-021	ES2115170-022	ES2115170-023	ES2115170-024	ES2115170-025
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP61_0.2-0.3	TP62_0.3-0.4	TP63_0.5-0.6	TP64_0.5-0.6	TP67_0.5-0.6
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2115170-021	ES2115170-022	ES2115170-023	ES2115170-024	ES2115170-025
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP61_0.2-0.3	TP62_0.3-0.4	TP63_0.5-0.6	TP64_0.5-0.6	TP67_0.5-0.6
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2115170-021	ES2115170-022	ES2115170-023	ES2115170-024	ES2115170-025
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	99.6	90.9	88.8	82.9
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	117	98.6	95.0	92.3
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	114	96.5	95.8	93.9
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	87.9	94.5	84.7	83.0	87.0
2-Chlorophenol-D4	93951-73-6	0.5	%	89.3	95.7	86.4	87.9	89.7
2.4.6-Tribromophenol	118-79-6	0.5	%	59.5	70.8	58.2	64.7	67.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	101	98.5	96.7	99.1	101
Anthracene-d10	1719-06-8	0.5	%	101	107	95.8	100	104
4-Terphenyl-d14	1718-51-0	0.5	%	101	108	97.1	100	103
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	104	101	103	93.8	88.6
Toluene-D8	2037-26-5	0.2	%	124	103	82.1	92.4	85.4
4-Bromofluorobenzene	460-00-4	0.2	%	111	104	102	93.2	85.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	Z03	TP68_0.3-0.4	TP70_0.2-0.3	TP71_0.2-0.3	----
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	----
Compound	CAS Number	LOR	Unit	ES2115170-026	ES2115170-027	ES2115170-028	ES2115170-029	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.8	10.0	13.6	12.6	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	13	6	8	20	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	16	41	23	48	----
Copper	7440-50-8	5	mg/kg	22	15	12	27	----
Lead	7439-92-1	5	mg/kg	42	12	14	16	----
Nickel	7440-02-0	2	mg/kg	9	11	5	17	----
Zinc	7440-66-6	5	mg/kg	40	14	16	36	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	Z03	TP68_0.3-0.4	TP70_0.2-0.3	TP71_0.2-0.3	----
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	----
Compound	CAS Number	LOR	Unit	ES2115170-026	ES2115170-027	ES2115170-028	ES2115170-029	--------
				Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	Z03	TP68_0.3-0.4	TP70_0.2-0.3	TP71_0.2-0.3	----
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	----
Compound	CAS Number	LOR	Unit		ES2115170-026	ES2115170-027	ES2115170-028	ES2115170-029	--------
					Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	Z03	TP68_0.3-0.4	TP70_0.2-0.3	TP71_0.2-0.3	----
			Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	----
Compound	CAS Number	LOR	Unit	ES2115170-026	ES2115170-027	ES2115170-028	ES2115170-029	--------
				Result	Result	Result	Result	----
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	85.1	90.1	102	93.7	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	91.9	100	112	99.4	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	88.3	95.2	108	101	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	89.6	87.0	84.2	82.5	----
2-Chlorophenol-D4	93951-73-6	0.5	%	85.6	82.2	88.8	88.8	----
2.4.6-Tribromophenol	118-79-6	0.5	%	56.2	57.2	56.9	57.3	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	99.2	94.9	101	102	----
Anthracene-d10	1719-06-8	0.5	%	102	97.2	101	104	----
4-Terphenyl-d14	1718-51-0	0.5	%	103	97.6	101	102	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	81.7	83.0	90.1	99.8	----
Toluene-D8	2037-26-5	0.2	%	79.4	82.6	87.3	110	----
4-Bromofluorobenzene	460-00-4	0.2	%	80.0	79.5	87.1	107	----

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	SS16_0.0-0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	SS10_0.0-0.2 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	SS11_0.1-0.3 - 20-Apr-2021 00:00	Mid brown soil.

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

(SOIL) EA150: Soil Classification based on Particle Size

(SOIL) EA152: Soil Particle Density

QUALITY CONTROL REPORT

Work Order	: **ES2115170**	Page	: 1 of 23
Client	: **SULLIVAN ENVIRONMENTAL SCIENCES**	Laboratory	: Environmental Division Sydney
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Project	: SES_585	Date Samples Received	: 23-Apr-2021
Order number	: ----	Date Analysis Commenced	: 27-Apr-2021
C-O-C number	: ----	Issue Date	: 04-May-2021
Sampler	: A. SULLIVAN		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 29		
No. of samples analysed	: 29		

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

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

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

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Aleksandar Vujkovic	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3649230)									
EB2111396-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	41	44	6.79	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	23	25	5.86	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	34	36	7.38	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	28	30	7.70	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	106	109	2.06	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	36600	36100	1.39	0% - 20%
ES2115147-055	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	12	42.8	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	14	15	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	8	33.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	58	83	35.6	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	44	62	33.9	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	115	99	15.2	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	31000	26000	17.6	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3649232)									
ES2115170-006	SS11_0.1-0.3	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	19	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	3	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	6	16.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	11	15.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	22	15	35.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	12	29.5	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	33000	31300	5.43	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3649232) - continued									
ES2115170-016	TP53_0.5-0.6	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	12	27.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	10	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	9	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	16	19.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	14	11	25.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	30	37	22.9	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3649270)									
ES2115170-026	Z03	EG005T: Chromium	7440-47-3	2	mg/kg	16	15	8.27	No Limit
ES2115170-026	Z03	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	13	33.2	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	10	23.5	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	22	20	10.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	42	45	8.09	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	40	50	22.2	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	37200	33900	9.25	0% - 20%
ES2115178-025	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	33	38	14.0	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	13	12	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	6	18.2	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	10	16.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	14	14	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	22	20	10.1	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	31400	30800	1.81	0% - 20%
EA001: pH in soil using 0.01M CaCl extract (QC Lot: 3645201)									
ES2115226-001	Anonymous	EA001: pH (CaCl2)	----	0.1	pH Unit	5.5	5.4	2.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 3643857)									
ES2114838-009	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.4	8.3	1.32	0% - 20%
ES2114838-041	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.1	8.0	0.00	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 3643856)									
ES2114838-009	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	172	196	13.5	0% - 20%
ES2114838-041	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	569	613	7.44	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3643860)									
ES2114838-009	Anonymous	EA055: Moisture Content	----	0.1	%	23.4	23.9	2.18	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3649234)									
ES2115147-044	Anonymous	EA055: Moisture Content	----	0.1	%	5.2	5.0	4.16	No Limit
ES2115147-058	Anonymous	EA055: Moisture Content	----	0.1	%	14.5	14.8	1.97	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3649235)									
ES2115170-009	SS14_0.0-0.2	EA055: Moisture Content	----	0.1	%	16.1	15.8	2.06	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3649235) - continued									
ES2115170-020	TP58_0.1-0.2	EA055: Moisture Content	----	0.1	%	19.6	20.2	3.27	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3649274)									
ES2115170-028	TP70_0.2-0.3	EA055: Moisture Content	----	0.1	%	13.6	14.3	4.87	0% - 50%
ES2115178-031	Anonymous	EA055: Moisture Content	----	0.1	%	9.5	10.8	12.5	0% - 50%
ED007: Exchangeable Cations (QC Lot: 3650385)									
ES2114712-001	Anonymous	ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	0.7	0.7	0.00	No Limit
		ED007: Exchangeable Potassium	----	0.1	meq/100g	0.1	0.1	0.00	No Limit
		ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED007: Cation Exchange Capacity	----	0.1	meq/100g	0.9	0.9	0.00	No Limit
EW2101861-002	Anonymous	ED007: Exchangeable Calcium	----	0.1	meq/100g	3.1	3.0	0.00	0% - 20%
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	5.0	5.1	0.00	0% - 20%
		ED007: Exchangeable Potassium	----	0.1	meq/100g	1.4	1.4	0.00	0% - 50%
		ED007: Exchangeable Sodium	----	0.1	meq/100g	1.2	1.2	0.00	0% - 50%
		ED007: Cation Exchange Capacity	----	0.1	meq/100g	10.6	10.7	0.00	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3649231)									
EB2111396-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.3	0.00	No Limit
ES2115147-055	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3649233)									
ES2115170-006	SS11_0.1-0.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2115170-016	TP53_0.5-0.6	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3649271)									
ES2115170-026	Z03	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2115178-025	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP004: Organic Matter (QC Lot: 3649725)									
ES2115170-001	SS07A	EP004: Organic Matter	----	0.5	%	0.5	0.6	0.00	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.00	No Limit
ES2115471-008	Anonymous	EP004: Organic Matter	----	0.5	%	10.7	11.1	3.66	0% - 20%
		EP004: Total Organic Carbon	----	0.5	%	6.2	6.4	3.61	0% - 50%
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3642727)									
ES2115170-002	SS08_0.2-0.3	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3642765)									
ES2115170-022	TP62_0.3-0.4	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2115221-004	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3642726)									
ES2115170-019	TP55_0.3-0.4	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3642726) - continued									
ES2115170-019	TP55_0.3-0.4	EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2115170-002	SS08_0.2-0.3	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3642764)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3642764) - continued									
ES2115170-022	TP62_0.3-0.4	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2115221-004	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3642764) - continued									
ES2115221-004	Anonymous	EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3642726)									
ES2115170-019	TP55_0.3-0.4	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2115170-002	SS08_0.2-0.3	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3642726) - continued									
ES2115170-002	SS08_0.2-0.3	EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3642764)									
ES2115170-022	TP62_0.3-0.4	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2115221-004	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3642724)									
ES2115170-019	TP55_0.3-0.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2115170-002	SS08_0.2-0.3	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3642762)									
ES2115170-022	TP62_0.3-0.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2115221-004	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3642725)									
ES2115170-019	TP55_0.3-0.4	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2115170-002	SS08_0.2-0.3	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3642763)									
ES2115170-022	TP62_0.3-0.4	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2115221-004	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3647085)									
ES2115170-001	SS07A	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2115170-011	SS16_0.0-0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3648355)									
ES2115133-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2115133-022	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3648369)									
ES2115234-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2115234-024	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3642725)									
ES2115170-019	TP55_0.3-0.4	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2115170-002	SS08_0.2-0.3	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3642763)									
ES2115170-022	TP62_0.3-0.4	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2115221-004	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3647085)									
ES2115170-001	SS07A	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2115170-011	SS16_0.0-0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3648355)									
ES2115133-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2115133-022	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3648369)									
ES2115234-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2115234-024	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 3647085)									
ES2115170-001	SS07A	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2115170-011	SS16_0.0-0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 3648355)									
ES2115133-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2115133-022	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 3648369)									
ES2115234-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 3648369) - continued									
ES2115234-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2115234-024	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3649230)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	98 mg/kg	102	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	91.5	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	88.1	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	96.4	89.0	111
EG005T: Iron	7439-89-6	50	mg/kg	<50	31660 mg/kg	96.6	89.0	112
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	90.3	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	86.5	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	79.4	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3649232)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	98 mg/kg	94.2	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	92.0	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	80.6	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	96.0	89.0	111
EG005T: Iron	7439-89-6	50	mg/kg	<50	31660 mg/kg	89.4	89.0	112
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	84.2	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	80.6	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	76.7	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3649270)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	88.6	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	75.2	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	97.2	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	99.3	89.0	111
EG005T: Iron	7439-89-6	50	mg/kg	<50	31660 mg/kg	104	89.0	112
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	90.0	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	88.6	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	85.4	66.0	133
EA010: Conductivity (1:5) (QCLot: 3643856)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	99.1	92.0	108
ED007: Exchangeable Cations (QCLot: 3650385)								
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	106	75.8	120
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	94.6	74.9	115
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	96.1	80.0	120
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	100	80.0	120
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3649231)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	114	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3649233)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	113	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3649271)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	117	70.0	130
EP004: Organic Matter (QCLot: 3649725)								
EP004: Organic Matter	----	0.5	%	<0.5	2.53 %	85.0	82.0	98.0
EP004: Total Organic Carbon	----	0.5	%	<0.5	1.46 %	85.6	81.0	99.0
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3642727)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	80.1	62.0	126
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3642765)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	91.1	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 3642726)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	93.8	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.5	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.1	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	98.6	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	98.7	54.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3642764)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.9	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	100	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	67.0	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3642764) - continued								
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.1	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	96.8	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	105	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	103	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	104	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	105	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3642726)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.4	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	90.7	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	87.0	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.4	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	41.0	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3642764)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3642764) - continued								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	101	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	97.5	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	107	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	99.3	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	104	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	103	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	93.8	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	104	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.4	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	100	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	105	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	107	41.0	123
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3642724)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	96.5	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	95.9	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	87.0	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	94.8	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	98.4	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	98.8	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	95.1	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	96.1	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	91.0	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	95.4	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	91.6	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	91.2	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	92.0	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	74.8	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	76.2	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	72.2	63.0	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3642762)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	97.0	77.0	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3642762) - continued								
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	96.6	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	99.4	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	99.0	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	95.1	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	93.0	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	91.6	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	90.5	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	94.8	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	97.0	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	92.7	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	93.4	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	91.5	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	78.6	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	73.8	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	88.3	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3642725)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	102	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	108	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	102	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3642763)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	104	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	99.0	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	92.2	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3647085)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	80.2	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3648355)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	118	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3648369)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	101	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3642725)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	101	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	107	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	86.8	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3642763)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	99.9	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	97.9	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	86.9	63.0	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3647085)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	78.4	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3648355)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	119	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3648369)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	105	68.4	128
EP080: BTEXN (QCLot: 3647085)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	90.4	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	93.2	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	86.2	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	85.9	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	79.6	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	94.0	63.0	119
EP080: BTEXN (QCLot: 3648355)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	116	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	111	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	110	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	111	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	111	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	63.0	119
EP080: BTEXN (QCLot: 3648369)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	108	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	109	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	110	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	104	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	107	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	63.0	119

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3649230)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3649230) - continued							
EB2111396-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	83.5	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	89.5	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	98.0	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	94.4	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	92.2	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.3	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	91.3	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3649232)							
ES2115170-006	SS11_0.1-0.3	EG005T: Arsenic	7440-38-2	50 mg/kg	92.2	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.1	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	98.1	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	97.1	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	94.9	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	101	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	92.5	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3649270)							
ES2115170-026	Z03	EG005T: Arsenic	7440-38-2	50 mg/kg	102	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.3	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	92.0	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	100	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.3	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.5	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	97.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3649231)							
EB2111396-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	80.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3649233)							
ES2115170-006	SS11_0.1-0.3	EG035T: Mercury	7439-97-6	5 mg/kg	83.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3649271)							
ES2115170-026	Z03	EG035T: Mercury	7439-97-6	5 mg/kg	73.2	70.0	130
EP004: Organic Matter (QCLot: 3649725)							
ES2115170-001	SS07A	EP004: Organic Matter	----	0.94 %	76.2	70.0	130
		EP004: Total Organic Carbon	----	0.55 %	74.7	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3642727)							
ES2115170-002	SS08_0.2-0.3	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	99.5	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3642765)							
ES2115170-022	TP62_0.3-0.4	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	103	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3642726)							
ES2115170-002	SS08_0.2-0.3	EP068: gamma-BHC	58-89-9	0.5 mg/kg	97.1	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	78.7	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	85.4	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	86.2	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	84.1	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	82.2	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3642764)							
ES2115170-022	TP62_0.3-0.4	EP068: gamma-BHC	58-89-9	0.5 mg/kg	95.9	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	83.4	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	87.0	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	85.0	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	84.6	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	83.5	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3642726)							
ES2115170-002	SS08_0.2-0.3	EP068: Diazinon	333-41-5	0.5 mg/kg	93.7	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	88.0	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	74.4	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	76.5	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	105	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3642764)							
ES2115170-022	TP62_0.3-0.4	EP068: Diazinon	333-41-5	0.5 mg/kg	92.7	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	83.7	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	81.9	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	85.6	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	102	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3642724)							
ES2115170-002	SS08_0.2-0.3	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	84.1	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	91.6	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3642762)							
ES2115170-022	TP62_0.3-0.4	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	84.7	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	85.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3642725)							
ES2115170-002	SS08_0.2-0.3	EP071: C10 - C14 Fraction	----	523 mg/kg	101	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	120	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	96.4	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3642763)							
ES2115170-022	TP62_0.3-0.4	EP071: C10 - C14 Fraction	----	523 mg/kg	94.9	73.0	137

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3642763) - continued							
ES2115170-022	TP62_0.3-0.4	EP071: C15 - C28 Fraction	----	2319 mg/kg	112	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	91.5	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3647085)							
ES2115170-001	SS07A	EP080: C6 - C9 Fraction	----	32.5 mg/kg	97.5	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3648355)							
ES2115133-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	98.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3648369)							
ES2115234-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	97.1	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3642725)							
ES2115170-002	SS08_0.2-0.3	EP071: >C10 - C16 Fraction	----	860 mg/kg	103	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	118	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	98.6	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3642763)							
ES2115170-022	TP62_0.3-0.4	EP071: >C10 - C16 Fraction	----	860 mg/kg	97.4	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	111	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	92.6	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3647085)							
ES2115170-001	SS07A	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	91.2	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3648355)							
ES2115133-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	98.6	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3648369)							
ES2115234-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	97.2	70.0	130
EP080: BTEXN (QCLot: 3647085)							
ES2115170-001	SS07A	EP080: Benzene	71-43-2	2.5 mg/kg	90.7	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	99.0	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	91.0	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	92.0	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	82.6	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	97.0	70.0	130
EP080: BTEXN (QCLot: 3648355)							
ES2115133-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	94.7	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	93.6	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	97.4	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	98.0	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3648355) - continued							
ES2115133-001	Anonymous	EP080: ortho-Xylene	95-47-6	2.5 mg/kg	100	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	84.6	70.0	130
EP080: BTEXN (QCLot: 3648369)							
ES2115234-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	94.0	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	95.0	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	95.4	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	95.5	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	97.3	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	72.1	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2115170**	Page	: 1 of 13
Client	: **SULLIVAN ENVIRONMENTAL SCIENCES**	Laboratory	: Environmental Division Sydney
Contact	: ADAM SULLIVAN	Telephone	: +61 2 8784 8555
Project	: SES_585	Date Samples Received	: 23-Apr-2021
Site	: ----	Issue Date	: 04-May-2021
Sampler	: A. SULLIVAN	No. of samples received	: 29
Order number	: ----	No. of samples analysed	: 29

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES2115170-017	Z02	**Toluene-D8**	2037-26-5	73.4 %	73.9-132 %	**Recovery less than lower data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

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

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA001: pH in soil using 0.01M CaCl extract							
Soil Glass Jar - Unpreserved (EA001)							
SS07A	**20-Apr-2021**	**27-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	28-Apr-2021	✓
EA002: pH 1:5 (Soils)							
Soil Glass Jar - Unpreserved (EA002)							
SS07A	**20-Apr-2021**	**27-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	27-Apr-2021	✓
EA010: Conductivity (1:5)							
Soil Glass Jar - Unpreserved (EA010)							
SS07A	**20-Apr-2021**	**27-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	25-May-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055)							
SS14_0.0-0.2	**20-Apr-2021**	**----**	----	----	**29-Apr-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EA055)							
SS07A	**20-Apr-2021**	**----**	----	----	**27-Apr-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EA055)							
SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, COMP01, COMP02, COMP03, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2, TP61_0.2-0.3, TP62_0.3-0.4, Z03, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**----**	----	----	**29-Apr-2021**	04-May-2021	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
SS07A	**20-Apr-2021**	**----**	----	----	**30-Apr-2021**	17-Oct-2021	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
SS07A	**20-Apr-2021**	**----**	----	----	**30-Apr-2021**	17-Oct-2021	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
SS10_0.0-0.2, SS11_0.1-0.3	**20-Apr-2021**	**----**	----	----	**27-Apr-2021**	17-Oct-2021	✓
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)							
SS16_0.0-0.1	**20-Apr-2021**	**----**	----	----	**27-Apr-2021**	17-Oct-2021	✓
ED007: Exchangeable Cations							
Soil Glass Jar - Unpreserved (ED007)							
SS07A	**20-Apr-2021**	**29-Apr-2021**	18-May-2021	✓	**29-Apr-2021**	18-May-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
HDPE Soil Jar (EG005T)							
SS14_0.0-0.2	**20-Apr-2021**	**30-Apr-2021**	17-Oct-2021	✓	**30-Apr-2021**	17-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
SS07A, SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, COMP01, COMP02, COMP03, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2, TP61_0.2-0.3, TP62_0.3-0.4, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**30-Apr-2021**	17-Oct-2021	✓	**30-Apr-2021**	17-Oct-2021	✓
EG035T: Total Recoverable Mercury by FIMS							
HDPE Soil Jar (EG035T)							
SS14_0.0-0.2	**20-Apr-2021**	**30-Apr-2021**	18-May-2021	✓	**01-May-2021**	18-May-2021	✓
Soil Glass Jar - Unpreserved (EG035T)							
SS07A, SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, COMP01, COMP02, COMP03, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2, TP61_0.2-0.3, TP62_0.3-0.4, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**30-Apr-2021**	18-May-2021	✓	**01-May-2021**	18-May-2021	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved (EP004)							
SS07A	**20-Apr-2021**	**04-May-2021**	18-May-2021	✓	**04-May-2021**	18-May-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS11_0.1-0.3, SS13_0.05-0.2, TP53_0.5-0.6, Z02, TP55_0.3-0.4, TP58_0.1-0.2, TP62_0.3-0.4, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**01-May-2021**	08-Jun-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS11_0.1-0.3, SS13_0.05-0.2, COMP01, COMP02, COMP03, TP53_0.5-0.6, Z02, TP55_0.3-0.4, TP58_0.1-0.2, TP62_0.3-0.4, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**01-May-2021**	08-Jun-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS11_0.1-0.3, SS13_0.05-0.2, COMP01, COMP02, COMP03, TP53_0.5-0.6, Z02, TP55_0.3-0.4, TP58_0.1-0.2, TP62_0.3-0.4, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**01-May-2021**	08-Jun-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
HDPE Soil Jar (EP075(SIM))							
SS14_0.0-0.2	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**30-Apr-2021**	08-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP61_0.2-0.3, TP62_0.3-0.4, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**01-May-2021**	08-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
SS07A, SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**30-Apr-2021**	08-Jun-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
HDPE Soil Jar (EP080)							
SS14_0.0-0.2	**20-Apr-2021**	**28-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
HDPE Soil Jar (EP071)							
SS14_0.0-0.2	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**30-Apr-2021**	08-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
SS07A, SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2, TP61_0.2-0.3, TP62_0.3-0.4, TP63_0.5-0.6	**20-Apr-2021**	**28-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EP071)							
TP61_0.2-0.3, TP62_0.3-0.4, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**01-May-2021**	08-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
SS07A, SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**30-Apr-2021**	04-May-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
HDPE Soil Jar (EP080)							
SS14_0.0-0.2	**20-Apr-2021**	**28-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
HDPE Soil Jar (EP071)							
SS14_0.0-0.2	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**30-Apr-2021**	08-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
SS07A, SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2, TP61_0.2-0.3, TP62_0.3-0.4, TP63_0.5-0.6	**20-Apr-2021**	**28-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EP071)							
TP61_0.2-0.3, TP62_0.3-0.4, TP63_0.5-0.6, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3, TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**01-May-2021**	08-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
SS07A, SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2, TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**30-Apr-2021**	04-May-2021	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
HDPE Soil Jar (EP080)							
SS14_0.0-0.2	**20-Apr-2021**	**28-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
SS07A, SS08_0.2-0.3, SS09_0.1-0.2, Z01, SS10_0.0-0.2, SS11_0.1-0.3, SS12_0.0-0.1, SS13_0.05-0.2, SS15_0.0-0.1, SS16_0.0-0.1, SS17_0.0-0.1, TP53_0.5-0.6, Z02, TP54_0.5-0.6, TP55_0.3-0.4, TP58_0.1-0.2, TP61_0.2-0.3, TP62_0.3-0.4, TP63_0.5-0.6	**20-Apr-2021**	**28-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP71_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**03-May-2021**	04-May-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
TP64_0.5-0.6, TP67_0.5-0.6, Z03, TP68_0.3-0.4, TP70_0.2-0.3	**20-Apr-2021**	**29-Apr-2021**	04-May-2021	✓	**30-Apr-2021**	04-May-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Electrical Conductivity (1:5)	EA010	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	7	70	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	37	**10.81**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	4	24	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	3	21	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	6	60	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	7	60	**11.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	37	**10.81**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	6	60	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Electrical Conductivity (1:5)	EA010	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	37	**5.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	24	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	21	**9.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	37	**5.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Electrical Conductivity (1:5)	EA010	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	37	**5.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	24	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	21	**9.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	37	**5.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Organic Matter	EP004	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	37	**5.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	24	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	21	**9.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	37	**5.41**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl2 extract	EA001	SOIL	In house: Referenced to Rayment and Lyons 4B3 (mod.) or 4B4 (mod.) 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
pH (1:5)	EA002	SOIL	In house: Referenced to Rayment and Lyons 4A1 and APHA 4500H+. pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Electrical Conductivity (1:5)	EA010	SOIL	In house: Referenced to Rayment and Lyons 3A1 and APHA 2510. Conductivity is determined on soil samples using a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3
Soil Particle Density	EA152	SOIL	Soil Particle Density by AS 1289.3.5.1: Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Exchangeable Cations	ED007	SOIL	In house: Referenced to Rayment & Lyons Method 15A1. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl2 extract	EA001-PR	SOIL	In house: Referenced to Rayment and Lyons 4B1, 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Lyons method 15A1. A 1M NH4Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of reagent grade water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2115170**

Client	: **SULLIVAN ENVIRONMENTAL SCIENCES**	Laboratory	: Environmental Division Sydney
Contact	: ADAM SULLIVAN	Contact	: Loren Schiavon
Address	: PO Box 5248 TURRAMURRA NSW 2074	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: adam@sullivan-es.com.au	E-mail	: Loren.Schiavon@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: SES_585	Page	: 1 of 3
Order number	: ----	Quote number	: ES2015SULENV0034 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: A. SULLIVAN		

Dates

Date Samples Received	: 23-Apr-2021 12:50	Issue Date	: 26-Apr-2021
Client Requested Due Date	: 04-May-2021	Scheduled Reporting Date	: **04-May-2021**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 6.1 - Ice present
Receipt Detail	:	No. of samples received / analysed	: 29 / 29

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Sample ID	Sample Container Received	Preferred Sample Container for Analysis
PAH/Phenols (SIM) : EP075(SIM)		
SS14_0.0-0.2	- HDPE Soil Jar	- Soil Glass Jar - Unpreserved
TRH - Semivolatile Fraction : EP071		
SS14_0.0-0.2	- HDPE Soil Jar	- Soil Glass Jar - Unpreserved
TRH Volatiles/BTEX : EP080		
SS14_0.0-0.2	- HDPE Soil Jar	- Soil Glass Jar - Unpreserved

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EA200G Asbestos Identification in Soils -	SOIL - P-22 (WA/SYD) NEPM Screen for Soil Classification WA	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2115170-001	20-Apr-2021 00:00	SS07A	✓			✓			✓
ES2115170-002	20-Apr-2021 00:00	SS08_0.2-0.3	✓					✓	
ES2115170-003	20-Apr-2021 00:00	SS09_0.1-0.2	✓					✓	
ES2115170-004	20-Apr-2021 00:00	Z01	✓					✓	
ES2115170-005	20-Apr-2021 00:00	SS10_0.0-0.2	✓		✓				✓
ES2115170-006	20-Apr-2021 00:00	SS11_0.1-0.3	✓		✓			✓	✓
ES2115170-007	20-Apr-2021 00:00	SS12_0.0-0.1	✓						✓
ES2115170-008	20-Apr-2021 00:00	SS13_0.05-0.2	✓					✓	
ES2115170-009	20-Apr-2021 00:00	SS14_0.0-0.2	✓						✓
ES2115170-010	20-Apr-2021 00:00	SS15_0.0-0.1	✓						✓
ES2115170-011	20-Apr-2021 00:00	SS16_0.0-0.1	✓	✓					✓
ES2115170-012	20-Apr-2021 00:00	SS17_0.0-0.1	✓						✓
ES2115170-013	20-Apr-2021 00:00	COMP01	✓				✓		
ES2115170-014	20-Apr-2021 00:00	COMP02	✓				✓		
ES2115170-015	20-Apr-2021 00:00	COMP03	✓				✓		
ES2115170-016	20-Apr-2021 00:00	TP53_0.5-0.6	✓					✓	
ES2115170-017	20-Apr-2021 00:00	Z02	✓					✓	
ES2115170-018	20-Apr-2021 00:00	TP54_0.5-0.6	✓						✓
ES2115170-019	20-Apr-2021 00:00	TP55_0.3-0.4	✓					✓	
ES2115170-020	20-Apr-2021 00:00	TP58_0.1-0.2	✓					✓	
ES2115170-021	20-Apr-2021 00:00	TP61_0.2-0.3	✓						✓
ES2115170-022	20-Apr-2021 00:00	TP62_0.3-0.4	✓					✓	
ES2115170-023	20-Apr-2021 00:00	TP63_0.5-0.6	✓					✓	
ES2115170-024	20-Apr-2021 00:00	TP64_0.5-0.6	✓					✓	
ES2115170-025	20-Apr-2021 00:00	TP67_0.5-0.6	✓					✓	
ES2115170-026	20-Apr-2021 00:00	Z03	✓					✓	
ES2115170-027	20-Apr-2021 00:00	TP68_0.3-0.4	✓					✓	
ES2115170-028	20-Apr-2021 00:00	TP70_0.2-0.3	✓					✓	
ES2115170-029	20-Apr-2021 00:00	TP71_0.2-0.3	✓					✓	

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - S-12 OC/OP Pesticides
ES2115170-013	20-Apr-2021 00:00	COMP01	✓
ES2115170-014	20-Apr-2021 00:00	COMP02	✓
ES2115170-015	20-Apr-2021 00:00	COMP03	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ADAM SULLIVAN

- *AU Certificate of Analysis - NATA (COA)	Email	adam@sullivan-es.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	adam@sullivan-es.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	adam@sullivan-es.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	adam@sullivan-es.com.au
- A4 - AU Tax Invoice (INV)	Email	adam@sullivan-es.com.au
- Chain of Custody (CoC) (COC)	Email	adam@sullivan-es.com.au
- EDI Format - ESDAT (ESDAT)	Email	adam@sullivan-es.com.au
- EDI Format - XTab (XTAB)	Email	adam@sullivan-es.com.au

SEAN

- *AU Certificate of Analysis - NATA (COA)	Email	sean@sullivan-es.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sean@sullivan-es.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sean@sullivan-es.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	sean@sullivan-es.com.au
- Chain of Custody (CoC) (COC)	Email	sean@sullivan-es.com.au
- EDI Format - ESDAT (ESDAT)	Email	sean@sullivan-es.com.au
- EDI Format - XTab (XTAB)	Email	sean@sullivan-es.com.au

(SUBCON)

Lab / Analysis: Asbestos - Newcastle

Organised By / Date: PSD - Newcastle

Relinquished By / Date:

Connote / Courier:

WO No:

Attn: Internal Sheet:

4/5

CHAIN OF CUSTODY FORM

Sheet 1 of 3

FROM: Sullivan Environmental Sciences

DATE: 23/4/21

TO: ALS Environmental Smithfield

PO Box 5248
Turramurra NSW 2074

Ph: 0400 500 264

Email: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Job Code:

Due Date:

Project No: SES_585

Project Manager: A.Sullivan

Agreement No: EN/222/19

Sampler(s): Adam Sullivan

Signature(s):

Checked:

Custody seal intact? YES / NO

Sample cold? YES / NO

Released by:

Date: 23/4/21 Time: 11am

Received by: T. Jayanthan

Date: 23/4/21 Time: 12:50pm

Lab identification	Date	Time	Matrix	Sample Number	Large Comments	Total no	Container Size, Type, Preservative and Analysis: Container Identification / Type* / Preservative Code / Analytes						
							S-26	S-13	Asbestos ID	P-22	S-2	S-12	
1	20/4/21		SOIL	SS07A	+ Bag	2	X			X			
2				SS08_0.2-0.3		1	X	X					
3				SS09_0.1-0.2		1	X	X					
4				Z01		1	X	X					
5				SS10_0.0-0.2	+ Bag	2	X		X				
6				SS11_0.1-0.3	+ Bag	2	X	X	X				
7				SS12_0.0-0.1		1	X						
8				SS13_0.05-0.2		1	X	X					
9				SS14_0.0-0.2		1	X						
10				SS15_0.0-0.1		1	X						
11	↓		↓	SS16_0.0-0.1	+ Large Bag	2	X		X				
12				SS17_0.0-0.1		1	X						
					TOTAL	16	12	5	3	1	0	0	

Environmental Division Sydney
Work Order Reference
ES2115170

Telephone : +61-2-8784 8555

Remarks:

* Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle

Courier Job No:

Specify Turnaround Time:

NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES

#9- continue with S-26 even though PFAS plastic jar received. as discussed with Adam, 26.4.21 AR

CHAIN OF CUSTODY FORM

THIS COLUMN FOR LAB USE ONLY

Job Code:

Due Date:

FROM: Sullivan Environmental Sciences
PO Box 5248
Turramurra NSW 2074
Ph: 0400 500 264

DATE: 23/4/21

TO: ALS Environmental Smithfield

Email: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Project No: SES_585
Project Manager: A.Sullivan
Agreement No: EN/222/19

Sampler(s): Adam Sullivan
Signature(s):
Checked:

Custody seal intact? YES / NO
Sample cold? YES / NO

Released by:
Date: 23/4/21 Time: 11am

Received by: T. Jayanthan
Date: 23/4/21 Time: 12:50pm

Container Size, Type, Preservative and Analysis

Lab identification	Date	Time	Matrix	Sample Number	Comments	Total no	Container Identification: S-26	S-13	Asbestos ID	P-22	S-2	S-12
				Size								
				Type*								
				Preservative Code								
				Analytes								
13	20/4/21		SOIL	COMPO1		1					X	X
14	"			COMPO2		1					X	X
15	"			COMPO3		1					X	X
16	22/4/21		SOIL	TP53_0.5-0.6			X	X				
17				ZO2			X	X				
18				TP54_0.3-0.4			X					
19				TP55_0.3-0.4			X	X				
20				TP58_0.1-0.2			X	X				
21				TP61_0.2-0.3			X					
22				TP62_0.3-0.4			X	X				
23				TP63_0.5-0.6			X	X				
24				TP64_0.5-0.6			X	X				
					TOTAL	12	9	7	0	0	3	3

Tick required analytes

Remarks:

* Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle

Courier Job No:

Specify Turnaround Time:

NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES

CHAIN OF CUSTODY FORM

Sheet 3 of 3

THIS COLUMN FOR LAB USE ONLY

Job Code:

Due Date:

FROM: Sullivan Environmental Sciences

DATE: 23/4/21

TO: ALS Environmental Smithfield

PO Box 5248
Turramurra NSW 2074

Ph: 0400 500 264

Email: adam@sullivan-es.com.au and sean@sullivan-es.com.au

Project No: SES_585

Project Manager: A.Sullivan

Agreement No: EN/222/18

Sampler(s): Adam Sullivan

Signature(s):

Checked:

Custody seal intact? YES / NO

Sample cold? YES / NO

Released by:

Date: 23/4/21 Time: 11am

Received by: T. Jonathan

Date: 23/4/21 Time: 02:50pm

Container Size, Type, Preservative and Analysis

Container Identification							
Size							
Type*							
Preservative Code							
Analytes	S-26	S-13	Asbestos ID	P-22	S-2	S-12	

Lab identification	Date	Time	Matrix	Sample Number	Comments	Total no	Tick required analytes						
25	22/4/21		SOIL	TP67_0.5-0.6		1	X	X					
26	↓		↓	ZO3		1	X	X					
27				TP68_0.3-0.4		1	X	X					
28				TP70_0.2-0.3		1	X	X					
29	✓		✓	TP71_0.2-0.3		1	X	X					
					TOTAL	5	5	5	0	0	0	0	

Remarks:

* Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle

Courier Job No:

Specify Turnaround Time:

NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES