

RICHARD CROOKES CONSTRUCTIONS

JANUARY 2019

**JORDAN SPRINGS
PUBLIC SCHOOL
ENVIRONMENTAL
SITE ASSESSMENT
14 - 28 CULLEN
AVENUE, JORDAN
SPRINGS, NSW 2747**

wsp



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Jordan Springs Public School Environmental Site Assessment
14 - 28 Cullen Avenue, Jordan Springs, NSW 2747

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ABBREVIATIONS

ABC	Ambient background concentration
ACL	Added contaminant limit
ACM	Asbestos containing material
BTEX compounds	Benzene, toluene, ethylbenzene and xylene
CEC	Cation exchange capacity
CHCs	Chlorinated hydrocarbons
CSM	Conceptual site model
DP	Deposited Plan
DQI	Data quality indicator
DQO	Data quality objective
DSI	Detailed site investigation
EIL	Ecological investigation level
ESL	Ecological screening level
F1	TRH C ₆ -C ₁₀ minus BTEX compounds
F2	TRH >C ₁₀ -C ₁₆ minus naphthalene
F3	TRH >C ₁₆ -C ₃₄
F4	TRH >C ₃₄ -C ₄₀
HIL	Health investigation level
HSL	Health screening level
LEP	Local environmental plan
LGA	Local government area
mAHD	Metres Australian Height Datum
mBGL	Metres below ground level
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	<i>National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)</i>
NL	Non-limiting
NSW EPA	New South Wales Environment Protection Authority
OCPs	Organochlorine pesticides

OPPs	Organophosphate pesticides
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PID	Photoionisation detector
PQL	Practical quantitation limit
PSI	Preliminary site investigation
QA/QC	Quality assurance/quality control
RPD	Relative percentage difference
SAQP	Sampling, analysis and quality plan
SOP	Standard operating procedure
SWL	Standing water level
TCLP	Toxicity characteristic leachate procedure
TEQ	Toxicity equivalent quotient
TRH	Total recoverable hydrocarbons
US EPA	United States Environmental Protection Agency
VOCs	Volatile organic compounds

EXECUTIVE SUMMARY

Richard Crookes Constructions (RCC) commissioned WSP Australia Pty Ltd (WSP) to undertake an environmental site assessment at the 14-28 Cullen Avenue, Jordan Springs NSW 2474 ('the site'). The site comprises an area of vacant land approximately 30,000 m² which is proposed for redevelopment. The proposed redevelopment will comprise the construction of a primary school in the south-east portion of the site, with a playing field in the northern portion of the site.

Based on the site inspection and review of documents it was concluded that potential contamination sources identified at the site included:

- uncontrolled fill materials used historically to level the site and surrounding area
- historical or recent localised filling or waste dumping
- potential asbestos containing materials (ACM) from imported materials
- possible minor leaks/spills of oil/petrol from vehicle activity on or adjacent to site
- pesticides used historically and recently to maintain the site
- urban dryland salinity associated with saline groundwater, local land clearing and changed hydrological conditions

Potential contaminants of concern associated with the above activities included:

- heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc)
- total recoverable hydrocarbons (TRH),
- benzene, toluene, ethylbenzene and xylene (BTEX),
- polyaromatic hydrocarbons (PAHs),
- organochlorine and organophosphate pesticides (OCPs/OPPs),
- polychlorinated biphenyls (PCBs)
- asbestos
- herbicides
- trinitrotoluene (TNT)
- hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)
- Salinity and sodicity indicator analytes including pH, electrical conductivity (EC), chloride, sulfate and exchangeable cations

Surface soils are generally non-saline to slightly saline. This indicates that in the sites current form, site structures at the surface are unlikely to be affected by dryland urban salinity. Salinity on the site appears to generally increase with depth. Deeper structures (including footings, piles and service trenches) should have salinity resistant materials incorporated into their design.

Soils tested on the site were generally sodic in nature with sodicity increasing with depth. Sodic soils present an elevated erosion hazard on-site. Development works should be planned to accommodate for the elevated potential for erosion and sediment generation in runoff and the final development should ensure adequate protection of soils (e.g. through maintenance of vegetation coverage).

Based on the analytical results, there was negligible soil contamination impact identified on or beneath the site. Soil samples reported no contaminants of concern above the adopted health or environmental guidelines, therefore WSP are of the opinion that the site is suitable for the proposed development.

1 INTRODUCTION

1.1 BACKGROUND

WSP Australia Pty Ltd (WSP) was commissioned by Richard Crookes Construction (RCC) to undertake an environmental site assessment at the 14-28 Cullen Avenue, Jordan Springs NSW 2474 ('the site'). The location and boundaries of the property and the site are shown on Figures 1 and 2 respectively.

The site comprises an area of approximately 28,360 m², which is currently vacant. redevelopment is proposed for the site which will comprise the construction of a primary school in the south-east portion of the site, with a playing field in the northern portion of the site.

1.2 OBJECTIVES

The objectives of the investigation were to:

- assess the current contamination status of the site
- assess the potential risks associated with contamination (if identified) at the site, with respect to the proposed future land use as a school
- provide recommendations for potential management or remediation requirements, if required
- undertake salinity testing and provide a salinity assessment for the site.

2 SCOPE OF WORKS

Prior to the commencement of the Stage 2 detailed site investigation (DSI), a desktop review of available current and historical background information pertaining to the site was undertaken in order to establish whether there were any known environmental concerns associated with the site. The findings of this review were then used to prepare a sampling, analysis and quality plan (SAQP) outlining the proposed DSI scope of work and methodology.

The DSI works were undertaken in accordance with the SAQP, and the findings of the desktop review are provided in Section 4 of this report.

The scope of works for the DSI comprised:

- mechanical boring at 40 different locations (TP01-TP40) across the site, using a hand auger to a depth of 1.5 metres below ground level (mBGL) in conjunction with a drill rig to reach a maximum depth of 3.2 mBGL
- collection of soil samples at locations from the surface (0.0-0.1 mBGL), 0.2-0.3 mBGL, 0.4-0.5 mBGL, 0.9-1.0 mBGL, and every metre thereafter (every 0.5 m in the boreholes selected for salinity testing, including in the fill)
- collection of asbestos presence/absence samples at the same depths as the soil samples from all locations
- laboratory analysis of selected representative soil and asbestos samples for the contaminants of concern identified at the site
- preparation of this DSI report which focuses on assessing the soil contamination status of the site (including a dryland salinity assessment), assessing the need for remediation at the site, and evaluating the suitability of the site for the proposed potential future land use.

3 SITE LOCATION AND SETTING

3.1 SITE LOCATION AND IDENTIFICATION

The general site identification details are provided in Table 3.1.

Table 3.1 Summary of general site information

SITE ADDRESS	14-28 CULLEN AVENUE, JORDAN SPRINGS, NSW 2474
Site identification	The site is legally defined as Lot 22 of deposited plan (DP) 1194338.
Local government area (LGA)	Penrith City Council
Site area (approximately)	28,360 m ²
Current site use	The site remains vacant at the current time with no development features present, with dense grass covering the majority of the property. Multiple large gravel patches are present around the gate entrances onto the site.
Surrounding land uses	A childcare centre is present immediately adjacent to the south west of the site, with residential properties surrounding the site to the north, west and south. A small creek is present on the eastern boundary line, with the Jordan Springs Dog Park beyond. A large manufactured lake is present to the south of the site on the other side of Cullen Avenue, with a small shopping centre present to the south west.
Proposed site use	The site is proposed to be developed into a primary school in the south-eastern portion with a playing field in the northern portion of the site.

3.2 SITE INSPECTION

The site was inspected on 4 June 2018 by a WSP environmental scientist and the following observations were noted:

- The site is predominantly surrounded by residential housing to the north, west, east and south. There is a small creek that runs parallel along the eastern boundary of the site, with a cycleway, dog park and large patch of eucalypt forest beyond. To the south, the creek continues to eventually terminate into a manufactured lake on the other side of Cullen Avenue. To the north there is a public oval with residential properties beyond. A small shopping complex, Water Gum community park and residential housing are present to the west
- The site (area to be developed) comprises an open grassed field that is slightly sloping to the south
- No asbestos containing materials (ACM) was observed during the site walkover and during field works
- An assessment of salinity indicator landscapes, surface features and plants was undertaken during the fieldwork.

An aerial plan showing the site features is presented as Figure 2 in Appendix A and site photographs are presented within Appendix B.

3.3 TOPOGRAPHY AND SURFACE WATER DRAINAGE

The site is situated at approximately 40 metres Australian Height Datum (mAHD) and slopes towards the south. This is generally consistent with the level of the surrounding properties. The site appears to have a low potential for flooding, based on the Council's flood planning map as well as the lack of significantly sized water bodies surrounding the site.

The nearest surface water body is a small unnamed creek adjacent to the eastern boundary which terminates in a unnamed manmade lake approximately 150 metres to the south of the site.

3.4 GEOLOGY

The regional geological map of the area (Geological Survey of NSW, 1983, Geological Series Sheet 9130 (Edition 1), Sydney, Scale 1: 100,000 indicates that the site is underlain by Bringelly Shale as part of the Wianamatta Group, which comprises of shale, claystone, fine to medium grained lithic sandstone as well as coal and tuff.

The CSIRO Australian Soil Resource Information System (ASRIS), http://www.asris.csiro.au/index_ie.html, accessed 15 June 2018, indicates that soils underlying the site are mapped as having an extremely low probability of the occurrence of acid sulfate soils (ASS).

The NSW DIPNR (2003) *Salinity Potential in Western Sydney 2002* map indicates that the site and immediate surrounds is situated in an area of moderate salinity potential. Areas of high salinity potential associated with local waterways are located further to the north and south of the site.

3.5 HYDROGEOLOGY

A review of the licenced borehole register on the NSW Government Water Information website (<http://allwaterdata.water.nsw.gov.au/water.stm>) indicates that there are no registered groundwater bores within 500 m radius of the site.

4 SITE HISTORY REVIEW

4.1 HISTORICAL SEARCHES

A review of historical land use information pertaining to the site was undertaken to identify any known environmental concerns. A summary of the searches undertaken is provided in Table 4.1.

Table 4.1 Summary of historical search results

SEARCH	RESULTS
Titles search	A historical land title search indicated that the section of the site referred to as Portion 111 Parish Londonderry part of The Commonwealth of Australia portfolio from 1941 until 1979, upon which the property was referred to as Lot 1 in various deposited plans until 1989. Formerly, from 1941 to 1945, the property was being used for military purposes by the defence force. From 1992 until 1999, the property and surrounding land remained as Lot 1 under various deposited plan numbers, and was acquired by Australian Defence Industries Pty Limited. From 1993 until the present day, the site and surrounding land listed under various lot and deposited plan numbers, was acquired by St Marys Land Limited. The results of the historical land title search are provided in Appendix D.
Dangerous Goods Search	This has been requested and had not been received at the time of writing. Once received this information will be incorporated and this report will be updated and re-issued.
EPA online notice records	An online search of the NSW EPA <i>Protection of the Environment Operations Act 1997</i> public register (http://www.epa.nsw.gov.au/prpoeoapp/) indicated that there are no issued licences within a 1 km radius of the site. An online search of the NSW EPA contaminated land record database (http://www.epa.nsw.gov.au/prclmapp/searchregister.aspx) indicated that there are no current or former notices related to any property in the suburb of Jordan Springs. There are multiple current notices that have been issued to four sites within the LGA of Penrith City Council, however, these sites are more than 3 km away from the site.

4.2 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

WSP were provided with a site audit statement (HLA-Envirosciences Pty Ltd, 1999) which covered the site as well as a large proportion of the surrounding area. The auditor certified that the site is suitable for a range of uses, including for primary schools.

Geotech Testing Pty Ltd undertook fill testing across the site to satisfy requirements of the Penrith City Council development application and the results are presented in *Jordan Springs – Education Site and Village Oval, 11 Lakeside Parade and 14-52 Cullen Avenue, Penrith City Council DA 13/0686 – Condition Nos 13, 16, 24 and 25(c), Statement of Compliance (2015)*. This report detailed that 19,000 m³ of virgin excavated natural material (VENM) was previously imported onto the site, and a VENM report was provided to Geotech Testing. No information was provided to WSP regarding the placement and location of the VENM material.

EIS undertook a desktop study to identify any past or present potentially contaminating activities at the site, and to identify the potential for site specific contamination. The findings of this study are presented in *Preliminary Environmental Site Assessment, 14-28 Cullen Avenue, Jordan Springs, NSW* (EIS, 2017). The study documented the following key findings:

- fill material had been imported across the site and specifically in the north-east corner of the site in the location of the former dam. EIS (2017) states that the fill extends to depths of over 2 mBGL as presented on JK Geotechnics borelogs. However, WSP was not provided with this report
- unknown if the military/defence were using the land for possible fuel or explosives storage
- potential use and or storage of pesticides associated with the Landscape Solutions compound
- potential hazardous building materials in former buildings and through demolition activities (although WSP note that the historical aerial photographs show that no former buildings have been identified at the site)

In addition to the potential contamination sources identified, the site is located in an area of high risk of dryland salinity.

EIS (2017) also stated that unexploded ordnance could pose a potential risk to site users. However, WSP note that the Department of Defence Unexploded Ordnance website does not list the site as having any occurrence of exploded ordnance.

- Potential contaminants of concern were identified as:
 - heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc)
 - total recoverable hydrocarbons (TRH)
 - benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN)
 - polycyclic aromatic hydrocarbons (PAHs)
 - organochlorine pesticides (OCPs)
 - organophosphate pesticides (OPPs)
 - polychlorinated biphenyls (PCBs)
 - herbicides
 - volatile organic compounds (VOCs)
 - trinitrotoluene (TNT)
 - hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)
 - asbestos.

4.3 PRELIMINARY CONCEPTUAL SITE MODEL

Based on the site inspection and the desktop review of site setting and historical land use information, a preliminary conceptual site model (CSM) was prepared. This is summarised in Table 4.2 below.

Table 4.2 Preliminary CSM

Likely sources of impact	Likely sources of impact at the site include: — uncontrolled fill materials used historically to level the site and surrounding area — historical or recent localised filling or waste dumping — potential asbestos containing materials (ACM) from imported materials — possible minor leaks/spills of oil/petrol from vehicle activity on or adjacent to site — pesticides used historically and recently to maintain the site — urban dryland salinity associated with saline groundwater, local land clearing and changed hydrological conditions.
Potentially impacted media	Soil: Impacts and ACM from contaminated fill, building debris or waste materials, minor fuel leaks, or from pesticides used on-site. Soil sodicity and salinity. Groundwater/water bodies: Migration from soil impacts, although this is considered unlikely given widespread soil contamination is considered unlikely.
Contaminants of concern	Contaminants of concern at the site comprise: — heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) — TRH and BTEX compounds — PAHs — OCPs/OPPs — PCBs — VOCs — asbestos. — herbicides — TNT — RDX — Salinity and sodicity indicator analytes including pH, electrical conductivity (EC), chloride, sulfate and exchangeable cations
Migration pathways	Potential migration pathways include: — vertical migration of contaminants in soil from infiltration of rain water — migration of contaminants through underground service trenches — run-off from surface contaminants in rain water entering the small creek to the east — volatilisation of hydrocarbon contamination — airborne migration of contamination in dust or vapour.

Potential exposure pathways	Potential exposure pathways include: — inhalation of dust or vapours by site users or nearby site users — ingestion or dermal contact with contaminated surface soils or near surface soils by future residential site users or excavation/maintenance workers — ingestion or dermal contact with contaminated water downgradient of the site through the use of downgradient surface water bodies and the small creek present to the east — direct exposure of structures to aggressive soil conditions.
Potential sensitive receptors	Based on the site setting, sensitive receptors potentially include: — proposed site structures (specifically to aggressive soil conditions) — underlying soil and groundwater — the small creek adjacent to the eastern boundary of the site — current open space users and students of the future school proposed to be built on site — ingestion or dermal contact with contaminated water downgradient of the site through the use of downgradient surface water bodies for recreation — surface watercourses receiving groundwater from the site, possibly including the Cooks River located immediately to the south of the site — occupiers of residential properties surrounding and downgradient of the site — on-site and off-site construction or utility workers (those working within service pit trenches).

5 DATA QUALITY OBJECTIVES

Systematic planning is critical to successful implementation of an environmental assessment and is used to define the type, quantity and quality of data needed to inform decisions. The United States Environmental Protection Agency (US EPA) has defined a process for establishing data quality objectives (DQOs) (US EPA, 2000a and 2000b), which has been referenced in the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPM, as amended 2013).

DQOs ensure that:

- the study objectives are set
- appropriate types of data are collected (based on contemporary land use and chemicals of concern)
- the tolerance levels are set for potential decision making errors.

The DQO process is a seven-step iterative planning approach. The outputs of the DQO process are qualitative and quantitative statements which are developed in the first six steps. They define the purpose of the data collection effort, clarify what the data should represent to satisfy this purpose and specify the performance requirements for the quality of information to be obtained from the data. The output from the first six steps is then used in the seventh step to develop the data collection design that meets all performance criteria and other design requirements and constraints. The DQO process adopted for the DSI works is outlined in Table 5.1.

Table 5.1 DQO process

STEP	DESCRIPTION	OUTCOMES
1	State the problem	WSP understand the site is to be redeveloped for the construction of a primary school in the south-east portion of the site, with a playing field in the northern portion of the site. The purpose of the DSI works is to determine the contamination status of soils beneath the site and assess the potential for urban dryland salinity to impact upon site development.
2	Identify the decisions/goal of the investigation	The decisions to be made based on the results of the investigation are as follows: — has the soil been adequately sampled? — were all the contaminants of concern analysed? — have salinity indicator parameters been assessed in the field and by the laboratory? — is there sufficient data to prepare the DSI report? — is there a risk to future users or occupiers of the site?
3	Identify the inputs to the decision	The inputs required to make the above decisions are as follows: — geological and hydrogeological data — concentrations of contaminants of concern and salinity indicator parameters in soil — site assessment criteria for soil (outlined in Section 7) — observation data including presence of odours and discoloration of the soil — distribution of identified soil contamination.
4	Define the study boundaries/ constraints on data	The boundaries of the investigation have been identified as follows: — spatial boundaries: the spatial boundary of the investigation area is defined as the geographical extent of the investigation area and the potential receptors of concern that need to be considered by the study. — temporal boundaries: the date of the project inception to the completion of the fieldwork under the proposed investigation.

STEP	DESCRIPTION	OUTCOMES
5	Develop a decision rule	The purpose of this step is to define the parameters of interest, specify the action levels and combine the outputs of the previous DQO steps into an 'if...then...' decision rule that defines the conditions that would cause the decision maker to choose alternative actions. The parameters of interest are concentrations of contaminants of concern and salinity indicator parameters (as listed in Table 4.2) in soil. An assessment of the concentrations of the contaminants of concern and interpretation of salinity indicator parameters is to be undertaken to develop the DSI and the suitability for the current open space and proposed future land use. Should concentrations exceed the adopted assessment criteria remedial and management options will be considered.
6	Specify limits on decision errors	The acceptable limits on decision errors to be applied in the investigation and the manner of addressing possible decision errors have been developed based on the data quality indicators (DQIs) of precision, accuracy, representativeness, comparability and completeness and are presented in Table 5.2 and 5.3. Soil pH tested by the NATA accredited laboratory was compared against the field pH screening results for the relevant sample locations and depths.
7	Optimise the design for obtaining data	The purpose of this step is to identify a resource-effective data collection design for generating data that satisfies the DQOs. This assessment has been designed considering the information and data obtained during the desktop review and site inspection (Sections 3 to 4). The resource effective data collection design that is expected to satisfy the DQOs is described in detail in Section 6 (methodology). To ensure the design satisfies the DQOs, DQIs (for accuracy, comparability, completeness, precision and reproducibility) have been established to set acceptance limits on field methodologies and laboratory data collected.

DQIs for sampling techniques and laboratory analyses of collected soil samples define the acceptable level of error for this validation assessment. The adopted field methodologies and data obtained have been assessed by reference to DQIs 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 the site
- Comparability: a qualitative parameter expressing the confidence with which one data set can be compared with another
- Completeness: a measure of the amount of useable data (expressed as a percentage) from a data collection activity.

A summary of the field and laboratory DQIs for the validation assessment are provided in Tables 5.2 and 5.3 below.

Table 5.2 DQIs for field techniques

DQI	
Precision	— standard operating procedures (SOPs) appropriate and complied with — collection of inter-laboratory and intra-laboratory duplicates
Accuracy	— WSP SOPs appropriate and complied with — collection of field and trip blanks and trip spikes
Representativeness	— appropriate media sampled
Comparability	— same SOPs used on each occasion — experienced sampler — climatic conditions (temperature, rainfall, wind) considered — same type of samples collected
Completeness	— SOPs appropriate and complied with — all required samples collected

Table 5.3 DQIs for laboratory

DQI	ACCEPTABLE LIMITS
Precision	
Analysis of laboratory duplicates for:	
— PAHs, TRH, BTEX, total metals, PCB's, OCP / OPPs in soil	$<10\% \times \text{PQL} - \pm 30\% \text{ RPD}$ $4-10\% \times \text{PQL} - \pm 50-70\% \text{ RPD}$ $<4\% \times \text{PQL} - \pm 2 \times \text{PQL}$
Analysis of laboratory prepared trip spikes (one per day per batch volatiles)	70-130%
NATA certified laboratories	NATA accreditation for analyses performed
Accuracy	
Analysis of laboratory prepared trip blanks (one per batch)	Non-detect for contaminants analysed
Analysis of rinsate blanks (one per day)	Non-detect for contaminants analysed
Analysis of laboratory blanks	Non-detect for contaminants analysed
Analysis of laboratory matrix spikes, laboratory control samples and surrogate recoveries	70-130% inorganics/metals 60-140% organics 10-40% semi-volatile organic compounds
Analysis of laboratory duplicates for:	
— PAHs, TRH, BTEX, total metals, PCB's, OCP / OPPs in soil	$<10\% \times \text{PQL} - \pm 30\% \text{ RPD}$ $4-10\% \times \text{PQL} - \pm 50-70\% \text{ RPD}$ $<4\% \times \text{PQL} - \pm 2 \times \text{PQL}$

DQI	ACCEPTABLE LIMITS
Representativeness	
All required samples analysed	as per Section 6 of this report.
Comparability	
Sample analytical methods used (including clean-up)	as per NEPM (2013)
Same units	justify/quantify if different
Same laboratories	justify/quantify if different
Sample practical quantification limits (PQLs)	less than nominated criteria
Completeness	
All critical samples analysed	as per Section 6 of this report.
All required analytes analysed	
Appropriate methods and PQLs	as per NEPM (2013)
Sample documentation complete	
Sample holding times complied with	

6 SAMPLING AND ANALYSIS PROGRAM

6.1 SAMPLING RATIONALE

This SAQP for the DSI was developed by WSP with respect to a mixture of grid-based and targeted locations adopted to sufficiently assess the site. For grid-based sampling, Table A in the NSW EPA 1995, *Sampling Design Guidelines* provides the recommended minimum number of sampling points required for site characterisation based on detecting circular hot spots by using a grid-spaced sampling pattern. The guidelines indicate that a minimum of 40 sampling points are recommended for a 30,000 m² site, which would allow for extensive coverage of the site using the grid-spaced sampling pattern. Sampling locations are summarised in Table 6.1 below, with sample locations shown on Figure 2.

Table 6.1 Sampling Rationale

TEST PIT ID	LOCATION JUSTIFICATION	NO. OF PRIMARY SAMPLES TO BE ANALYSED
TP01 to TP18	Grid pattern targeting fill in the vicinity of the future playing field.	18 – heavy metals, TRH, PAHs, BTEX, asbestos 9 – OCPs, OPPs, PCBs 5 – VOCs, TNT, RDX
TP19 to TP20	Targeting the former dam area which may have been backfilled with imported fill.	2 – heavy metals, TRH, PAHs, BTEX, asbestos, OCPs, OPPs, PCBs
TP21 to TP34, TP36, TP37, TP40	Grid pattern targeting fill in the vicinity of the future buildings.	17 – heavy metals, TRH, PAHs, BTEX, asbestos 9 – OCP, OPP, PCBs 5 – VOCs, TNT, RDX
TP35, TP38 and TP39	Targeting the Landscape Solutions compound	3 – heavy metals, TRH, PAHs, BTEX, asbestos 1 – OCPs, OPPs, PCBs 6 – herbicides
20 test pit/borehole locations	Sampling locations will be selected on site depending on the site slope for salinity assessment.	70 – pH and electrical conductivity 20 – sulfate and chloride 20 – CEC

A hand auger was used to reach 1.5 mBGL in all 40 borehole locations (TP01 to TP40), to prevent damage to potentially unidentified underground services. The drill rig was then used to progress the boreholes to a minimum depth of 2-3 mBGL, or 0.5 m into natural material, whichever occurred first, with exception of 20 select locations that were also selected for salinity testing, which were extended to a minimum depth of 3 mBGL. The majority of boreholes across the site were able to reach a minimum depth of 3 mBGL.

Six soil samples were collected from each borehole, comprising:

- three surface / near surface samples (0.1 mBGL, 0.3 mBGL and 0.5 mBGL) collected from every borehole location across the site.

- three deeper samples were also collected (1.0 mBGL, 2.0 mBGL, 3.0 mBGL), to assess the condition of the residual material below the fill material at the surface.
- further samples were collected where significant changes in geology occurred or if specific inclusions were noted.

The site history indicated that groundwater impacts at the site were not considered likely and, thus, a soil investigation was undertaken. It was therefore considered appropriate to investigate soil contamination only during the DSI, with the understanding that a groundwater investigation may need to be considered at a later stage should significant soil contamination be identified at the site.

6.2 FIELDWORK

6.2.1 SOIL SAMPLING METHODOLOGY

Table 6.2 Drilling and soil sampling methodology

ACTIVITY	DETAILS
Service location	Prior to breaking ground, all investigation locations were checked for the presence of buried services by an experienced service locator and cross-checked with DBYD plans obtained from asset owners.
Soil bore locations	Following the clearing of locations, intrusive investigation works were undertaken at the site from 4 to 7 June 2018. A hand auger was used by a WSP environmental scientist to manually advance all 40 boreholes to a maximum depth of 1.5 mBGL, to prevent extensive damage to unidentified underground services. From this depth, a drill rig was used to further advance the boreholes to a minimum depth of 3 mBGL for both the salinity and non-salinity targeted boreholes. Soil bore locations are shown on Figure 2 presented in Appendix A.
Drilling method	Each location was hand augured to 1.5 mBGL to minimise the potential for unidentified underground services to be damaged. Each of the boreholes was progressed to target depth using a drill auger to gain a clear understanding of the geology.
Borehole logging	Soil logging was completed based on field interpretation and was generally in accordance with the Australian Standard 1726–1993 <i>Geotechnical Site Investigations</i>. Borehole logs are presented in Appendix C.
Field screening	Soil samples were screened in the field using a PID to assess VOC concentrations. The PID was calibrated to a known concentration of isobutylene gas at the commencements of each day of field work. Calibration certificates are included in Appendix F. Soil samples were tested in a number of boreholes for field pH as an indicator of soil chemistry.

ACTIVITY	DETAILS
Soil sampling method	Soil sampling was undertaken in general accordance with the SAQP for the site, WSP field procedures and Australian Standard AS4482.1.2005. Samples were collected at the following nominal depths: — immediately beneath the site surface (approximately 0.0 – 0.1 mBGL) — 0.3 mBGL — 0.5 mBGL — 1.0 mBGL — 2.0 mBGL — 3.0mBGL. Samples were scheduled for analysis based on field observations and screening results. Soil samples were collected directly from the hand auger head or drill auger and placed into laboratory supplied containers. To minimise the risk of cross-contamination, new disposable nitrile gloves were worn during sample collection and all non-disposable sampling equipment was cleaned between samples and sample locations. For the volatile constituent analysis, in accordance with AS 4482.2-1999 Guide to the sampling and investigation of potentially contaminated soil - Volatile substances, a solvent extraction with subsampling method was used. A soil sample of volume considerably larger than that required for the determination, was collected and placed in a borosilicate glass container such that was no headspace. The container was then sealed, cooled to 4°C and transported to the laboratory in this condition. Samples were given unique identification numbers containing the soil boring location and depth. Samples were placed in eskies with appropriate chain-of-custody documentation and preserved on ice after collection and during shipment to the laboratories. Samples were shipped to laboratories accredited by the National Association of Testing Authorities (NATA) for the analyses to be undertaken.
Decontamination procedure	All equipment requiring decontamination (hand auger, trowel) was washed using potable water between sample locations.
Sample preservation	Soil samples for laboratory analysis were collected in laboratory supplied and appropriately preserved containers. Samples were stored on ice on-site and in transit to the laboratory. Samples were received by the laboratories within the required holding times accompanied by chain of custody documentation.
Borehole completion	Soils were be returned to the bore in the order removed and reinstated to a standard to minimise hazards such as trips and falls.
Storage of waste soil	No waste soil was produced.
Surveying of borehole locations	A hand-held global positioning system (GPS) was used to record the coordinates of each sampling location for future reference.

ACTIVITY	DETAILS
Survey of salinity indicator landscapes and vegetation	During the field investigations the WSP field team undertook a preliminary landscape assessment of the site and surrounds with the intent of highlighting geomorphic features indicative of salinity impacted landscapes as well as areas of scalding, salt crusts, water logging, etc. WSP also inspected the site and surrounds for the presence of salinity indicator plants. These field assessments were undertaken in accordance with the following: — NSW DLWC (2002), <i>Indicators of Urban Salinity</i> — NSW DIPNR (2005), <i>Salinity Indicator Plants</i>.
Quality assurance/quality control (QA/QC)	The following QA/QC samples were collected: — duplicate sample pairs (intra-laboratory and inter-laboratory) were collected in the field at the rate of 1 in 20 primary samples for analysis by each of the primary and secondary laboratories — one equipment rinsate blank was collected and analysed per day of soil investigations. The rinsate was collected to assess the effectiveness of the decontamination processes implemented during the field works program — four trip spikes accompanied the shipment of samples during the journey from the preparing laboratory to the field sampling location, and back to the analytical laboratory. The trip blank was analysed for BTEXN to assess potential cross-contamination from volatiles — four trip blanks accompanied the shipment of samples during the journey from the preparing laboratory to the field sampling location, and back to the analytical laboratory to assess potential cross-contamination from volatiles. The trip blank was analysed for BTEXN and volatile TRH (C₆-C₁₀).

6.3 LABORATORY ANALYSIS

Selected soil samples collected were submitted to the primary analytical laboratory for analysis for contaminants of concern at the site. Soil samples were selected based on a combination of sample location and field observations, including PID results.

Primary samples and intra-laboratory samples were analysed by Australian Laboratory Services Pty Ltd (ALS), with inter-laboratory duplicate samples analysed by SGS Australia Pty Ltd (SGS). Both laboratories are accredited by NATA for the analytical suites requested, with the exception of asbestos quantification.

Table 6.3 below provides a summary of the laboratory analytical schedule for soil samples for the DSI.

Table 6.3 Laboratory sampling and analysis plan - Soil

ANALYTE	PRIMARY SAMPLES	DUPLICATES/ TRIPLICATES	RINSATE BLANK	TRIP BLANK	TRIP SPIKE
TRH	40	4	4	4	-
BTEX compounds	40	4	4	4	4
PAHs	40	4	-	-	-
8 heavy metals	40	4	-	-	-
OCPs/OPPs	23	4	-	-	-
PCBs	23	4	-	-	-
VOCs	6	-	-	-	-
RDX	6	-	-	-	-
Herbicides	6	-	-	-	-
TNT	6	-	-	-	-
Asbestos (quantitative)	40	-	-	-	-
pH and electrical conductivity	70	-	-	-	-
sulfate and chloride	20	-	-	-	-
CEC	20	-	-	-	-

7 ASSESSMENT CRITERIA FOR THE SITE

The assessment criteria for the investigation have been based on an analysis of land uses and potential receptors. Based on this, assessment criteria provided in the following guidelines have been identified as being applicable for assessing laboratory analytical data:

- NEPM (2013) including:
 - Health investigation levels (HILs)
 - Health screening levels (HSLs)
 - Ecological Investigation Levels (EILs)
 - Ecological Screening Levels (ESLs)
 - Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) *Technical Report No. 10 Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater, Part 2: Application Document* (Friebel & Nadebaum, 2011).
-

7.1 HEALTH INVESTIGATION LEVELS AND HEALTH SCREENING LEVELS

To assess the presence and extent of soil contamination at a site, the NSW EPA refers to the NEPM (2013) which provides health investigation levels (HILs) and health screening levels (HSLs) for the assessment of impacted soil.

HILs provide an assessment of potential risk to human health from chronic exposure to contaminants, and have been developed based on land use setting. As the purpose of this investigation is to assess the site against both the current and potential future land (as a school), both the 'HIL A' criteria for low density residential land use with gardens/accessible soil and the 'HIL C' criteria for public open space land use have been adopted.

HSLs have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via the vapour intrusion and inhalation pathway. The HSLs depend on specific soil physicochemical properties and land use scenarios. They apply to different soil types and depths. For the purpose of this investigation, both the 'HSL A' criteria for low density residential land use with gardens/accessible soil and the 'HSL C' criteria for public open space land use have been adopted.

HSLs have been adopted based on a subsurface comprising of silt. This soil type has been selected based on the soil profile observed at the site.

The CRC CARE Technical Report No. 10 (Friebel & Nadebaum, 2011) provides HSLs for petroleum hydrocarbons specifically for vapour inhalation for intrusive maintenance workers in shallow trenches, and for direct contact. These have also been adopted.

The soil assessment criteria for this investigation is summarised in Table 7.1.

Table 7.1 Soil assessment criteria – HILs/HSLs

ANALYTE	LOW DENSITY RESIDENTIAL LAND USE						PUBLIC OPEN SPACE LAND USE						MAINTENANCE/EXCAVATION WORKERS			
	HSL A (in silt) ¹ (mg/kg)				HIL A ² (mg/kg)	Direct contact ³ (mg/kg)	HSL C (in silt) ¹ (mg/kg)				HIL C ² (mg/kg)	Direct contact ³ (mg/kg)	HSLs (in silt) ⁴ (mg/kg)			Direct contact ³ (mg/kg)
	0 to <1 m	1 to <2 m	2 to <4 m	4 m +			0 to <1 m	1 to <2 m	2 to <4 m	4 m +			0 to <2 m	2 to <4 m	4 m +	
TRH/BTEX compounds																
TRH C ₆ -C ₁₀	-	-	-	-	-	4,400	-	-	-	-	-	5,100	NL	NL	NL	82,000
TRH C ₆ -C ₁₀ minus BTEX (F1)	40	65	100	190	-	-	NL	NL	NL	NL	-	-	-	-	-	-
TRH >C ₁₀ -C ₁₆	-	-	-	-	-	3,300	-	-	-	-	-	3,800	NL	NL	NL	62,000
TRH >C ₁₀ -C ₁₆ minus naphthalene (F2)	230	240	440	NL	-	-	NL	NL	NL	NL	-	-	-	-	-	-
TRH >C ₁₆ -C ₃₄ (F3)	-	-	-	-	-	4,500	-	-	-	-	-	5,300	-	-	-	85,000
TRH >C ₃₄ -C ₄₀ (F4)	-	-	-	-	-	6,300	-	-	-	-	-	7,400	-	-	-	120,000
Benzene	0.6	0.7	1	2	-	100	NL	NL	NL	NL	-	120	250	160	NL	1,100
Toluene	390	-	-	-	-	14,000	NL	NL	NL	NL	-	18,000	NL	NL	NL	120,000
Ethylbenzene	-	-	-	-	-	4,500	NL	NL	NL	NL	-	5,300	NL	NL	NL	85,000
Xylene (Total)	95	210	NL	NL	-	12,000	NL	NL	NL	NL	-	15,000	NL	NL	NL	130,000
PAHs																
Naphthalene	4	NL	NL	NL	-	1,400	NL	NL	NL	NL	-	1,900	NL	NL	NL	29,000
PAHs (Total)	-	-	-	-	300	-	-	-	-	-	300	-	-	-	-	-
Benzo(a)pyrene TEQ ⁵	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-
OCPs/OPPs																
HCB	-	-	-	-	10	-	-	-	-	-	10	-	-	-	-	-
Heptachlor	-	-	-	-	6	-	-	-	-	-	10	-	-	-	-	-
Aldrin & dieldrin	-	-	-	-	6	-	-	-	-	-	10	-	-	-	-	-
Chlordane	-	-	-	-	50	-	-	-	-	-	70	-	-	-	-	-
Endosulfan	-	-	-	-	270	-	-	-	-	-	340	-	-	-	-	-
DDE, DDD & DDT	-	-	-	-	240	-	-	-	-	-	400	-	-	-	-	-
Endrin	-	-	-	-	10	-	-	-	-	-	20	-	-	-	-	-
Methoxychlor	-	-	-	-	300	-	-	-	-	-	400	-	-	-	-	-
Chlorpyriphos	-	-	-	-	160	-	-	-	-	-	250	-	-	-	-	-
PCBs																
PCBs (Total)	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-
Heavy metals																
Arsenic	-	-	-	-	100	-	-	-	-	-	300	-	-	-	-	-

ANALYTE	LOW DENSITY RESIDENTIAL LAND USE						PUBLIC OPEN SPACE LAND USE						MAINTENANCE/EXCAVATION WORKERS			
	HSL A (in silt) ¹ (mg/kg)				HIL A ² (mg/kg)	Direct contact ³ (mg/kg)	HSL C (in silt) ¹ (mg/kg)				HIL C ² (mg/kg)	Direct contact ³ (mg/kg)	HSLs (in silt) ⁴ (mg/kg)			Direct contact ³ (mg/kg)
	0 to <1 m	1 to <2 m	2 to <4 m	4 m +			0 to <1 m	1 to <2 m	2 to <4 m	4 m +			0 to <2 m	2 to <4 m	4 m +	
Cadmium	-	-	-	-	20	-	-	-	-	-	90	-	-	-	-	-
Chromium	-	-	-	-	100 ⁶	-	-	-	-	-	300 ⁶	-	-	-	-	-
Copper	-	-	-	-	6,000	-	-	-	-	-	17,000	-	-	-	-	-
Lead	-	-	-	-	300	-	-	-	-	-	600	-	-	-	-	-
Mercury	-	-	-	-	40	-	-	-	-	-	80	-	-	-	-	-
Nickel	-	-	-	-	400	-	-	-	-	-	1,200	-	-	-	-	-
Zinc	-	-	-	-	7,400	-	-	-	-	-	30,000	-	-	-	-	-

- (1) NEPM (2013) Schedule B1 Table 1A(3) Soil HSLs for vapour intrusion (mg/kg)
- (2) NEPM (2013) Schedule B1 Table 1A(1) Health investigation levels for soil contaminants (mg/kg)
- (3) CRC CARE (2011) Table A4 Soil HSLs for direct contact (mg/kg)
- (4) CRC CARE (2011) Table A3 Soil HSLs for vapour intrusion (mg/kg)
- (5) Benzo(a)pyrene toxicity equivalent quotient (TEQ), calculated as a sum of weighted selected PAHs. Further details available in NEPM (2013) Schedule B2
- (6) HIL for chromium VI adopted for total chromium as a conservative approach

- No assessment criteria available

NL Non-limiting due to maximum vapour concentrations being below the acceptable health risk level

7.2 ECOLOGICAL SCREENING LEVELS AND ECOLOGICAL INVESTIGATION LEVELS

The NEPM (2013) provides ecological screening levels (ESLs) for TRH, PAH and BTEXN compounds for use as an initial screening risk assessment to determine whether laboratory analysed concentrations of contaminants potentially pose a risk to plant growth. For the purpose of this investigation, ESLs for 'urban residential and public open space' land uses with fine-grained soil textures have been considered. These are outlined in Table 7.2.

Table 7.2 Soil assessment criteria – ESLs

ANALYTE	ESLS FOR URBAN RESIDENTIAL AND PUBLIC OPEN SPACE (mg/kg dry soil)
TRH C ₆ -C ₁₀ minus BTEX (F1)	180
TRH >C ₁₀ -C ₁₆ minus naphthalene (F2)	120
TRH >C ₁₆ -C ₃₄ (F3)	1,300
TRH >C ₃₄ -C ₄₀ (F4)	5,600
Benzene	65
Toluene	105
Ethylbenzene	125
Xylene (Total)	45
Benzo(a)pyrene	0.7

The NEPM (2013) also provides ecological investigation levels (EILs), which were developed for metals, naphthalene and pesticides. The EILs take into consideration the physiochemical properties of soil and contaminants and the capacity of the local ecosystem to accommodate increases in the contaminant levels. The EILs are derived using the following equation:

$$EIL = \text{added contaminant limit (ACL)} + \text{ambient background concentration (ABC)}$$

The ABC is the background contaminant level and requires measurement at appropriate reference points at the site. The ACL, which is provided in the NEPM (2013), is the maximum contaminant concentration added to the naturally occurring background level, exceedances of which may result in adverse effects on plant health. EILs corresponding to urban residential land use were applicable for this investigation and are further discussed in Section 8.2.2.

7.3 SALINITY AND SODICITY CHARACTERISATION

Salinity and sodicity results were assessed against the rankings presented in NSW DLWC (2002), *Site Investigations for Urban Salinity*. Table 7.3 below presents these rankings based on calculated salinity (derived from EC_e calculated from EC and ESP calculated from exchangeable sodium measured against total cation exchange capacity).

Table 7.3 Salinity and Sodicity Ranking System (DLWC 2002)

SOIL SALINITY RANKING	
EC _e <2 dS/cm	Non-saline
EC _e 2-4 dS/cm	Slightly saline
EC _e 4-8 dS/cm	Moderately saline
EC _e 8-16 dS/cm	Very saline
EC _e >16 dS/cm	Highly saline
SOIL SODICITY RANKING	
ESP <5 %	Non-sodic
ESP 5-15 %	Sodic
ESP >15%	Highly sodic

8 INVESTIGATION RESULTS

8.1 SUBSURFACE CONDITIONS

The subsurface profile at the site comprised silty clay fill materials at all investigation locations, underlain by dark brown and then red clay, with occasional shale layers in between. At three boreholes, sandy material and a sandstone layer was encountered towards 3.0 mBGL. Fill materials generally comprised brown and dark brown fine grained silty sand materials with anthropogenic inclusions such as brick and glass fragments, with plastics and ceramics.

Headspace analysis of VOCs was undertaken on all soil samples collected using a calibrated PID. PID readings reported ranged from 0.0 to 0.12 ppm, suggesting that soils were unlikely to contain significant concentrations of VOCs.

No ACM was identified on the ground surface during the site walkover.

intrusive drilling works, no asbestos containing material was identified on the ground surface across the site.

Environmental borehole logs (including GPS coordinates and PID readings) are provided in Appendix C, and sampling locations are shown on Figure 2.

8.2 ANALYTICAL RESULTS

Selected soil samples collected from boreholes and surface sampling locations were analysed for contaminants of concern. Soil samples were selected based on a combination of sample location (to provide site coverage) and field observations (to target areas of potential concern).

The following sections provide a summary of the results of the soil investigation. More detailed summary tables of analytical results are provided in Tables E1 to E6 in Appendix E, and laboratory reports are provided in Appendix G.

8.2.1 HILS/HSLs

Table 8.1 provides a summary of the number of primary samples analysed, analytes tested for, minimum/maximum constituent concentrations, and samples that exceeded the adopted HILs and/or HSLs for the site.

Table 8.1 Summary of soil analytical results with respect to HILs/HSLs

NO. OF PRIMARY SAMPLES	ANALYTE	CONC. (mg/kg)		SAMPLES EXCEEDING ADOPTED HILS/HSLs		
		Min.	Max.	Low density residential	Public open space	Maintenance/ excavation workers
TRH/BTEX compounds						
40	TRH C ₆ -C ₁₀	<10	<10	-	-	-
40	TRH C ₆ -C ₁₀ minus BTEX (F1)	<25	<25	-	-	NA
40	TRH >C ₁₀ -C ₁₆	<50	<40	-	-	-
40	TRH >C ₁₀ -C ₁₆ minus naphthalene (F2)	<50	<50	-	-	NA
40	TRH >C ₁₆ -C ₃₄ (F3)	<90	150	-	-	-
40	TRH >C ₃₄ -C ₄₀ (F4)	<100	<100	-	-	-
40	Benzene	<0.2	<0.2	-	-	-
40	Toluene	<0.5	<0.5	-	-	-
40	Ethylbenzene	<0.5	<0.5	-	-	-
40	Xylene (Total)	<0.5	<0.5	-	-	-
PAHs						
40	Naphthalene	<0.5	<0.5	-	-	-
40	PAHs (Total)	<0.5	<0.5	-	-	NA
OCPs/OPPs						
23	Heptachlor	<0.05	<0.05	-	-	NA
23	Aldrin & dieldrin	<0.05	<0.05	-	-	NA
23	Chlordane	<0.05	<0.05	-	-	NA

NO. OF PRIMARY SAMPLES	ANALYTE	CONC. (mg/kg)		SAMPLES EXCEEDING ADOPTED HILS/HSLS		
		Min.	Max.	Low density residential	Public open space	Maintenance/ excavation workers
23	Endosulfan	<0.05	<0.05	-	-	NA
23	DDE, DDD & DDT	<0.2	<0.2	-	-	NA
23	Endrin	<0.05	<0.05	-	-	NA
23	Methoxychlor	<0.2	<0.2	-	-	NA
23	Chlorpyriphos	<0.05	<0.05	-	-	NA
PCBs						
23	PCBs (Total)	<0.1	<0.1	-	-	NA
Asbestos						
40	Bonded ACM / Friable asbestos and asbestos fines	Non detect		-		-
Heavy metals						
40	Arsenic	<5	11	-	-	NA
40	Cadmium	<1	<1	-	-	NA
40	Chromium	6	39	-	-	NA
40	Copper	9	39	-	-	NA
40	Mercury	<0.1	<0.1	-	-	NA
40	Nickel	<2	27	-	-	NA
40	Zinc	11	78	-	-	NA

8.2.2 EILS/ESLS

8.2.2.1 EIL CONCENTRATIONS

As discussed in Section 7.2, EIL concentrations are required to assess the potential ecological impacts of metals, pesticides and naphthalene contamination.

Tables 1B(4) and 1B(5) of the NEPM (2013) provide generic EILs for aged arsenic and lead, and fresh DDT and naphthalene in soils (irrespective of their physicochemical properties). Aged values are applicable for contamination present in soil for at least two years. EILs are provided for various land uses including 'areas of ecological significance', 'urban residential and open space' and 'commercial and industrial'. The 'urban residential and open space' land use EILs have been considered for this investigation.

Table 8.2 outlines the EILs (generic and derived) for this investigation.

Table 8.2 Generic and calculated EIL concentrations

ANALYTE	NEPM (2013) EILS (mg/kg)
	URBAN RESIDENTIAL AND OPEN PUBLIC SPACES
Arsenic ¹	100
Chromium (III) ²	190
Copper ⁴	60
DDT ¹	180
Lead ³	1,100
Nickel ²	30
Zinc ⁵	70
Naphthalene ¹	170

- (1) NEPM (2013) Schedule B1 Table 1B(5) Generic EILs for aged As, fresh DDT and fresh naphthalene in soils irrespective of their physicochemical properties
- (2) NEPM (2013) Table 1B(3) Soil-specific added contaminant limits for aged chromium III and nickel in soil
- (3) NEPM (2013) Schedule B1 Table 1B(4) Generic added contaminant limits for lead in soils irrespective of their physicochemical properties
- (4) NEPM (2013) Table 1B(2) Soil-specific added contaminant limits for aged copper in soils
- (5) NEPM (2013) Table 1B(1) Soil-specific added contaminant limits for aged zinc in soil

8.2.2.2 COMPARISON OF ANALYTICAL RESULTS WITH ESLS/EILS

Table 8.3 summarises soil concentrations which exceeded the adopted ESLS/EILs for 'urban residential and open public spaces' land use adopted for the site.

Table 8.3 Summary of soil ESL/EIL exceedances

ANALYTE	SAMPLES EXCEEDING ADOPTED ESLS/EILS
	URBAN RESIDENTIAL AND OPEN PUBLIC SPACES
TRH/BTEX compounds	
TRH C ₆ -C ₁₀ minus BTEX (F1)	-
TRH >C ₁₀ -C ₁₆ minus naphthalene (F2)	-
TRH >C ₁₆ -C ₃₄ (F3)	-
TRH >C ₃₄ -C ₄₀ (F4)	-
Benzene	-
Toluene	-
Ethylbenzene	-
Xylene (Total)	-
PAHs	
Naphthalene	-
Benzo(a)pyrene	-
OCPs	
DDT	-
Heavy metals	
Arsenic	-
Chromium (III)	-
Copper	-
Lead	-
Nickel	-
Zinc	-

8.3 SALINITY AND SODICITY INVESTIGATION RESULTS

8.3.1 FIELD OBSERVATIONS

During the field investigations, observations of the geomorphology and landscape characteristics of the site and surrounds were made. The site itself appears to have been regraded in parts and areas of open unvegetated land may have been the result of vehicle movement rather than salinity. No substantial evidence of soil erosion was identified on the site during the field investigation.

The creek and associated floodplain to the east, north and south of the site were well vegetated with a range of plants including salinity indicator plants identified in the NSW DIPNR (2005), *Salinity Indicator Plants* (most notably spike rush and swamp oak). In addition to these plants other plants with a lower tolerance to saline soil and groundwater

conditions (e.g. eucalypts) were identified around the site and on the floodplain indicating that saline soils were not substantially affecting plant growth at the time of the investigation.

For the purposes of this salinity assessment, the geology on the site has been split into specific units. This division is to allow for assessment of lateral distribution of salinity rankings across the investigation area to identify zones with elevated risk.

- Fill: Identified in TP02 only and comprising clayey silt with wood and bricks (maximum depth 0.5mBGL)
- Topsoil/Organic Rich Layer: Predominantly clayey silt but also comprising sandy silt with higher composition of organic matter compared to other units in the stratigraphy. Generally ranged in depth from surface to between 0.3 and 1.0 mBGL (though identified as 2.0 mBGL in TP35 and TP37)
- Residual Clay/Weathered Shale: situated beneath the topsoil/organic rich layer and comprising clays and silty clays with varying amounts of shale gravels
- Weathered Sandstone: Encountered at depth in only two test pits (TP18 and TP21) from between 3.0 and 2.0 metres in depth respectively.

8.3.2 LABORATORY RESULTS

The results of the laboratory analysis were interpreted based on the guidance presented in NSW DLWC (2002), *Site Investigations for Urban Salinity*. The results of that interpretation are presented in Appendix E.

8.3.2.1 SALINITY RESULTS

Salinity has been assessed across the site based upon distribution within the soil units identified above. Salinity rankings have been derived from derivation of the EC_e and comparison against NSW DLWC (2002), *Site Investigations for Urban Salinity*.

- Fill: The samples collected from the fill material in TP02 was found to be non-saline to slightly saline.
- Topsoil/Organic Rich Layer: The majority of the soil samples analysed for salinity indicators were found to be non-saline to slightly saline. Three sample locations (TP27, TP32 and TP39) held a ranking of moderate salinity within this soil unit. These locations were situated in the south of the site.
- Residual Clay/Weathered Shale: Three sample locations (TP04, TP14 and TP37) held a ranking of non-saline but saline conditions were found to be prevalent in this soil unit. The majority of the soil samples analysed for salinity indicators were found to be slightly saline to moderately saline.
- Weathered Sandstone: All three samples collected from TP18 and TP21 in this soil unit returned a very saline ranking.

8.3.2.2 SODICITY RESULTS

With the exception of one non-sodic sample result (TP39_01), all soils assessed for sodicity across the investigation area held exchangeable sodium percentages (ESP) indicating sodic or highly sodic conditions. Generally, less sodic conditions were identified in the overlying topsoil/organic rich layer (though with the exception of one sample, all still indicative of sodic conditions). Deeper soils generally held ESPs indicative of highly sodic soils.

9 QUALITY ASSURANCE AND QUALITY CONTROL

The DQIs for sampling techniques and laboratory analyses of collected representative samples define the acceptable level of error required for this investigation. The DQI assessment is presented in Table 9.1.

Table 9.1 Data quality indicators

DQI	DESCRIPTION	APPLICABILITY
Representativeness	The confidence that the data are representative of each media present on the site. Expresses the degree to which sample data accurately and precisely represents a characteristic of a population or an environmental condition. Controlled through selecting sampling locations that exemplify site conditions and obtaining suitable samples.	Consistent and repeatable sampling techniques and methods were utilised.
Precision	The quantitative measure of the variability (or reproducibility) of data. Expressed as relative percentage differences (RPDs), assessed by determining the RPDs between the original and duplicate samples tested. Validity of the data is questioned if the RPD limits are exceeded and upon further investigation a reason cannot be determined.	Work was conducted in accordance with WSP standard procedures. The precision of the data was assessed by calculating the RPDs of duplicate samples following AS 4482.1 (2005).
Accuracy	The quantitative measure of the closeness of reported data to the true values. Accuracy can be undermined by such factors as field contamination of samples, poor preservation or preparation techniques.	Accuracy was assessed by using equipment blanks and laboratory QA/QC analytical results (including laboratory control samples, spikes, and reference samples).
Completeness	The measure of the amount of usable data from a data collection activity. Valid chemical data are the values that have been identified as acceptable or validated.	The completeness goal was set at there being sufficient valid data generated during the study. Measurements made were judged to be valid measurements.
Comparability	The confidence that data may be considered to be equivalent for each sampling analytical event, i.e. the confidence with which one data set can be compared with another. Achieved through qualitative assessment of QA/QC procedures, using comparable field sampling, laboratory sample preparation and analytical procedures and reporting units.	The sampling was in general accordance with the sampling and analysis procedures and as per standard industry procedures. Each sample was analysed using identical methods for each analyte and laboratory practical quantitation limits (PQLs) were consistent over each laboratory batch. A check laboratory was used to provide data to make a comparative assessment of variability between laboratories.

Table 9.2 summarises conformance to specific QA/QC procedures.

Table 9.2 Data quality assurance

ITEM	OBJECTIVES MET
Environmental consultant	The environmental consultant maintains quality assurance systems certified to AS/NZS ISO 9001:2000. Qualified and experienced environmental scientists with 1 to 5 years' experience completed field works.
Procedures	All work was conducted in accordance with relevant statutory work health and safety (WHS) and environmental sampling guidelines, as well as standard company WHS and environmental field procedures. Standard field sampling sheets were used. Details recorded included WSP staff and contractors present, time on/off-site, weather conditions, calibration records and comments.
Sampling	Collection of samples was undertaken by appropriately qualified and experienced personnel following WSP standard field procedures which are based on industry accepted standard practice. Chain of custody was used to ensure the integrity of samples from collection to receipt by the laboratory.
Field equipment	Equipment was serviced and calibrated as per the manufacturer requirements.
Equipment decontamination	Undertaken after each sampling episode where equipment used was not dedicated. Rinsate blanks to be non-detect for the potential contaminants (one rinsate blank per day). Field sampling procedures conformed to WSP QA/QC protocols to prevent cross contamination, preserve sample integrity, and allow for collection of a suitable data set from which to make technically sound and justifiable decisions with data of satisfactory usability. QA/QC sample results are presented in in Appendix E.
Transportation	Samples were stored in chilled eskies on-site and during transport via courier to the laboratory. A chain of custody form was completed on-site and sent with the samples. The laboratory confirmed receipt of the samples and specified the condition on delivery and the scheduled analyses. Appropriate holding times were met. Trip blank samples were carried during field works (at a rate of one per sample batch) to assess contamination through field activities and transport. Results were below laboratory PQLs.
Field QA/QC	Four rinsate blank was collected during the soil field works and analysed for TRH and BTEX compounds. All results were below PQLs. Four trip blanks were analysed for BTEX compounds and naphthalene. All results were below PQLs. One trip spike was analysed for BTEX compounds. Recovery results were reported between 88% and 90%. This was considered acceptable. QA/QC sampling was undertaken to industry standard procedures including approximately 1 in 20 blind duplicates (intra-laboratory) to the primary laboratory and approximately 1 in 20 blind duplicates (inter-laboratory) to the secondary laboratory. Field and laboratory acceptable limits are between 30-50% RPD as stated by AS 4482.1-1997. Non-compliances have been documented in Section 9.2 of this report.
Laboratory analysis	Analysis was carried out by laboratories with NATA certification for the required analyses. Detection limits were considered sufficient to enable comparison against the appropriate guidelines.

ITEM	OBJECTIVES MET
Acceptable limits for QA/QC samples	Primary laboratory QA/QC acceptance limits for recovery of surrogates, control samples are matrix spikes to be 70 to 130% for organics and 80 to 120% recovery for inorganics and waters. All method blanks to be less than PQL.
Reporting	Report generally complies with the NEPM (2013).

9.1 FIELD QA/QC

The following sections discuss the field QA/QC program. Summary tables of QA/QC results are provided as Table E7 in Appendix E, and the results for internal and external QA/QC procedures are provided within the laboratory analysis reports in Appendix G.

9.1.1 BLIND DUPLICATES

9.1.1.1 ANALYTICAL PROGRAM

The field QA/QC soil sampling program comprised collection and analysis of four intra-laboratory duplicate (QA02, QA04, QA05 and QA07) and four inter-laboratory duplicate (QA02A, QA04A, QA05A and QA07A) of primary soil samples TP34_0.1, TP26_0.15, TP09_0.5 and TP05_0.3 respectively and these samples were analysed for the same analytical suite as the corresponding primary samples.

No field duplicate analysis was undertaken for asbestos quantification. The purpose of collecting duplicate samples is to measure the potential for inaccuracy in sample results due to field or laboratory procedures. Analysis of anonymised duplicate samples by the primary and secondary laboratories serves to determine the degree to which sample analyses which should provide identical results do, in fact, provide them. The way this is measured is through the calculation of RPDs.

For contaminants which are discrete within the matrix being sampled, such as bonded asbestos, fibrous asbestos or asbestos fines in soil, the duplication of a particular sample does not logically support the objective of duplicate sampling. Chemical contaminants tend, through a variety of processes, to diffuse towards homogeneous concentrations. However, as asbestos contamination represents foreign bodies present in the soil which do not diffuse except through mechanical mixing there is no logical expectation of similar quantities in any two discrete samples, even two samples split from one larger one. Therefore, the results of the analyses of two such samples should not be expected to adhere to the same RPD criteria by which chemical contaminants are measured.

9.1.1.2 RPDS

RPDs were calculated for the primary and duplicate samples for assessment of the data quality, in particular for assessment of the reproducibility of the analytical data measurements or 'precision' given the adopted field and laboratory methods.

The RPDs were calculated using the formula below, and the results are presented in Tables E7 in Appendix E.

$$RPD\% = \frac{|Ro - Rd|}{|(Ro + Rd) / 2|} \times 100\%$$

Where Ro is the primary sample and Rd is the primary duplicate.

The RPD values were compared to the 30–50% RPD acceptance criterion outlined in Australian Standard AS 4482.1 (for non- and semi-volatiles in soil) and NEPM (2013) Schedule B3. For volatile compounds no published RPD acceptance criteria exists, however RPDs of <100% are considered acceptable where concentrations are at least 10 times the PQL. RPDs for results less than the PQL were not calculated. In instances where results were greater than the PQL for the one

sample, but below PQL for the corresponding primary or duplicate sample, a result equal to the PQL was adopted in order to calculate an RPD.

RPD exceedances were reported as follows:

- Exceedance for chromium (74%) and its corresponding inter-laboratory duplicate (QA02A).
- Exceedances for arsenic (100%) and its corresponding inter-laboratory duplicate (QA04A).
- Exceedances for nickel (85%) and zinc (74%) for primary sample TP09_0.5 and its corresponding inter-laboratory duplicate (QA05A).

It is considered that these RPD exceedances are generally a function of low concentrations of these contaminants being present (less than 10 times the PQL), and that laboratory precision in terms of percentage differences is inherently low when analysing low concentrations.

All other RPDs were considered to be acceptable.

9.1.2 *BLANKS/SPIKES*

Four rinsate blanks, four trip blank and one trip spike were also collected and analysed for each day of field work. All results for blank samples were below PQLs.

Results for the trip spike were between 80% and 90%, considered to be acceptable.

Quality control parameter frequency compliance, provided by both laboratories, indicated that quality control analysis was undertaken within the required frequency and matrix spike recoveries were reported to be within recovery limits.

9.2 SUMMARY OF QA/QC RESULTS

WSP considers that the sample collection, documentation, handling, storage and transportation procedures utilised are of an acceptable standard and the analytical results provided by the laboratories are deemed reliable and complete, therefore the data are considered fit for purpose.

It is considered that the QA/QC procedures and results were acceptable and that the conclusions of the report have not been significantly affected by the sampling or analytical procedures. Based on the results of laboratory QA/QC samples and the sampling and handling procedures used for the collection and analysis of soil, the data were considered representative and appropriate for use in this assessment.

10 DISCUSSION OF RESULTS

10.1 SOIL

10.1.1 SOIL LABORATORY RESULTS

Soil analytical results are provided in Appendix E with laboratory certificates provided in Appendix G.

Soil samples were generally collected from soil surface (0.0-0.1 mBGL), 0.2-0.3 mBGL, 0.4-0.5 mBGL, 0.9-1.0 mBGL, and every metre thereafter (every 0.5 m in the boreholes selected for salinity testing, including in the fill). At least one sample was analysed from each investigation location.

Concentrations of TRH fractions, OCPs, OPPs, PAHs and PCBs in all soil samples selected for analysis were below the laboratory limit of reporting (LOR) or below the adopted assessment criteria.

Heavy metal concentrations were below the site assessment criteria in all samples.

Asbestos fibres were not detected in any of the 40 samples tested.

10.2 SALINITY AND SODICITY RISK

Soil at the surface was generally non-saline to slightly saline with some zones of moderately saline soils in the south of the site. The underlying residual clays and weathered shales were predominantly ranked slightly to moderately saline. The deeper weathered sandstone identified in TP18 and TP21 were found to be very saline.

The results indicate a general increase of salinity with depth. Soil salinity can impact upon plant growth, suitability of surface water bodies as habitat and affect construction materials and site infrastructure.

Soil testing for ESP indicated that soils on the site were generally sodic to highly sodic with soil sodicity increasing with depth. Soil sodicity reduces the ability of colloids to bind together and thus increases the risk of soil erosion.

10.3 UPDATED CSM

A key component of understanding the risks posed by potential contaminants, and how to manage them is the development of a contaminant Conceptual Site Model (CSM). In essence for a risk to exist there must be a source of contamination, a potential receptor (e.g. a human or ecological community) and a plausible pathway that links the two. This is known as a source-pathway-receptor analysis. If any one of these components is absent there is no unacceptable risk.

Table 10.1 provides a qualitative risk assessment by considering the potential for a pathway to develop between various sources and receptors.

Table 10.1 Source Pathway Receptor analysis

POTENTIAL SOURCE	PLAUSIBLE PATHWAY	POTENTIAL RECEPTOR	QUALITATIVE RISK	COMMENTS / RATIONALE
Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), TRH and BTEX compounds, PAHs, OCPs/OPPs, PCBs, VOCs, asbestos, herbicides, TNT, RDX.	Direct contact or ingestion	Future construction workers	Negligible	All soil results obtained in this investigation are less than direct contact criteria (hydrocarbons) and adopted assessment criteria.
		Future site occupants	Negligible	No soil results obtained in this investigation exceeded health investigation levels for low density residential use.
	Vapour intrusion	Future site occupants	Negligible	No soil results obtained in this investigation exceed HSLs on the site.
	Uptake by plants	Site Flora	Negligible	No soil results obtained in this investigation exceeded ecological thresholds or EILs.
	Migration in groundwater	Ecology of nearby creeks and ponds	Negligible	No soil results obtained in this investigation exceeded ecological thresholds or EILs.
Salinity and sodicity indicator analytes including pH, electrical conductivity (EC), chloride, sulfate and exchangeable cations in soil	Direct exposure of structures to aggressive soil conditions	Future structures on site	Medium	The results indicate a general increase of salinity with depth. Soil salinity can impact construction materials and site infrastructure.
	Potential for erosion and sediment generation in runoff	Future development works	Medium	Soils tested on the site were generally sodic in nature with sodicity increasing with depth. Sodic soils present an elevated erosion hazard on-site.

11 CONCLUSIONS

WSP Australia Pty Ltd (WSP) was commissioned by RCC to undertake an environmental site assessment at the site. The location and boundaries of the property and the site are shown on Figures 1 and 2 respectively.

The site comprises an area of vacant land approximately 28,360 m² and the proposed redevelopment will comprise the construction of a primary school in the south-east portion of the site, with a playing field in the northern portion of the site.

The objectives of the investigation were to:

- assess the current contamination status of the site
- assess the potential risks associated with contamination (if identified) at the site, with respect to the proposed future land use as a school
- provide recommendations for potential management or remediation requirements, if required
- undertake salinity testing and provide a salinity assessment for the site.

The scope of works for the DSI comprised:

- mechanical boring at 40 different locations (TP01-TP40) across the site, using a hand auger to a depth of 1.5 metres below ground level (mBGL) in conjunction with a drill rig to reach a maximum depth of 3.2 mBGL
- collection of soil samples at locations from the surface (0.0-0.1 mBGL), 0.2-0.3 mBGL, 0.4-0.5 mBGL, 0.9-1.0 mBGL, and every metre thereafter (every 0.5 m in the boreholes selected for salinity testing, including in the fill)
- collection of asbestos presence/absence samples at the same depths as the soil samples from all locations
- laboratory analysis of selected representative soil and asbestos samples for the contaminants of concern identified at the site
- preparation of this DSI report which focuses on assessing the soil contamination status of the site (including a dryland salinity assessment), assessing the need for remediation at the site, and evaluating the suitability of the site for the proposed potential future land uses.

Surface soils are generally non-saline to slightly saline. This indicates that in the sites current form, site structures at the surface are unlikely to be affected by dryland urban salinity. Salinity on the site appears to generally increase with depth. Deeper structures (including footings, piles and service trenches) should have salinity resistant materials incorporated into their design.

Soils tested on the site were generally sodic in nature with sodicity increasing with depth. Sodic soils present an elevated erosion hazard on-site. Development works should be planned to accommodate for the elevated potential for erosion and sediment generation in runoff and the final development should ensure adequate protection of soils (e.g. through maintenance of vegetation coverage).

Based on the analytical results, there was negligible soil contamination impact identified on or beneath the site. Soil samples reported no contaminants of concern above the adopted HILs, EILs or HSL guidelines, therefore WSP are of the opinion that the site is suitable for the proposed development.

12 LIMITATIONS

Scope of services

This environmental site assessment report (the report) has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the client and WSP (scope of services). In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

Reliance on data

In preparing the report, WSP has relied upon data, surveys, analyses, designs, plans and other information provided by the client and other individuals and organisations, most of which are referred to in the report (the data). Except as otherwise stated in the report, WSP has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report (conclusions) are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. WSP will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to WSP.

Environmental conclusions

In accordance with the scope of services, WSP has relied upon the data and has conducted environmental field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report.

On all sites, varying degrees of non-uniformity of the vertical and horizontal soil or groundwater conditions are encountered. Hence no monitoring, common testing or sampling technique can eliminate the possibility that monitoring or testing results/samples are not totally representative of soil and/or groundwater conditions encountered. The conclusions are based upon the data and the environmental field monitoring and/or testing and are therefore merely indicative of the environmental condition of the site at the time of preparing the report, including the presence or otherwise of contaminants or emissions.

Also, it should be recognised that site conditions, including the extent and concentration of contaminants, can change with time.

Within the limitations imposed by the scope of services, the monitoring, testing, sampling and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied, is made.

Report for benefit of client

The report has been prepared for the benefit of the client and no other party. WSP assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of WSP or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

Other limitations

WSP will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report.

The scope of services did not include any assessment of the title to or ownership of the properties, buildings and structures referred to in the report nor the application or interpretation of laws in the jurisdiction in which those properties, buildings and structures are located.

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APPENDIX A

FIGURES





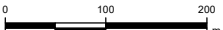
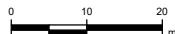
Map: PS110032_GIS_F001_r1v1	Author: TW		 1:7,500	Jordan Springs Public School Environmental Site Assessment 14 - 28 Cullen Avenue, Jordan Springs, NSW 2747
Date: 27/06/2018	Approved by:			
Data source: - Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community			Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3	
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\\corp.pbw.net\ANZ\Projects\PS110032_Liverpool\4_WIP\GIS\Projects\PS110032_GIS_F001_r1v1.mxd				Client Name
				www.wsp.com

Figure 1
Site Location Plan



Map: PS110032_GIS_F002_r1v1	Author: TW		 1:1,000
Date: 27/06/2018	Approved by:		
Data source: - © Department of Finance, Services & Innovation 2017		Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3	
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Client Name

Jordan Springs Public School Environmental Site Assessment
14 - 28 Cullen Avenue, Jordan Springs, NSW 2747

Figure 2
Intrusive Location Plan

APPENDIX B

SITE PHOTOGRAPHS





Photo 1: Overview of the site looking north-west towards residential housing



Photo 2: View of small creek to the east of the site with a dog park beyond



Photo 3: Construction occurring in the area, apartments are present to the south west



Photo 4: Casuarina trees are present along the creek line to the east



Photo 5: View of material within TP03



Photo 6: View of material within TP38



Photo 7: View of material within TP05



Photo 8: View of material within TP06



Photo 9: Clay material present in all boreholes



Photo 10: Red/white clay layer within TP05



Photo 11: Silty material present at TP19 at 1.0 m



Photo 12: Stiff clay material in TP05



Photo 13: View of material within TP29



Photo 14 View of material within TP18



Photo 15: The creek on the eastern boundary, looking north



Photo 16: The creek on the eastern boundary, looking south

APPENDIX C

BOREHOLE LOGS





BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP01**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **7/6/18**
 Date Completed: **7/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.72601 N 33.72441**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No ACM or odours observed
									Clayey SILT, brown, moist, gravel/shale inclusions <40mm			TP01_0.1
				0.50					CLAY, brown, medium plasticity, moist, <20mm shale gravels			TP01_0.3
												TP01_0.5
				1.00					CLAY changed to red/white, no inclusions			TP01_1.0
				2.00					Very plastic CALY, crumbly/friable			TP01_2.0
				3					END OF BOREHOLE AT 3.00 m			TP01_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP02**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **7/6/18**
 Date Completed: **7/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**Co-ords: **E 150.72683 N 33.72439**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No ACM or odours observed
									FILL, Wood and brick, clayey SILT, low plasticity, organics, brown			TP02_0.1
				0.50					CLAY, brown, low plasticity, damp, small shales <40mm			TP02_0.3
												TP02_0.5
				1.00					Becomes lighter in colour			TP02_1.0
				2.00					CLAY, as above but red/white			TP02_2.0
				3					END OF BOREHOLE AT 3.00 m			TP02_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP03**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **7/6/18**
 Date Completed: **7/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**Co-ords: **E 150.7273 N 33.72444**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No odours or ACM observed
									Clayey SILT, brown/grey, low plasticity, shale gravels <60mm, organics, friable silt gravels <60mm			TP03_0.1
				0.50					CLAY, brown/grey, silt and shale gravels present <40mm, low plasticity, damp			TP03_0.3
												TP03_0.5
				1.00					Getting siltier and more red			TP03_1.0
				2.00					CLAY, red, silty, no inclusions, low plasticity, damp			TP03_2.0
				3					END OF BOREHOLE AT 3.00 m			TP03_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP04**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **7/6/18**
 Date Completed: **7/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords:

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass		VS FB VL MD ST VD H		No ACM or odours
									Clayey SILT, organics, fill/rubbish present				TP04_0.1
HFA				0.50					Shaley CLAY, grey, chalky on top, small shales present <40mm, low plasticity, moist				TP04_0.3
													TP04_0.5
				1									TP04_1.0
				2.00									TP04_2.0
				3									TP04_3.0
									END OF BOREHOLE AT 3.10 m				
This borehole log should be read in conjunction with WSP's accompanying standard notes.													

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP06**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**Co-ords: **E 150.72752 N 33.7246**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No ACM or odours observed
				0.50					Clayey SILT, compacted friable silt gravels, organics present, <40mm gravels			TP06_0.1
				1.00					Silty SAND, yellow, dry, coarse, loose, sandstone layer			TP06_0.5
				2.00					SHALE layer, silty gravels <40mm loose dust, dry			TP06_1.0
				2.90					CLAY, red/brown, low plasticity, dry, small gravels <40mm			TP06_2.0
				3.00					Becomes red			
									END OF BOREHOLE AT 3.00 m			TP06_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP07**

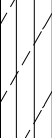
SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°**
 Bearing: **---**
 Surface RL:
 Co-ords:

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.15					Grass		VS FB VL SL ST VST HD		No ACM or odours
									Clayey SILT, compacted friable, silt gravels, organic present, <40mm gravels				TP07_0.15
				0.60					Increasing silt content				TP07_0.3
				1.00					CLAY, brown, slightly moist, small shale gravels, <60mm, dry, silt particles present on top of clay sample				TP07_0.6
													
				2									TP07_1.0
													TP07_2.1
				3.00					CLAY, red/white, small <40mm gravels, low plasticity, compacted, low moisture				
									END OF BOREHOLE AT 3.10 m				TP07_3.1

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

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

BOREHOLE ENVIRONMENTAL LOG

TP09

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
Project: **Jordan Springs**
Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
Project Number: **PS110032**

Date Commenced: **6/6/18**
Date Completed: **6/6/18**
Recorded By: **CW**
Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**

Bearing: ---

Co-ords: **E 150.7268556 N 33.72462**

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
VS	FB	VL	LD	ST	MD	VS	ST	MD	VS	ST	MD	VS	ST
HA									Grass				
				0.10					Clayey SILT layer				TP09_0.1 No ACM or odours
													TP09_0.3
				0.50					NATURAL CLAY, red/white, moist, no gravels, no inclusions, low-medium plasticity				TP09_0.5 QA05 QA05A
				1.00	1				As above but brown				TP09_1.0
				2.00	2				As above but red/white with no gravels				TP09_2.0
				3					END OF BOREHOLE AT 3.00 m				TP09_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP10**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**

Co-ords:

E 150.72734 N 33.72466

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA									Grass			No ACM or odours observed
				0.20					Clayey SILT, compacted friable silt gravels, organics present, <40mm gravels			TP10_0.2
												TP10_0.4
				0.60					Natural CLAY, red/brown, low plasticity, no moisture, dry, small gravels <40mm			TP10_0.6 QA06 QA06A
				1.00					Back to brown no gravels			TP10_1.0
				2								TP10_2.0
				2.90					Back to red clay, small gravels <40mm			
				3					END OF BOREHOLE AT 3.00 m			TP10_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP11**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**Co-ords: **E 150.72661 N 33.72474**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No ACM or odours observed
									Clayey SILT, brown, loose organics, moist friable clay gravels (<60mm)			TP11_0.1
				0.50					CLAY, brown, high plasticity, moist, small shale and ironstone gravels <40mm			TP11_0.3
												TP11_0.5
				1.00					Becomes grey/red			TP11_1.0
												
				2.00					Brown clayey SILT, high plasticity, same as above			TP11_2.0
												
				3					END OF BOREHOLE AT 3.00 m			TP11_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP12**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.7266 N 33.72483**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No odours or ACM observed
				0.30					SHALE layer, dry loose, fine grained, grey <60mm gravels of shale			TP12_0.1
				0.50					Brown, CLAY, friable, silt cobbles present <40mm gravels			TP12_0.3
				1					Red/white CLAY, small shale gravels <40mm, low plasticity, dry			TP12_0.5
				2								TP12_1.0
				3					END OF BOREHOLE AT 3.00 m			TP12_2.0
												TP12_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP13**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**

Co-ords:

E 150.72705 N 33.72474

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No ACM or odours observed
									Clayey SILT			TP13_0.1
				0.60								TP13_0.4
				1					Shaley CLAY, fragments shale, gravels <40mm, brown, moist, medium plasticity			TP13_0.9
				2								
				3.00					Red CLAY, shale and ironstone gravels present <40mm, low plasticity, moist			TP13_3.0
									END OF BOREHOLE AT 3.10 m			

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP15**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.7261 N 33.72466**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
VS	FB	VL	ST	MD	VD	H						
HA				0.10					Grass			No odours or ACM observed
									Clayey SILT, small friable gravels, brown, dry, loose			TP15_0.1
				0.50					CLAY, brown, moist, medium plasticity, compacted, no gravels			TP15_0.3
				1								TP15_0.5
												TP15_1.0
				2.00					CLAY, grey/red with no inclusions			TP15_2.0
				3.00								TP15_3.0
									END OF BOREHOLE AT 3.10 m			

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP16**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**

Co-ords:

E 150.72652 N 33.72496

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No odours or ACM observed
									Clayey SILT, brown, loose, organics, moist, friable clay gravels			TP16_0.1
				0.50					Brown CLAY, loose, no gravels, moist, organics present (roots)			TP16_0.3
				1								TP16_0.5
												TP16_1.0
				2.00					CLAY changed to be grey/red, minimal gravels, medium plasticity, moist			TP16_2.0
				3								TP16_3.0
									END OF BOREHOLE AT 3.10 m			

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP17**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 33.72688 N 33.72482**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No odours or ACM observed
									Clayey SILT			TP17_0.1
				0.60					Brown CLAY, white spots, moist, small gravels <40mm			TP17_0.6
				1								TP17_0.9
				2								TP17_2.1
				3.00					CLAY, red/white, low plasticity, moist, no gravels			
									END OF BOREHOLE AT 3.20 m			TP17_3.2

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP18**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.7276 N 33.72492**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA									Grass			No ACM or odours observed
				0.15					Clayey SILT, dry to slightly moist, brown, small friable gravels <60mm, organics, small shale gravels <40mm			TP18_0.15
				0.30					Becoming lighter grey, more shale present			TP18_0.3
				0.50					Silty CLAY same as above. Becoming more moist, increased plasticity			TP18_0.5
				1.00					Dark brown, moist, silty CLAY <40mm shale gravels			TP18_1.0
				2								TP18_2.0
				3.00					Silty SAND, yellow, slightly moist, loose gravels <50mm, start of sandstone layer below shale/clay			TP18_3.0
									END OF BOREHOLE AT 3.10 m			Sandstone layer

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP20**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **6/6/18**
 Date Completed: **6/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**

Co-ords:

E 150.7278 N 33.7247

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
VS	FB	VL	ST	MD	VD	H						
HA									Grass			No ACM/odours observed
				0.15					Clayey SILT, compacted, friable silt gravels, organics present, <40mm gravels			TP20_0.1
				0.50					Brown CLAY shale gravels <40mm, moist, low plasticity			TP20_0.3
				1								TP20_0.5
				1.50					CLAY, light brown/red/orange, small shale gravels <30mm			TP20_1.0
HFA				2								TP20_2.0
				3								TP20_3.0
									END OF BOREHOLE AT 3.20 m			

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP21**

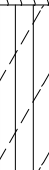
SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.726 N 33.72509**

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)	
VS	FB	VL	ST	MD	VD	H							
HA				0.10					Grass			No ACM or odours observed	
									Clayey SILT, friable, silt clumps/gravels <60mm, dry, loose, organics present, small gravels of shale <40mm			TP21_0.1	
				0.50					Dark brown CLAY begins , very stiff and compacted			TP21_0.3	
				1.00					Same as above, lighter colour grey and red. Shale gravels present <40mm			TP21_1.0	
HFA				2.00					SAND, yellow medium grained, loose, dry, start of bedrock layer			TP21_2.0	
				3.00								TP21_3.0	
									END OF BOREHOLE AT 3.20 m				

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP24**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**

Co-ords:

E 150.7275 N 33.7249

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)	
VS	FB	VL	ST	MD	VD	H							
HA									Grass			No odour or ACM observed	
				0.10					Clayey SILT, brown, loose, slightly moist, <40mm gravels			TP24_0.1	
				0.30					Becoming more CLAY than SILT			TP24_0.3	
				0.50					SHALE, dry, loose, fine grained, grey <40mm shale gravels angular			TP24_0.5	
				1.00					Transitions back to brown silty CLAY as above			TP24_1.0	
HFA				2.00					Clay red/white, compact, slightly moist, no inclusions				
				3					END OF BOREHOLE AT 3.00 m			TP24_3.0	

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP25**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**

Co-ords:

E 150.7277 N 33.72497

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No odours or ACM observed
				0.30					Clayey SILT, brown, very dry, loose friable silt gravels <60mm, organics and small gravels present <40mm angular			TP25_0.1
				0.50					Dry SHALEY SILT, <60mm shale gravels, grey			TP25_0.3
				1.00					SILTY CLAY, brown, dry, low plasticity, no inclusions, compacted			TP25_0.5
									Becoming more moist, brown again			TP25_1.0
HFA				2								TP25_2.0
				3.00					Red/grey CLAY, low plasticity, moist, no inclusions			TP25_3.0
									END OF BOREHOLE AT 3.20 m			

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP26**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**Co-ords: **E 150.7261 N 33.72535**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
VS	FB	VL	SL	ST	MD	VD	VS	VS	VS	VS	VS	VS
HA									Grass			No ACM or odours observed
				0.15					Clayey SILT with small <40mm gravels			TP26_0.15
				0.40					Grey silty CLAY, hard, dry, compact, low plasticity			TP26_0.4 QA04 QA04A
				1								TP26_1.0
				2.00					Red/white compacted clay			TP26_2.0
				3					END OF BOREHOLE AT 3.00 m			TP26_3.0

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

BOREHOLE ENVIRONMENTAL LOG

TP27

SHEET 1 OF 1

Client:	Richard Crookes Constructions
Project:	Jordan Springs
Borehole Location:	14 Cullen Avenue, Jordan Springs NSW, 2747
Project Number:	PS110032

Date Commenced: **5/6/18**
Date Completed: **5/6/18**
Recorded By: **CW**
Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**

Bearing: ---

Co-ords: **E 150.72672 N 33.72519**

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA									Grass				No ACM or odours observed
									Sandy/Clayey SILT, brown, loose, dry, <60mm gravels				TP27_0.1
									CLAY, red, low plasticity, low moisture, small gravel inclusions <40mm				TP27_0.3
									TP27_0.5				
									Transitions back to brown clay				TP27_1.0
									TP27_2.0				
									END OF BOREHOLE AT 3.00 m				TP27_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP28**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**

Co-ords:

E 150.72742 N 33.72524

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
HA				0.10					Grass			No ACM or odours observed
				0.30					Clayey SILT, brown, loose, dry, friable silt gravels <60mm, organics, shale gravels <20mm			TP28_0.1
				0.50					Weathered SHALE, grey, dry, loose, clay/silt particles present, no other inclusions			TP28_0.3
				1					Silty CLAY, grey/red, compacted, dry, low plasticity, shale gravels <20mm			TP28_0.5
				2					Becoming more moist			TP28_2.0
				3					END OF BOREHOLE AT 3.00 m			TP28_3.0

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP29**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.72774 N 33.72529**

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	13
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
VS	FB	VL	ST	MD	VD	H						
HA				0.10					Grass			No odours or ACM observed
				0.30					Clayey SILT, brown, dry, loose, friable gravels of silt <60mm, organic inclusions			TP29_0.1
				0.60					Natural SILTY CLAY, red/yellow, low plasticity, dry, gravel inclusions of shale <40mm			TP29_0.3
												TP29_0.5
				1					Becoming more moist, brown, no inclusions			TP29_1.0
				2								TP29_2.0
				3								TP29_3.0
									END OF BOREHOLE AT 3.30 m			

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP30**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.72603 N 33.72526**

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)	
VS	FB	VL	ST	MD	VD	H							
HA				0.10					Grass			No ACM or odours observed	
									Clayey SILT, friable, silt clumps/gravels <60mm, dry, loose, organics present, small gravels of shale <40mm			TP30_0.1	
				0.50					Dark brown CLAY begins, very stiff and compacted			TP30_0.3	
				1.00					Same as above, lighter colour grey and red. Shale gravels present <40mm			TP30_0.5	
									CLAY, red/white			TP30_1.0	
				2.00								TP30_2.0	
				3					END OF BOREHOLE AT 3.00 m			TP30_3.0	

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

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP32**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **5/6/18**
 Date Completed: **5/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**Hole Angle: **90°**

Surface RL:

Borehole Diameter: **110 mm**Bearing: **---**Co-ords: **E 150.727 N 33.72533**

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
VS	FB	VL	ST	MD	VD	H							
HA									Grass				No ACM or odours observed
				0.10					Clayey SILT, brown, loose, dry, organics <40mm gravels				TP32_0.1
				0.30					CLAY, brown				TP32_0.3
													TP32_0.5
				1									TP32_1.0
				2.00					NATURAL CLAY, red/white dense clay, dry, compact, very low plasticity, no gravels				TP32_2.0
				3					END OF BOREHOLE AT 3.00 m				TP32_3.0
				</									

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

**BOREHOLE ENVIRONMENTAL LOG****TP33**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
Project: **Jordan Springs**
Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
Project Number: **PS110032**

Date Commenced: **4/6/18**
Date Completed: **4/6/18**
Recorded By: **CW**
Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
Bearing: **---** Co-ords: **E 150.7271 N 33.72552**

Borehole Information						Field Material Description																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
1	2	3	4	5	6	7	8	9	10	11	12	13																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
HA				0.15					Grass	VS	FB	No odours or ACM observed																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP36**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **4/6/18**
 Date Completed: **4/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.7277 N 33.72549**

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)	
VS	FB	VL	ST	MD	VD	H							
HA				0.10					Grass			No odours or ACM observed	
									Sandy SILT, dry, loose, brown, gravel (shale) small, angular <80mm			TP36_0.1	
												TP36_0.3	
												TP36_0.5	
				1.00					Residual/Natural red/yellow SILTY CLAY, low plasticity, low moisture, no gravels to very small shales <20mm			TP36_1.0	
HFA													
				1.80					Transitions back to brown clay with shale gravels			TP36_2.0	
				2									
				3								TP36_3.0	
									END OF BOREHOLE AT 3.30 m				

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



BOREHOLE NO.

BOREHOLE ENVIRONMENTAL LOG**TP40**

SHEET 1 OF 1

Client: **Richard Crookes Constructions**
 Project: **Jordan Springs**
 Borehole Location: **14 Cullen Avenue, Jordan Springs NSW, 2747**
 Project Number: **PS110032**

Date Commenced: **4/6/18**
 Date Completed: **4/6/18**
 Recorded By: **CW**
 Log Checked By: **NG**

Drill Model/Mounting: **Track mounted**
 Borehole Diameter: **110 mm**

Hole Angle: **90°** Surface RL:
 Bearing: **---** Co-ords: **E 150.7271 N 33.72597**

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m)	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY / CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)	
VS	FB	VL	ST	MD	VD	H							
HA									Grass			No odours or ACM observed	
				0.10					Sandy SILT, brown, loose, slightly moist, organics present, small gravels sub-angular <40mm			TP40_0.1	
				0.30					SILTY CLAY, brown, medium plasticity, low moisture, very small gravels <20mm, angular, compacted			TP40_0.3	
												TP40_0.5	
				1								TP40_1.0	
				2								TP40_2.0	
				3					END OF BOREHOLE AT 3.00 m			TP40_3.0	

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

APPENDIX D

DESKTOP REVIEW INFORMATION



ADVANCE LEGAL SEARCHERS PTY LTD

(ACN 147 943 842)
ABN 82 147 943 842

18/36 Osborne Road,
Manly NSW 2095

Telephone: +612 9977 6713
Mobile: 0412 169 809
Email: search@alsearchers.com.au

18th June 2018

WSP Australia Pty Limited
Level 27, 680 George Street,
SYDNEY NSW 2000

Attention: Ben Gentile

**RE: 14 – 28 Cullen Avenue,
Jordan Springs
Reference PS110032**

Current Search

Folio Identifier 22/1194338 (title attached)
DP 1194338 (plan attached)
Dated 13th June 2018
Registered Proprietor:
ST MARYS LAND LIMITED

Title Tree
Lot 22 DP 1194338

Folio Identifier 22/1194338

Folio Identifier 8/1176874

Folio Identifier 3138/1168995

Folio Identifier 2994/1168994

Folio Identifier 3/1155647

Folio Identifier 1127/1158660

Folio Identifier 1036/1149525

Folio Identifier 3/1104194

Folio Identifier 1/1079444

Folio Identifier 2/1038166

Folio Identifier 2/803832

Folio Identifier 1/789196

Folio Identifier 1/599377

Certificate of Title Volume 13845 Folio 125

Certificate of Title Volume 11118 Folio 15

Certificate of Title Volume 8237 Folio 69

Certificate of Title Volume 5500 Folio 131

Commonwealth Gazettal 21st August 1941 Folio's 1836 & 1836A

Summary of Proprietor(s) Lot 22 DP 1194338

Year	Proprietor(s)
	(Lot 22 DP 1194338)
2014 – todate	St Marys Land Limited
	(Lot 8 DP 1176874)
2012 – 2014	St Marys Land Limited
	(Lot 3138 DP 1168995)
2012 – 2012	St Marys Land Limited
	(Lot 2994 DP 1168994)
2012 – 2012	St Marys Land Limited
	(Lot 3 DP 1155647)
2012 – 2012	St Marys Land Limited
	(Lot 1127 DP 1158660)
2011 – 2012	St Marys Land Limited
	(Lot 1036 DP 1149525)
2010 – 2011	St Marys Land Limited
	(Lot 2 DP 1132380)
2007 – 2010	St Marys Land Limited
	(Lot 3 DP 1104194)
2007 – 2007	St Marys Land Limited
	(Lot 1 DP 1079444)
2005 – 2007	St Marys Land Limited
	(Lot 2 DP 1038166)
2003 – 2005	St Marys Land Limited
	(Lot 2 DP 803832)
1999 – 2003	St Marys Land Limited
1992 – 1999	ADI Limited <i>(formerly Australian Defence Industries Limited)</i>
1992 – 1992	Australian Defence Industries Limited <i>(formerly Australian Defence Industries Pty Limited)</i>
	(Lot 1 DP 789196)
1992 – 1992	Australian Defence Industries Limited <i>(formerly Australian Defence Industries Pty Limited)</i>
1989 – 1992	Australian Defence Industries Pty Limited
1989 – 1989	The Commonwealth of Australia
	(Lot 1 DP 599377)
1988 – 1989	The Commonwealth of Australia

Cont.

Cont.

	(Lot 1 DP 599377 – CTVol 13845 Fol 125)
1979 – 1988	The Commonwealth of Australia
	(Lot 1 DP 535495 – CTVol 11118 Fol 15)
1969 – 1979	The Commonwealth of Australia
	(Part Portion 111 Parish Londonderry and other lands – Area 4088 Acres 3 Roods 25 Perches – CTVol 8237 Fol 69)
1961 – 1969	The Commonwealth of Australia
	(Part Portion 111 Parish Londonderry and other lands – Area 4549 Acres – CTVol 5500 Fol 131)
1945 – 1961	The Commonwealth of Australia
	(Portion 111 Parish Londonderry and other land – Area 700 Acres)
1941 – 1945	The Commonwealth of Australia
(1941 – 1945)	<i>(Acquired by Commonwealth for Defence Purposes vide Commonwealth Gazette 21st August 1941 Folio 1836 & 1836A)</i>

	Status	Surv/Comp	Purpose
DP1149528			
Lot(s): 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1126, 1127, 1128			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
DP1158660			
Lot(s): 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1185, 1186, 1187, 1188, 1189, 1190, 1191			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
DP1172934			
Lot(s): 1120, 1121			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
 DP1158660	HISTORICAL	SURVEY	SUBDIVISION
DP1174722			
Lot(s): 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
 DP1155647	HISTORICAL	SURVEY	SUBDIVISION
 DP1158660	HISTORICAL	SURVEY	SUBDIVISION
 DP1168994	HISTORICAL	SURVEY	SUBDIVISION

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	Status	Surv/Comp	Purpose
DP1176163			
Lot(s): 12			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
 DP1155647	HISTORICAL	SURVEY	SUBDIVISION
 DP1158660	HISTORICAL	SURVEY	SUBDIVISION
 DP1171575	HISTORICAL	SURVEY	SUBDIVISION
 SP94110	PRE-ALLOCATED	UNAVAILABLE	STRATA PLAN
DP1176874			
Lot(s): 6, 7			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
 DP1155647	HISTORICAL	SURVEY	SUBDIVISION
 DP1158660	HISTORICAL	SURVEY	SUBDIVISION
 DP1168994	HISTORICAL	SURVEY	SUBDIVISION
 DP1168995	HISTORICAL	SURVEY	SUBDIVISION
DP1194338			
Lot(s): 22, 23, 24			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
 DP1155647	HISTORICAL	SURVEY	SUBDIVISION
 DP1158660	HISTORICAL	SURVEY	SUBDIVISION
 DP1168994	HISTORICAL	SURVEY	SUBDIVISION
 DP1168995	HISTORICAL	SURVEY	SUBDIVISION
 DP1176874	HISTORICAL	SURVEY	SUBDIVISION
DP1194558			
Lot(s): 1342			
 DP1236878	PRE-ALLOCATED	UNAVAILABLE	SUBDIVISION

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	Status	Surv/Comp	Purpose
Lot(s): 1342, 1343			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
 DP1155647	HISTORICAL	SURVEY	SUBDIVISION
 DP1158660	HISTORICAL	SURVEY	SUBDIVISION
 DP1171575	HISTORICAL	SURVEY	SUBDIVISION
 DP1176163	HISTORICAL	SURVEY	SUBDIVISION
 DP1179646	HISTORICAL	SURVEY	SUBDIVISION
 DP1179653	HISTORICAL	SURVEY	SUBDIVISION
 DP1195110	HISTORICAL	SURVEY	SUBDIVISION
DP1195110			
Lot(s): 14			
 DP1238113	PRE-ALLOCATED	UNAVAILABLE	SUBDIVISION
Lot(s): 14, 18, 20			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
 DP1155647	HISTORICAL	SURVEY	SUBDIVISION
 DP1158660	HISTORICAL	SURVEY	SUBDIVISION
 DP1171575	HISTORICAL	SURVEY	SUBDIVISION
 DP1176163	HISTORICAL	SURVEY	SUBDIVISION
 DP1179646	HISTORICAL	SURVEY	SUBDIVISION
 DP1179653	HISTORICAL	SURVEY	SUBDIVISION
DP1217814			
Lot(s): 10, 11, 12, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53			
 DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP789196	HISTORICAL	SURVEY	SUBDIVISION
 DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
 DP1038166	HISTORICAL	SURVEY	SUBDIVISION
 DP1079444	HISTORICAL	SURVEY	SUBDIVISION
 DP1104194	HISTORICAL	SURVEY	SUBDIVISION
 DP1132380	HISTORICAL	SURVEY	SUBDIVISION
 DP1149525	HISTORICAL	SURVEY	SUBDIVISION
 DP1155647	HISTORICAL	SURVEY	SUBDIVISION
 DP1158660	HISTORICAL	SURVEY	SUBDIVISION
 DP1168994	HISTORICAL	SURVEY	SUBDIVISION
 DP1168995	HISTORICAL	SURVEY	SUBDIVISION
 DP1176874	HISTORICAL	SURVEY	SUBDIVISION
 DP1194338	HISTORICAL	SURVEY	SUBDIVISION

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ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps.

		Status	Surv/Comp	Purpose
SP92763				
	DP223888	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
	DP598653	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
	DP789196	HISTORICAL	SURVEY	SUBDIVISION
	DP803832	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
	DP1038166	HISTORICAL	SURVEY	SUBDIVISION
	DP1079444	HISTORICAL	SURVEY	SUBDIVISION
	DP1104194	HISTORICAL	SURVEY	SUBDIVISION
	DP1132380	HISTORICAL	SURVEY	SUBDIVISION
	DP1149525	HISTORICAL	SURVEY	SUBDIVISION
	DP1155647	HISTORICAL	SURVEY	SUBDIVISION
	DP1158660	HISTORICAL	SURVEY	SUBDIVISION
	DP1171575	HISTORICAL	SURVEY	SUBDIVISION
	DP1176163	HISTORICAL	SURVEY	SUBDIVISION

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Plan	Surv/Comp	Purpose
DP1149528	SURVEY	SUBDIVISION
DP1149528	UNRESEARCHED	SUBDIVISION
DP1158660	SURVEY	SUBDIVISION
DP1158660	UNRESEARCHED	SUBDIVISION
DP1172934	SURVEY	SUBDIVISION
DP1172934	UNRESEARCHED	SUBDIVISION
DP1174722	SURVEY	SUBDIVISION
DP1174722	UNRESEARCHED	SUBDIVISION
DP1176163	SURVEY	SUBDIVISION
DP1176163	UNRESEARCHED	SUBDIVISION
DP1176874	SURVEY	SUBDIVISION
DP1176874	UNRESEARCHED	SUBDIVISION
DP1194338	SURVEY	SUBDIVISION
DP1194338	UNRESEARCHED	SUBDIVISION
DP1194558	SURVEY	SUBDIVISION
DP1194558	UNRESEARCHED	SUBDIVISION
DP1195110	SURVEY	SUBDIVISION
DP1195110	UNRESEARCHED	SUBDIVISION
DP1217814	SURVEY	SUBDIVISION
DP1217814	UNRESEARCHED	SUBDIVISION
SP92763	COMPILATION	STRATA PLAN

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ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps.

**EXPENDITURE UNDER TREASURY REGULATION 67
MADE UNDER SECTION 71 OF THE AUDIT ACT
1901-1934.**

PRIME MINISTER'S DEPARTMENT.

£433 19s. 5d.—James Hardy and Company Proprietary Limited, Sydney.—Fibrolite, pipes and fittings.

DEPARTMENT OF THE INTERIOR.

£2,115 13s.—International Harvester Co. of Australia Pty. Ltd., Camperdown, Sydney, N.S.W.—Purchase of five International standard coupe utilities with spare parts.

£276.—Pumps & Power Co. Ltd., 40E Cordova-street, Vancouver, B.C., Canada.—Purchase of two "Paramount Cub" multi-stage self-pumping centrifugal pumps.

DEPARTMENT OF HEALTH.

£339.—Melford Motors, Melbourne.—One Ford Model V.8 deluxe coupe motor car for Commonwealth Serum Laboratories.

£348.—Melford Motors, Melbourne.—One Ford model V.8 deluxe sedan motor car for Commonwealth Serum Laboratories.—(Ex. Min. No. 46.)

POSTMASTER-GENERAL'S DEPARTMENT.

£242 5s., plus exchange.—Telephones and Cables Pty. Ltd., Sydney, N.S.W.—Purchase of telegraph distortion testers and spares for use by the Postmaster-General's Department in New South Wales.—(Ex. Min. No. 60.)

ROBERT G. MENZIES, Prime Minister.

COMMONWEALTH OF AUSTRALIA.

The *Lands Acquisition Act 1906-1936.*

**NOTIFICATION OF THE ACQUISITION OF LAND
BY THE COMMONWEALTH.**

IT is hereby notified and declared by His Excellency the Governor-General acting with the advice of the Federal Executive Council, that the land hereunder described has been acquired by the Commonwealth under the *Lands Acquisition Act 1906-1936*, for the following public purpose, namely: Defence purposes at St. Mary's, New South Wales.—(C.L.7519.)

Dated this sixth day of August, One thousand nine hundred and forty-one.

GOWRIE

Governor-General.

By His Excellency's Command,

T. J. COLLINS

for Minister of State for the Interior.

DESCRIPTION OF LAND REFERRED TO.

All that piece of land containing an area of 2,921 acres more or less being Portions 105, 106, 107, 108, 110, 111, 112 and 121 parts of Portions 104 and 116 the 1 chain road along the eastern boundaries of Portions 108, 121, 110 and 111 and passing through Portion 112, part of the reserved road 2 chains wide along northern boundaries and an eastern boundary of Portion 104, the reserved road 1 chain wide along the northern boundary of Portion 106 and the reserved road 2 chains wide along the southern boundary of Portion 107, Parish of Londonderry, Portion 112 and parts of Portion 110 and 113 the reserved road 100 feet wide along the northern boundary of Portion 110 and part of the reserved road 100 feet wide along the southern boundary of Portion 113, Parish of Rooty Hill, and part of the bed of South Creek excluding thereout the road 1 chain wide passing through Portion 108, Parish of Londonderry, County of Cumberland, State of New South Wales, as shown hachured on plan hereunder: Commencing on a south-eastern side of Bringelly-road at the south-western corner of Portion 112, Parish of Londonderry, and bounded thence by south-eastern and north-eastern sides of that road bearing—

10 degrees 41 minutes 0 seconds	362 feet 10½ inches
10 " 3 " 0 "	570 " 7½ "
10 " 33 " 30 "	858 " 0 "
9 " 49 " 50 "	683 " 7½ "
9 " 22 " 30 "	548 " 4 "

8 degrees 15 minutes 30 seconds	259 feet 10½ inches
4 " 54 " 30 "	372 " 6 "
10 " 37 " 30 "	740 " 8½ "
36 " 54 " 15 "	734 " 9 "
31 " 59 " 50 "	338 " 11½ "
16 " 58 " 40 "	332 " 9½ "
0 " 58 " 30 "	120 " 10½ "
2 " 43 " 40 "	232 " 1½ "
355 " 40 " 30 "	191 " 2½ "
354 " 30 " 0 "	274 " 2½ "
322 " 9 " 0 "	318 " 6½ "
286 " 46 " 20 "	456 " 2½ "
296 " 51 " 10 "	446 " 1½ "
and 305 " 54 " 20 "	58 " 10 "

thence by a northern boundary of Portion 108, Parish of Londonderry a line other northern boundaries of that Portion and a line bearing in all 89 degrees 10 minutes 30 seconds 879 feet 1 inch 87 degrees 40 minutes 10 seconds 252 feet 6½ inches and 89 degrees 11 minutes 30 seconds 1,269 feet 4 inches, thence by part of the western boundary a northern boundary and part of an eastern boundary of Portion 105, Parish of Londonderry, bearing 357 degrees 28 minutes 30 seconds 613 feet 2 inches 88 degrees 43 minutes 35 seconds 3,832 feet 3½ inches and 178 degrees 43 minutes 35 seconds 66 feet, thence by the centre line of the reserved road 2 chains wide along a northern boundary an eastern boundary and part of another northern boundary of Portion 104, Parish of Londonderry, bearing 88 degrees 43 minutes 35 seconds 3,497 feet 179 degrees 36 minutes 5 seconds 276 feet 6½ inches and 89 degrees 49 minutes 25 seconds 51 feet 7½ inches, thence by lines bearing—

185 degrees 30 minutes 50 seconds	1,063 feet 6 inches
185 " 40 " 0 "	1,135 " 6 "
206 " 29 " 50 "	126 " 4 "
199 " 39 " 20 "	87 " 7½ "
170 " 40 " 40 "	57 " 4½ "
123 " 44 " 10 "	47 " 7 "
131 " 12 " 0 "	80 " 1½ "
187 " 53 " 20 "	82 " 0½ "
and 193 " 31 " 20 "	1,024 " 5½ "

thence by part of the southern boundary of Portion 104, Parish of Londonderry aforesaid and a line bearing in all 89 degrees 17 minutes 30 seconds 1,864 feet 6½ inches and 89 degrees 34 minutes 30 seconds 3,173 feet 4½ inches to the left bank of Ropes Creek, thence by that bank of that Creek upwards to a western side of the road 2 chains wide along the eastern boundaries of Portions 112 and 110, Parish of Rooty Hill, thence by western sides of that road bearing—

181 degrees 40 minutes 20 seconds	378 feet 7½ inches
179 " 48 " 0 "	1,603 " 9½ "
180 " 29 " 0 "	522 " 11½ "
179 " 54 " 0 "	1,186 " 0½ "
178 " 50 " 0 "	893 " 10½ "
177 " 41 " 40 "	1,720 " 5 "
177 " 34 " 20 "	1,509 " 9 "
and 178 " 10 " 20 "	221 " 1½ "

thence by part of a northern boundary of the Great Western railway bearing 271 degrees 29 minutes 50 seconds 2,940 feet to the right bank of South Creek, thence by that bank of that Creek downwards to a point on the eastern prolongation of the northern boundary of Lot 1, Deposited Plan 1942, thence by that prolongation westerly to the north-eastern corner of Lot 1, Deposited Plan 1942 aforesaid, thence by the northern boundary of that Lot the northern side of Parkes-avenue and part of the northern boundary of Lot 4, Deposited Plan 1942 bearing in all 269 degrees 9 minutes 30 seconds 1,218 feet to the left bank of South Creek aforesaid, thence by that bank of that Creek again downwards to a point which bears 135 degrees 33 minutes 15 seconds 2,519 feet 10½ inches from the south-eastern corner of Portion 105, Parish of Londonderry, thence by lines bearing 359 degrees 28 minutes 1,231 feet and 294 degrees 58 minutes 1,358 feet 1 inch, thence by northern boundaries and part of a western boundary of Portion 116, Parish of Londonderry bearing—

269 degrees 25 minutes 40 seconds	521 feet 10½ inches
269 " 48 " 0 "	621 " 10½ "
269 " 33 " 0 "	329 " 11 "
268 " 36 " 40 "	832 " 0 "
267 " 53 " 40 "	654 " 0½ "
and 179 " 21 " 40 "	6 " 9½ "

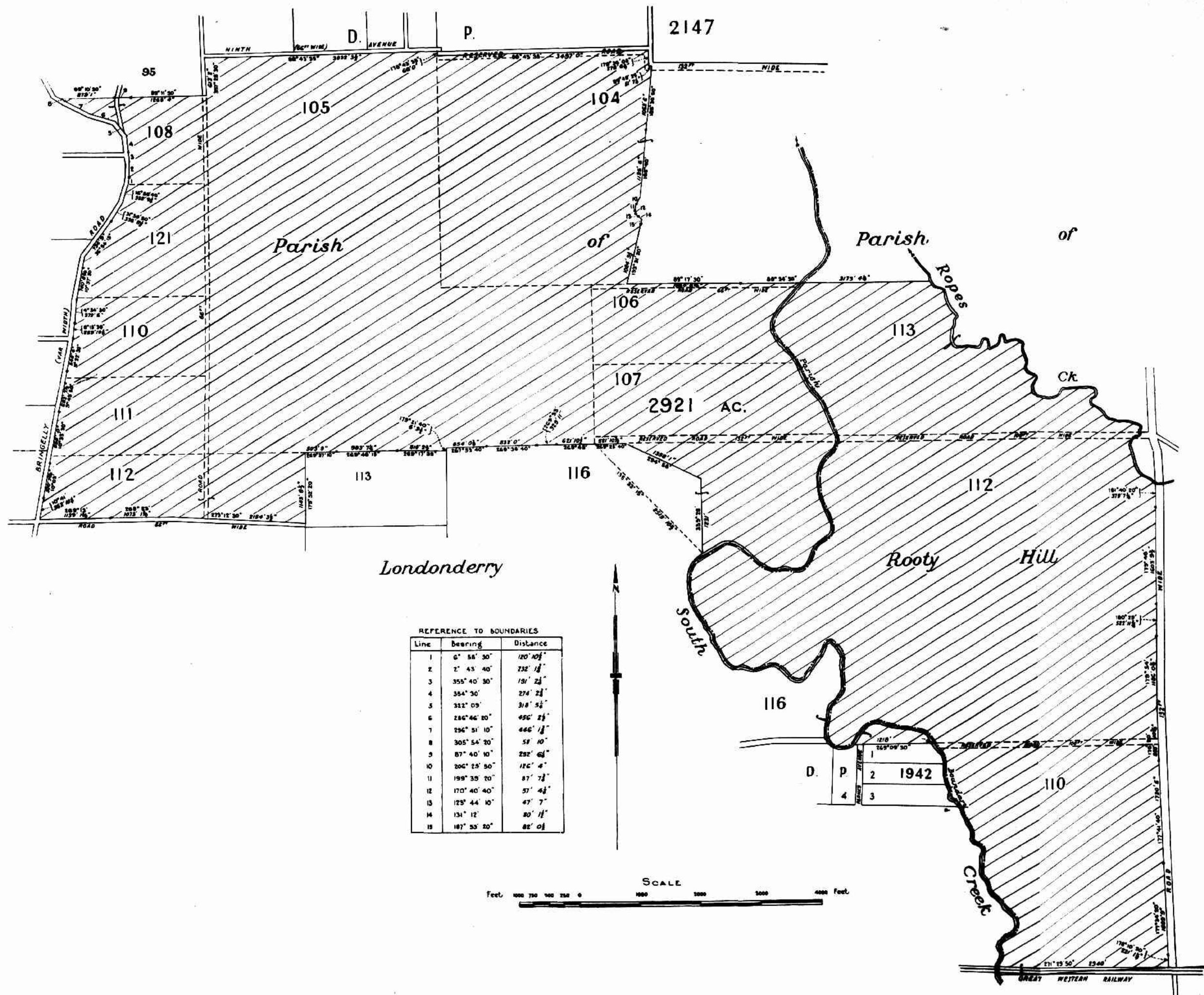
thence by the northern boundaries of Portion 113, Parish of Londonderry, bearing—

269 degrees 17 minutes 35 seconds	818 feet 2½ inches
269 " 46 " 15 "	983 " 7½ "
and 269 " 37 " 10 "	603 " 9 "

thence by the eastern and southern boundaries of Portion 112, Parish of Londonderry aforesaid bearing—

179 degrees 52 minutes 20 seconds	1,143 feet 8½ inches
273 " 12 " 30 "	2,154 " 3½ "
268 " 23 " 0 "	1,073 " 1½ "
and 269 " 13 " 0 "	1,139 " 1½ "

to the point of commencement.





DUPLICATE OF TITLE

PROPERTY ACT, 1900, as amended.

CANCELLED IN

Vol. 11118 Fol. 15

Prior Titles Volume 8237 Folio 69
Volume 8395 Folio 121
Volume 9476 Folio 63



EH Edition issued 14-8-1969

DEPOSITED PLAN 223888

Witness *L. Collins*

J. J. J. J.
Registrar General



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in the land set out in the Schedule of Grants hereunder at St. Marys in the City of Penrith and Municipality of Blacktown Parishes of Londonderry and Rooty Hill and County of Cumberland shown in the plan hereon.

SCHEDULE OF GRANTS.

(Page

Lot and Plan	Parish	No. of Portion	Name of Grantee	Date of Grant	Grant Reference Volume	Folio
Lot 1 D.P.535498	Londonderry	Pt.103	Simon Freebody	11 - 8 - 1804		
		Pts.104	John Houston	18 -12 - 1805		
		106	Charlotte Bishop	1 - 1 - 1806		
		107	William Blake	1 - 1 - 1806		
		Pt.116	Elizabeth King	1 - 1 - 1806		
		105	Richard Brooks	24 - 1 - 1817		
		113	George Collise	13 - 1 - 1818		
		114	John Roper	13 - 1 - 1818		
		115	Jacob Russell Junior	13 - 1 - 1818		
		Pt.91	Phillip Parker King	19 -10 - 1831		
		112	James Kernahan	5 - 9 - 1857		
		Pt.121	James Kernahan	5 - 9 - 1857		
		110	James Tobias Ryan	5 - 9 - 1857		
		111	James Tobias Ryan	5 - 9 - 1857		
		Pt.108	Henry Bedford	10 - 9 - 1857		
	Rooty Hill	Pts.112	Phillip King	1 - 1 - 1806		
		Pts.113	Anna Josepha King	1 - 1 - 1807		
		Pt.111	Phillip Parker King	12 - 7 - 1820		
		Pt.4			335	161
		5			335	162
Londonderry & Rooty Hill	6			335	163	
	Pt.5a.2r.Gt.			1308	217	
	Strips formerly road for which no Crown Grant has issued.					
Part of South Creek for which no Crown Grant has issued.						

FIRST SCHEDULE

THE COMMONWEALTH OF AUSTRALIA.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to as regards the part of the land above described formerly comprised in Certificates of Title Volume 8237 Folio 69 and Volume 8395 Folio 121.
2. Easement created by Acquisition No.D431274 appurtenant to the part of the land within described formerly comprised in Certificate of Title Volume 8237 Folio 69 affecting the piece of land shown as "Easement for Drainage 33 feet wide" in the plan hereon.
3. Easement for Transmission Line created by Transfer No.H83908 affecting the piece of land shown as "Easement for Transmission Line" in the plan hereon.
4. Easement for Drainage affecting the piece of land shown as "Easement for Drainage 20 feet wide" in the plan hereon created by the registration of Deposited Plan 224743.
5. Easement for Sewerage created by Transfer No.K498570 affecting the piece of land shown as "Easement for Sewer Pipeline 10 feet wide" in the plan hereon.
6. Easement for Transmission Line created by Transfer No.K503345 affecting the piece of land shown as "Easement for Transmission Line 290 feet wide" in the plan hereon.
7. Easement for Power Line created by Transfer No.K780528 appurtenant to the part formerly comprised in Certificate of Title Volume 8237 Folio 69 affecting the piece of land shown as "Site of Proposed Easement for Power Line 30 ft. wide" within Lot 215 in Deposited Plan 31909.

J. Watson
Registrar General.

Registrar General.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE..

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

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Document Set ID: 8586768

NOTED

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

Map of Clay Parish showing land parcels, roads, and easements. The map includes various lot numbers (e.g., 127, 29, 58, 26, 23, 21, 17, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1), road names (e.g., NINTH AVE, COW RD, WOODSTOCK RD, LITTLE BARK CREEK), and various easements (e.g., 33 Feet Wide, 20 Feet Wide, 10 Feet Wide, 14 Feet Wide & Var, 30 Feet Wide & Variable, 10 Feet Wide & Var). The map also shows the location of Blacktown and the Parish of R.P.A. 34275. A legend at the bottom right explains the symbols used for easements and proposed sites.

Legend:

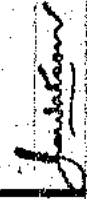
- ① Easement for Drainage 33 Feet Wide (D.P. 11274)
- ② Easement for Transmission Line 200 Feet Wide (K503345)
- ③ Easement for Sewer Pipeline 10 Feet Wide (H438570)
- ④ Easement for Drainage 20 Feet Wide (D.P. 224743)
- ⑤ Site of Proposed Watermain 10 Feet Wide (D.P. 31909)
- ⑥ Site of Proposed Easement for Sewer 14 Feet Wide & Var. (D.P. 31910)
- ⑦ Easement for Pigeon Creek Carrier Section 1, 30 Feet Wide & Variable (L 3084)
- ⑧ Easement 10 Feet Wide & Var. (L 3084)
- ⑨ Easement for Transmission Line (H83908)

1-877744
now to
be lodged on
M 212 9811
11324748 44
910-10-73
CT 7/7/75
D P 39937
11/11/79
1131520
11/11/01
15

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR		INSTRUMENT		ENTERED	Signature of Registrar General
NATURE	DATE	NATURE	NUMBER		
This deed is cancelled as to whole (a road) New Certificates of Title have issued on 2-5-1979 for lots in deposited Plan No. 599371 as follows:- Lots 1 & 2 Vol. 13845 Fol. 125 & 126 respectively.		The residue of land in this folio comprises road			
 REGISTRAR GENERAL		 REGISTRAR GENERAL			
		NEW CERTIFICATES OF TITLE ISSUED ON 2-5-1979 NO DEACING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH.			

SECOND SCHEDULE (continued)

PARTICULARS		INSTRUMENT		ENTERED	Signature of Registrar General	CANCELLATION
NATURE	DATE	NATURE	NUMBER			
Transfer	13-3-1968	Preserving Easement for Transmission Line, as more fully set out in the said instrument, appurtenant to the land within described, affecting that part of the land shown as "Proposed Easement For Power Line 16 Feet wide & Variable" within folio DP 223888 in plan lodged with Transfer No. 1569620 within lot 1 in DP 223888, comprised in Certificate of Title Volume 1118 Folio 12				
Transfer	13-3-1968	Easement for Sewerage, as more fully set out in the said instrument, appurtenant to the land comprised in Certificate of Title Volume 1118 Folio 12 affecting that part of the land within described shown as "Site of proposed easement 30 feet wide and variable" in DP 225269, "Site of proposed easement 20 feet wide and variable" and "Site of proposed easement 15 feet wide" in DP 225879		13-1-1970		
				13-1-1970		

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED



13845125

NEW SOUTH WALES

CERTIFICATE OF TITLE

L PROPERTY ACT, 1900

Appln. Nos. 7197, 28678, 35377
40955 and 42172 (P.

Vol. 13845 Fol. 125

For Crown Grants see Schedule
Prior Title Vol. 11118 Fol. 15



EDITION ISSUED

5 1979

CANCELLED

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

SEE AUTO FOLIO



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 599377 at St. Mary's in the City of Penrith and Municipality of Blacktown, Parishes of Londonderry and Rooty Hill and County of Cumberland.

SCHEDULE OF GRANTS

Parish	Portion	Name of Grantee	Date of Grant	Grant Reference Volume Folio
Londonderry	Pt 103	Simon Presbody	11 - 8 - 1804	
	Pts 104	John Houston	18 - 12 - 1805	
	106	Charlotte Bishop	1 - 1 - 1806	
	107	William Blake	1 - 1 - 1806	
	Pt 116	Elizabeth King	1 - 1 - 1806	
	105	Richard Brooks	24 - 1 - 1817	
	113	George Collins	13 - 1 - 1818	
	114	John Roper	13 - 1 - 1818	
	115	Jacob Russell Junior	13 - 1 - 1818	
	112	James Kernahan	5 - 9 - 1857	
	Pt 121	James Kernahan	5 - 9 - 1857	
	110	James Tobias Ryan	5 - 9 - 1857	
	111	James Tobias Ryan	5 - 9 - 1857	
	Pt 108	Henry Bedford	10 - 9 - 1857	
	Pts 112	Phillip King	1 - 1 - 1806	
Rooty Hill	Pts 113	Anna Josepha King	1 - 1 - 1807	
	Pt 111	Phillip Parker King	12 - 7 - 1820	
	Pt 4			335 161
	5			335 162
	6			335 163
		2.226 ha Gt.		1308 217
Londonderry		Strips formerly road for which no Crown Grant has issued.		
& Rooty Hill		Part of South Creek for which no Crown Grant has issued.		

FIRST SCHEDULE

THE COMMONWEALTH OF AUSTRALIA.

SECOND SCHEDULE

- GRN
- AA 1. Reservations and conditions, if any, contained in the Crown Grants above referred to as regards the part of the land above described formerly comprised in Certificates of Title Volume 8237 Folio 69 and Volume 8395 Folio 121.
- EDP2. D431274 P Easement for Drainage appurtenant to the part of the land above described shown so benefited in Deposited Plan 599377 affecting the land shown so burdened in Deposited Plan 599377.
- ED(SB)3. D.P.224743 P Easement for Drainage affecting the part of the land above described shown so burdened in Deposited Plan 599377.
- EL(SB)4. K498570 P Easement for Sewerage affecting the part of the land above described shown so burdened in Deposited Plan 599377.
- ET(SB)5. K503345 P Easement for Transmission Line affecting the part of the land above described shown so burdened in Deposited Plan 599377.
- EA(SB)6. K780528 P Easement for Power Line appurtenant to the part of the land above described shown so benefited in Deposited Plan 599377 affecting the part of Lot 215 in Deposited Plan 31909 shown so burdened therein.
- ETZ 7. L569620 P Easement for Transmission Line appurtenant to the land above described affecting the part of Lot 1 in Deposited Plan 223888 shown so burdened therein.
- EA 8. L569621 P Easement for Sewerage 9.14 Wide and Variable affecting the part of the land above described shown so burdened in Deposited Plan 599377.
- EA 9. L569621 P Easement for Sewerage 6.1 Wide and Variable affecting the part of the land above described shown so burdened in Deposited Plan 599377.
- EA 10. L569621 P Easement for Sewerage 4.57 Wide affecting the part of the land above described shown so burdened in Deposited Plan 599377.
- EA 11. M212981 P Easement for Power Line 6.58 Wide appurtenant to the land above described affecting the land shown so burdened in Deposited Plan 530888.
- EA 12. M212981 P Easement for Power Line 9.145 Wide appurtenant to the land above described affecting the land shown so burdened in Deposited Plan 530888.
- EA 13. N324748 P Easement for Transmission of Electricity appurtenant to the land above described affecting the part of Lot 1 in Deposited Plan 31910 shown so burdened therein.
- EF 14. P345880 P Easement for Water Supply affecting the part of the land above described shown so burdened in Deposited Plan 599377.

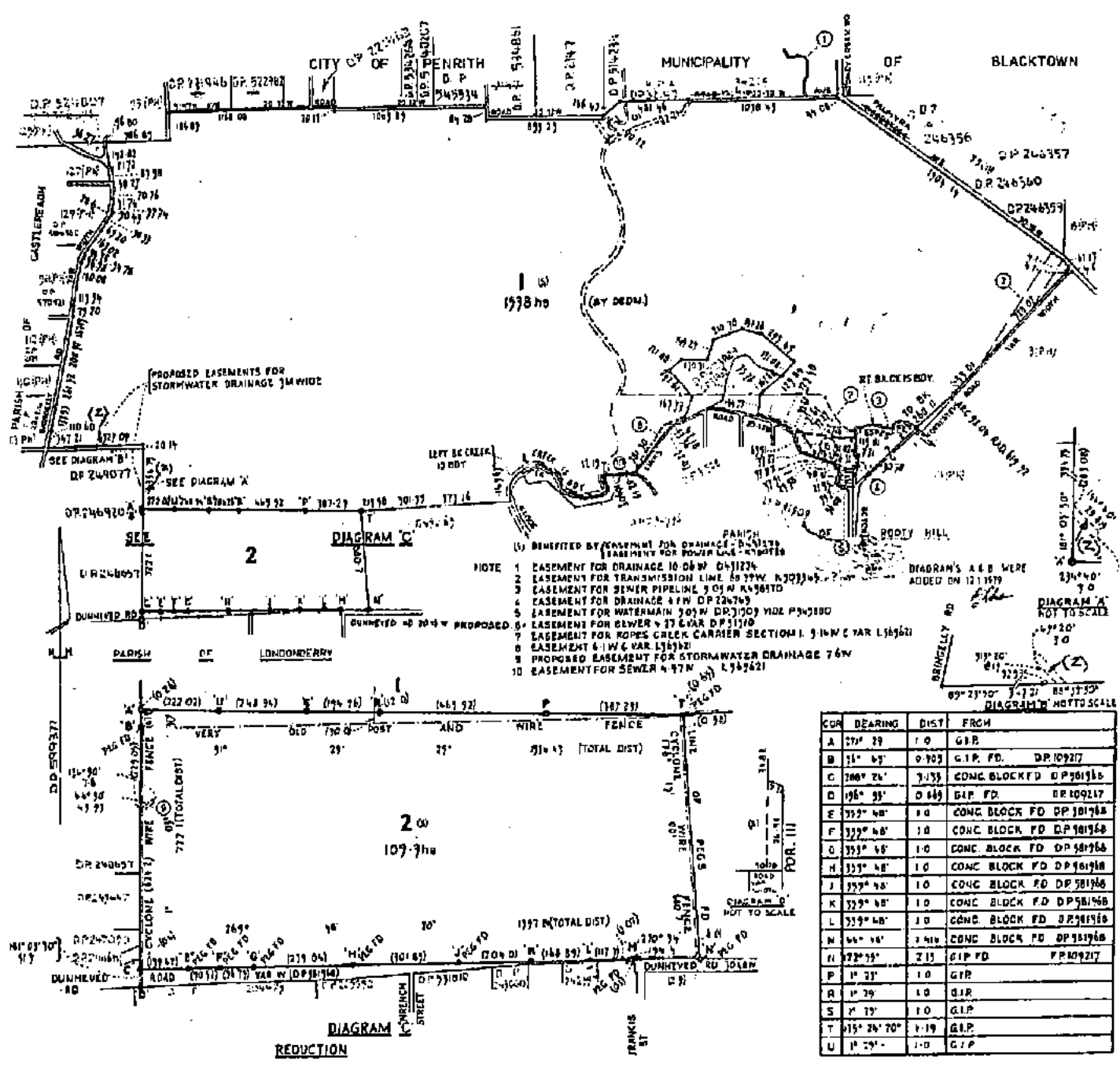
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



COR	BEARING	DIST	FROM
A	27° 29'	1.0	G.R.
B	31° 45'	0.903	G.I.P. FD. DP 109217
C	286° 24'	3.333	CONC BLOCK FD DP 181768
D	196° 33'	0.849	G.I.P. FD. DP 109217
E	312° 48'	1.0	CONC BLOCK FD DP 181768
F	312° 48'	1.0	CONC BLOCK FD DP 181768
G	312° 48'	1.0	CONC BLOCK FD DP 181768
H	312° 48'	1.0	CONC BLOCK FD DP 181768
I	312° 48'	1.0	CONC BLOCK FD DP 181768
K	312° 48'	1.0	CONC BLOCK FD DP 181768
L	312° 48'	1.0	CONC BLOCK FD DP 181768
M	64° 16'	2.419	CONC BLOCK FD DP 181768
N	72° 15'	2.15	G.I.P. FD. DP 109217
P	1° 21'	1.0	G.I.P.
R	1° 29'	1.0	G.I.P.
S	1° 19'	1.0	G.I.P.
T	115° 24' 70"	1.19	G.I.P.
U	1° 29'	1.0	G.I.P.

(2) EASEMENTS FOR STORMWATER DRAINAGE 3 WIDE - S274132

REGISTERED PROPRIETOR

LT-30877
S274132TG
DR634001
mg. R-8
W329736
NP. 6413

[illegible]

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Vol.

13845 Fol. 125

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR

[illegible]

SECOND SCHEDULE (continued)

[illegible]

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

E
373762 KAPPLICATION TO RECORD
CHANGE OF NAMESECTION 12 (1) (g), REAL PROPERTY ACT, 1900
(See Instructions for Completion on back of form)

CN

of

\$

D

DESCRIPTION
OF LAND
Note (a)

LAND of which applicant is registered proprietor		
Torrens Title Reference	If part only, delete "WHOLE" and give details	Location
(1) Folio Identifier 1/789196 (2) Folio Identifier 5/31910	WHOLE	(1) at Mt Pleasant (2) Ph. Rooty Hill Co. Cumberland

REGISTERED
DEALING
Note (b)

LEASE, MORTGAGE, or CHARGE of which applicant is registered proprietor		
Type of Dealing	Registered Number	Torrens Title Reference

NAME OF REG'D
PROPRIETOR(S)
(as presently
recorded)
Note (c)

OFFICE USE ONLY

N

being the REGISTERED PROPRIETOR(S), and a change of name, as set out in the statutory declaration below having been effected, the applicant hereby applies to have the following name(s) recorded in the Register.

The name(s), address(es) and occupation(s) or description(s) of the REGISTERED PROPRIETOR(S) should now be recorded as

NAME OF REG'D
PROPRIETOR(S)
(after change
of name)

AUSTRALIAN DEFENCE INDUSTRIES LTD

OFFICE USE ONLY

HIST

STATUTORY DECLARATION

In support of this application I KENNETH ARTHUR HARRIS, MANAGING DIRECTOR
1. The applicant is identical with Australian Defence Industries Pty Ltd ("the Company")
proprietor (or one of the registered proprietors) of the abovementioned instrument.solemnly and sincerely declare that
the registered2. On the second day of July, 1990, in the case of the
applicant named Australian Defence Industries Pty Ltd

3. On the second of July 1990 the Company converted to a public company and the name of the Company is now Australian Defence Industries Ltd.

4. Annexed hereto and marked "A" is a copy of the Certificate of Incorporation on Conversion dated July 2, 1990 evidencing the change of the name of the Company. Statutory Declaration Act 1959
And I make this solemn declaration conscientiously believing the same to be true and by virtue of the Statutory Declaration Act 1959, and I hereby certify this application to be correct for the purposes of the Real Property Act, 1900.Made and subscribed at Canberra the 30th day of March 1992.the presence of—
[Signature]
Signature of WitnessEXECUTION
Note (h)ANDREW IAN McLEIBIN
Name of Witness (BLOCK LETTERS)
10-12 BILBARK AVENUE, CANBERRA
SOLICITOR
Address and qualification of Witness[Signature]
Signature of ApplicantTO BE COMPLETED
BY LODGING PARTY
Notes (i)
and (j)

OFFICE USE ONLY

LODGED BY		LOCATION OF DOCUMENTS	
WATER BOARD CORPORATE REALTY 115-123 BATHURST ST SYDNEY		CT	OTHER
Delivery Box Number 889T			By 35D
Extra Fee	Checked by 42 04/10	REGISTERED	- 19
Registrar General			

"A"
AUSTRALIAN CAPITAL TERRITORY
Companies Act 1981

Companies Form 2
[Sub-section 70(3)]



FILE
E373762

NATIONAL COMPANIES AND SECURITIES COMMISSION

Registered No.

C.L. 25523

Certificate of Incorporation on Conversion

This is to certify pursuant to section 70 that

AUSTRALIAN DEFENCE INDUSTRIES PTY. LTD.

which was on the TWENTY-FIRST day of JULY 19 88

incorporated under COMPANIES ACT 1981 as a company having a share capital

on the SECOND day of JULY 19 90

converted to a PUBLIC company,

and that the name of the company now is

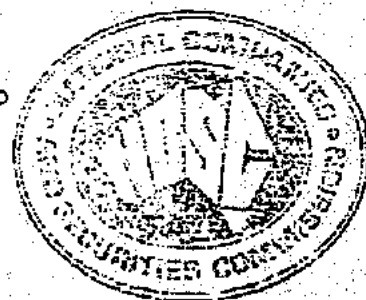
AUSTRALIAN DEFENCE INDUSTRIES LTD

Given under the seal of the National Companies and Securities Commission

at Canberra on this SECOND day of JULY 19 90

is the Annexure marked "A"
referred to in the Application to
for Change of Name signed
and dated this day of
1992

K.H. [Signature]



A person authorised by the Corporate
Affairs Commission Delegate of the
National Companies and Securities Commission

This
refer
Reco
by m



E
373763 H

E 3 7 3 7 6 3

T R A N S F E R

Australian Defence Industries (transferor)

Water Board (transferee)

of

part of the land in Folio Identifier 1/789196 and 5/31910

Registered 30.4.1992

The above transfer was not microfilmed after registration and would appear to have been destroyed.

An office copy of the transfer has been produced by the lodging party, Water Board Corporate Realty and is microfilmed herewith.



Director of Land Titles
10.6.1993

Ref:advlegs /Src:P
RP13**TRANSFER**

Real Property Act, 1900

Land Titles Office use only

Office of State Revenue use only

**(A) LAND TRANSFERRED**Show no more than 20 References to Title.
If appropriate, specify the share transferred.Part of Lot 1 in Deposited Plan 789196 in F/I 1/789196
and F/I 5/31910 being Lot 1 in Deposited Plan 803832**(B) LODGED BY**

L.T.O. Box

889T

Name, Address or DX and Telephone

WATER BOARD

CORPORATE REALTY BRANCH

115-123 BATHURST STREET, SYDNEY

REFERENCE (max. 15 characters): 22278OF7

(C) TRANSFEROR

AUSTRALIAN DEFENCE INDUSTRIES LTD.

A.C.N. 008 642 751

(D) acknowledges receipt of the consideration of \$1,356,000.00

and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following ENCUMBRANCES

1.

2.

3.

(F) TRANSFEE**T**WATER BOARD a Statutory Authority duly constituted under the
Water Board Act 1987 and having its office at 115-123 Bathurst
Street, Sydney in the State of New South Wales**(G) as joint tenants/tenants in common****(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. DATE OF EXECUTION**

31 MAR 1992

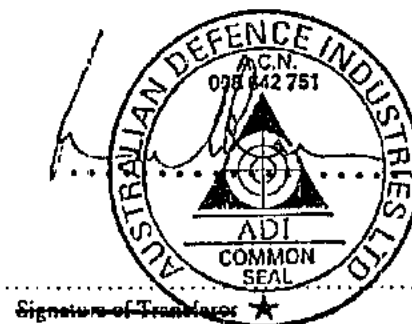
Signed in my presence by the transferor who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

THE COMMON SEAL of)
 AUSTRALIAN DEFENCE)
 INDUSTRIES LTD)
 A.C.N. 008 642 751)
 was hereunto affixed)
 in accordance with)
 its Articles of)
 Association in the)
 Presence of:)



Signature of Transferor

Signed in my presence by the transferee who is personally known to me.

Signature of Witness

JOHN LUCICH

Name of Witness (BLOCK LETTERS)

Address of Witness

1 DALBY ST CORRIMAL

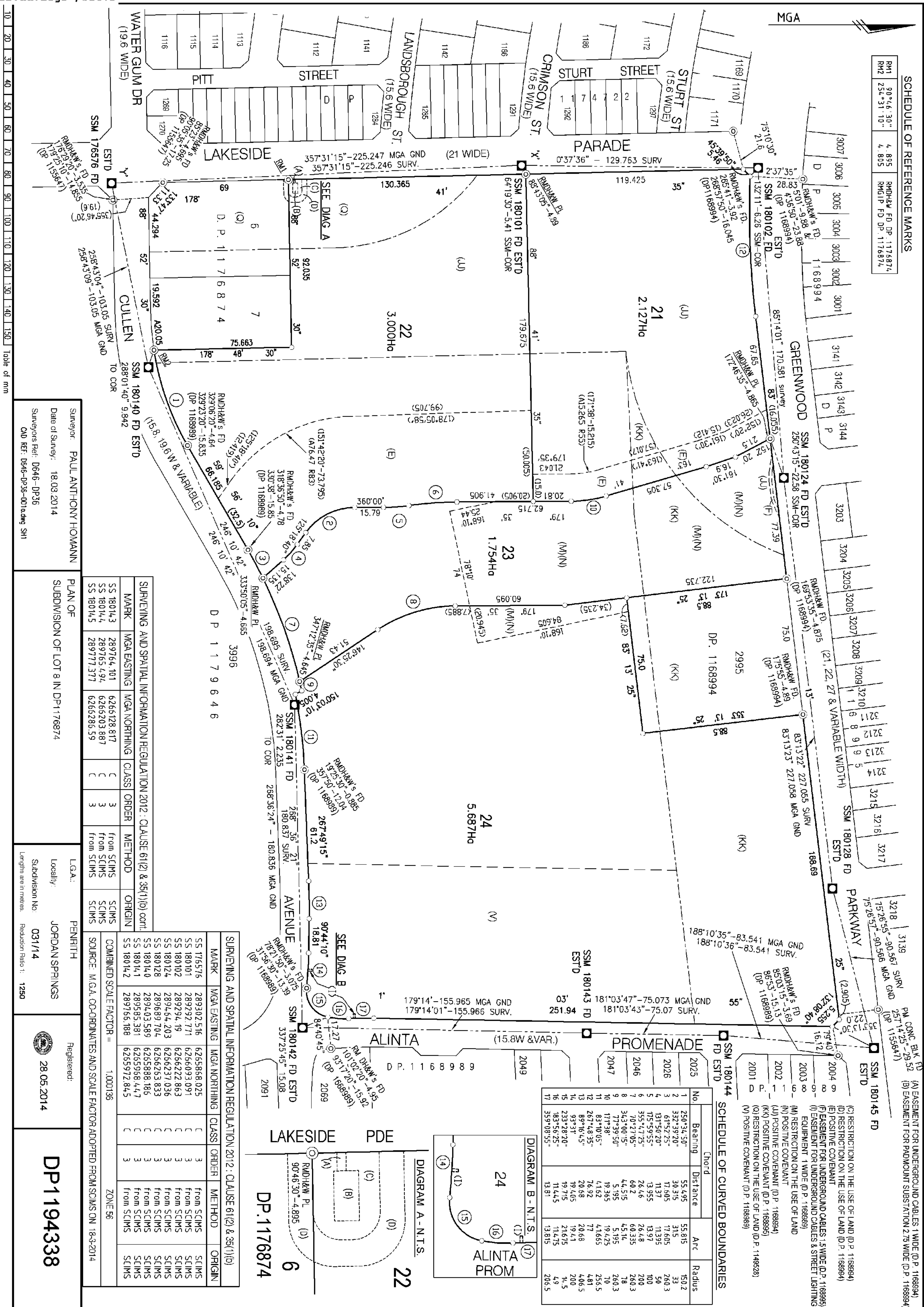
The WATER BOARD by its Attorney
KENNETH CHARLES TAYLORwho hereby states at the time of executing this instrument has
no notice of the revocation of the Power of Attorney Registered
No. 686 Book 3864 under the authority of which this
instrument has been executed

Signature of Transferee

SCHEDULE OF REFERENCE MARKS

RM1	90°46'30"	4.895	RMD&W FD DP 1176874
RM2	254°31'10"	4.805	RMD&W FD DP 1176874

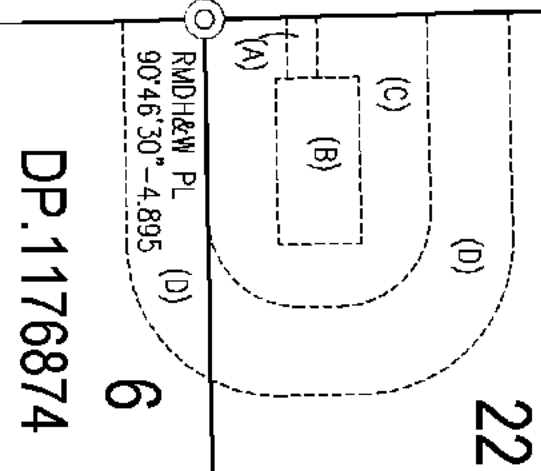
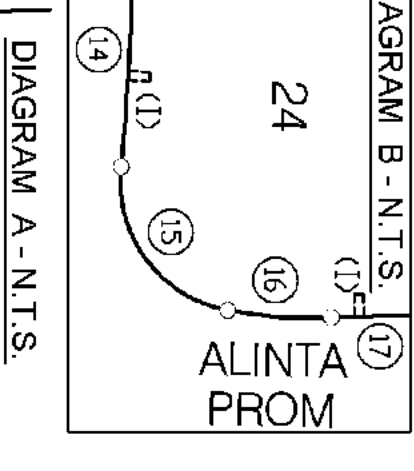
MGA



No.	Bearing	Distance	Arc	Radius
1	250°34'50"	55.495	55.815	150.2
2	332°39'20"	30.315	31.5	33
3	61°52'25"	11.605	11.605	26.03
4	131°50'20"	11.395	11.395	50
5	175°59'55"	13.955	13.955	100
6	355°47'25"	26.48	26.48	200
7	70°21'05"	60.2	60.235	260.3
8	34°3'00'15"	44.515	45.14	78
9	77°39'50"	5.195	5.195	26.03
10	171°38'	19.365	19.425	256.5
11	83°10'05"	4.162	4.165	70
12	267°48'35"	76.92	77	481
13	89°16'45"	20.68	20.68	406.5
14	93°31'	19.41	19.41	200
15	233°28'20"	19.715	21.675	74.5
16	183°56'25"	11.475	11.475	49
17	359°08'55"	13.815	13.815	266.5

SCHEDULE OF CURVED BOUNDARIES

No.	Bearing	Distance	Arc	Radius
1	250°34'50"	55.495	55.815	150.2
2	332°39'20"	30.315	31.5	33
3	61°52'25"	11.605	11.605	26.03
4	131°50'20"	11.395	11.395	50
5	175°59'55"	13.955	13.955	100
6	355°47'25"	26.48	26.48	200
7	70°21'05"	60.2	60.235	260.3
8	34°3'00'15"	44.515	45.14	78
9	77°39'50"	5.195	5.195	26.03
10	171°38'	19.365	19.425	256.5
11	83°10'05"	4.162	4.165	70
12	267°48'35"	76.92	77	481
13	89°16'45"	20.68	20.68	406.5
14	93°31'	19.41	19.41	200
15	233°28'20"	19.715	21.675	74.5
16	183°56'25"	11.475	11.475	49
17	359°08'55"	13.815	13.815	266.5



MARK	MGA EASTING	MGA NORTHING	CLASS	ORDER	METHOD	ORIGIN
SS 175576	289302.516	6265868.025	C	3	from SCIMS	SCIMS
SS 180101	289292.771	6266093.091	C	3	from SCIMS	SCIMS
SS 180102	289292.771	6266222.863	C	3	from SCIMS	SCIMS
SS 180124	289464.203	6266237.036	C	3	from SCIMS	SCIMS
SS 180128	289689.704	6266263.833	C	3	from SCIMS	SCIMS
SS 180140	289403.589	6265888.186	C	3	from SCIMS	SCIMS
SS 180141	289585.381	6265968.447	C	3	from SCIMS	SCIMS
SS 180142	289756.188	6265972.845	C	3	from SCIMS	SCIMS

MARK	MGA EASTING	MGA NORTHING	CLASS	ORDER	METHOD	ORIGIN
SS 180143	289764.101	6266128.817	C	3	from SCIMS	SCIMS
SS 180144	289765.494	6266203.887	C	3	from SCIMS	SCIMS
SS 180145	289777.377	6266286.59	C	3	from SCIMS	SCIMS

PLAN OF SUBDIVISION OF LOT 8 IN DP1176874

Surveyor: PAUL ANTHONY HOMANN
Date of Survey: 18.03.2014
Surveyors Ref: D646-DP36
CAD REF: D646-DP36-001.dwg SHI

Document Set ID: 8586768
Version: 1, Version Date: 22/02/2019

DP1194338

PLAN FORM 6 (2012)

WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 1 of 2 sheet(s)

Registered:  28.05.2014 Title System: TORRENS Purpose: SUBDIVISION	Office Use Only  e Use Only DP1194338 S
PLAN OF SUBDIVISION OF LOT 8 IN DP1176874	LGA: PENRITH Locality: JORDAN SPRINGS Parish: LONDONDERRY County: CUMBERLAND
Crown Lands NSW/Western Lands Office Approval I, ... (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given. Signature: Date: File Number: Office:	Survey Certificate I, PAUL ANTHONY HOMANN of WHELANS INSITES DX 288 SYDNEY a surveyor registered under the <i>Surveying and Spatial Information Act 2002</i>, certify that: *(a) The land shown in the plan was surveyed in accordance with the <i>Surveying and Spatial Information Regulation 2012</i>, is accurate and the survey was completed on 18th MARCH 2014 ~~*(b) The part of the land shown in the plan ("being" excluding A.....)~~ ~~was surveyed in accordance with the <i>Surveying and Spatial Information Regulation 2012</i>, is accurate and the survey was completed on..... the part not surveyed was compiled in accordance with that Regulation.~~ ~~*(c) The land shown in this plan was compiled in accordance with the <i>Surveying and Spatial Information Regulation 2012</i>.~~ Signature: <u>Paul Homann</u> Dated: <u>18-3-2014</u> Surveyor ID: <u>1314</u> Datum Line: "X"-"Y" Type: "Urban"/"Rural" The terrain is "Level-Undulating" / "Steep-Mountainous." *Strike through if inapplicable. *Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.
Subdivision Certificate <i>SC 14/0034</i> I, <u>Gavin Cherry</u> *Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the <i>Environmental Planning and Assessment Act 1979</i> have been satisfied in relation to the proposed subdivision, new road or reserve set out herein. Signature: <u>Gavin Cherry</u> Accreditation number: Consent Authority: <u>PENRITH CITY COUNCIL</u> Date of endorsement: <u>29/4/14</u> Subdivision Certificate number: <u>031/14</u> File number: <u>DA 13/1221</u> *Strike through if inapplicable.	Plans used in the preparation of survey/compilation: DP 1176874 DP 1168989 DP 1179646 DP 1168994 DP 1168995 If space is insufficient continue on PLAN FORM 6A
Statements of intention to dedicate public roads, public reserves and drainage reserves.	Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A
Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A	Surveyor's Reference: D646-DP36

PLAN FORM 6A (2012)

WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 2 of 2 sheet(s)

Office Use Only

Office Use Only

Registered:  28.05.2014

PLAN OF SUBDIVISION OF
LOT 8 IN DP. 1176874

DP1194338

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) SSI Regulation 2012
- Statements of intention to create and release affecting interests in accordance with section 88B Conveyancing Act 1919
- Signatures and seals- see 195D Conveyancing Act 1919
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Subdivision Certificate number: 031/4

Date of Endorsement: 29/4/14

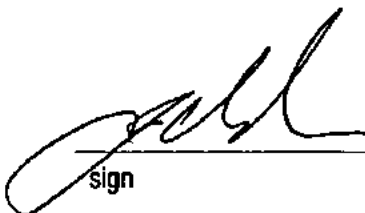
PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT IT IS INTENDED TO CREATE:

1. RESTRICTION ON THE USE OF LAND
2. RESTRICTION ON THE USE OF LAND
3. RESTRICTION ON THE USE OF LAND
4. POSITIVE COVENANT (E)
5. RESTRICTION ON THE USE OF LAND (M)
6. POSITIVE COVENANT (N)

'Street addresses of all lots are not available'

Signed by St Marys
Land Limited ABN
32 088 278 602



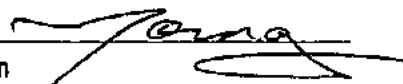

sign

Director

office (director or secretary)

JOHN DAVID CLARK

full name


sign

Secretary

office (director or secretary)

Nancy Hing Kuan Young

full name

Surveyor's Reference: D646-DP36

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH
-----SEARCH DATE

18/6/2018 9:13AM

FOLIO: 1/789196
-----First Title(s): OLD SYSTEM
Prior Title(s): 1/599377

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
30/5/1989	DP789196	DEPOSITED PLAN	FOLIO CREATED EDITION 1
5/9/1989	Y454206	DEPARTMENTAL DEALING	
5/9/1989	Y454207	TRANSFER	EDITION 2
20/8/1990	Z165941	DEPARTMENTAL DEALING	
30/4/1992	E373762	CHANGE OF NAME	
30/4/1992	E373763	TRANSFER	FOLIO CANCELLED
15/9/1999	6198379	DEPARTMENTAL DEALING	
14/9/2011	AG485535	DEPARTMENTAL DEALING	
15/11/2011	AG614795	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

18/6/2018 9:13AM

FOLIO: 2/803832

First Title(s): OLD SYSTEM
Prior Title(s): 1/789196

Recorded	Number	Type of Instrument	C.T. Issue
31/7/1990	DP803832	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
30/4/1992	E373763	TRANSFER	FOLIO CREATED EDITION 1
16/6/1992		AMENDMENT: CT DELIVEREE	
1/12/1995	0726922	REQUEST	
6/12/1995	0745527	REQUEST	
19/6/1998	5067557	DEPARTMENTAL DEALING	
17/7/1998	5133157	DEPARTMENTAL DEALING	
16/11/1999	6347176	TRANSFER	EDITION 2
25/9/2000	7107552	DEPARTMENTAL DEALING	
13/10/2000	7149518	DEPARTMENTAL DEALING	
2/7/2001	DP1012831	REJECTED - DEPOSITED PLAN	
21/9/2001	6707995	WITHDRAWN - LEASE	
10/4/2002	8495902	DEPARTMENTAL DEALING	
3/7/2003	DP1038166	DEPOSITED PLAN	FOLIO CANCELLED
14/9/2011	AG485535	DEPARTMENTAL DEALING	
15/11/2011	AG614795	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

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PRINTED ON 18/6/2018

Obtained from NSW LRS on 18 June 2018 09:13 AM AEST

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 22/1194338

SEARCH DATE	TIME	EDITION NO	DATE
13/6/2018	2:32 PM	1	28/5/2014

LAND

LOT 22 IN DEPOSITED PLAN 1194338
AT JORDAN SPRINGS
LOCAL GOVERNMENT AREA PENRITH
PARISH OF LONDONDERRY COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1194338

FIRST SCHEDULE

ST MARYS LAND LIMITED

SECOND SCHEDULE (15 NOTIFICATIONS)

- 1 D431274 EASEMENT FOR DRAINAGE 10.06 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE PART IN D431274
- 2 K780528 EASEMENT FOR POWER LINE 9.145 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 3 L569620 EASEMENT FOR TRANSMISSION LINE 4.88 METRE(S) WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 4 N324748 EASEMENT FOR TRANSMISSION OF ELECTRICITY 4.85 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 5 DP789196 RIGHT OF CARRIAGEWAY 20.115 METRE(S) WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 6 DP1132380 RESTRICTION(S) ON THE USE OF LAND
- 7 DP1149528 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (6) IN THE S.88B INSTRUMENT AFFECTING THE SITE DESIGNATED (Q) IN THE TITLE DIAGRAM
- 8 DP1168994 POSITIVE COVENANT REFERRED TO AND NUMBERED (4) IN THE S.88B INSTRUMENT AFFECTING THE SITE DESIGNATED (JJ) IN THE TITLE DIAGRAM
- 9 DP1168994 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (8) IN THE S.88B INSTRUMENT AFFECTING THE SITE DESIGNATED (C) IN THE TITLE DIAGRAM
- 10 DP1168994 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (9) IN THE S.88B INSTRUMENT AND AFFECTING THE SITE DESIGNATED (D) IN THE TITLE DIAGRAM
- 11 DP1168994 EASEMENT FOR PADMOUNT SUBSTATION 2.75 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 12 DP1168994 EASEMENT FOR UNDERGROUND CABLES 1 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE

END OF PAGE 1 - CONTINUED OVER

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NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 22/1194338

PAGE 2

SECOND SCHEDULE (15 NOTIFICATIONS) (CONTINUED)

- DIAGRAM
- 13 DP1194338 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND
NUMBERED (2) IN THE S.88B INSTRUMENT
- 14 DP1194338 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND
NUMBERED (3) IN THE S.88B INSTRUMENT
- 15 DP1194338 POSITIVE COVENANT REFERRED TO AND NUMBERED (4) IN THE
S.88B INSTRUMENT AFFECTING THE SITE DESIGNATED (E) IN
THE TITLE DIAGRAM

NOTATIONS

UNREGISTERED DEALINGS: EC AN388307 EC AN388308 EC AN388309
EC AN388310 EC AN388311.

*** END OF SEARCH ***

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PRINTED ON 13/6/2018

Obtained from NSW LRS on 13 June 2018 02:32 PM AEST

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register.

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APPENDIX E

ANALYTICAL RESULTS TABLES



				TP01_0.1 7/06/2018	TP01_0.3 7/06/2018	TP01_2.0 7/06/2018	TP02_0.1 7/06/2018	TP02_0.3 7/06/2018	TP02_1.0 7/06/2018	TP03_0.3 7/06/2018	TP04_0.1 7/06/2018											
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt										
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m				
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	8	-	-	-	9	-	6	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	<1	-	-	-	<1	-	<1	-
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	19	-	-	-	13	-	11	-	
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	21	-	-	-	25	-	39	-
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	6	-	-	-	18	-	20	-
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	32	-	-	-	66	-	86	-
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	17	-	-	-	17	-	18	-

										TP04_0.5 7/06/2018	TP04_2.0 7/06/2018	TP05_0.3 7/06/2018	TP06_0.5 6/06/2018	TP07_0.3 6/06/2018	TP08_0.1 6/06/2018	TP09_0.5 6/06/2018	TP10_0.2 6/06/2018					
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt										
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m				
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	<5	-	9	<5	7	5	7	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	<1	-	<1	<1	<1	<1	-	-
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	6	-	24	20	18	18	14	-
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	15	-	18	36	22	27	25	-
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-	-
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	<2	-	8	15	14	10	3	-
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	12	-	33	65	43	45	17	-
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	16	-	20	15	18	21	12	-

										TP10_0.4	TP10_0.6	TP10_2.0									
										6/06/2018	6/06/2018	6/06/2018									
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILS Rec C Soil	NEPM 2013 Table 1A(1) HILS Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt									
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m			
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	-	-	5	-	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	-	-	<1	-	-
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	-	-	13	-	-
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	-	-	<0.1	-	-
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	-	-	6	-	-
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	-	-	20	-	-
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	-	-	15	-	-

				TP11_0.1 6/06/2018	TP11_0.3 6/06/2018	TP11_2.0 6/06/2018	TP12_0.3 6/06/2018	TP12_1.0 6/06/2018	TP12_3.0 6/06/2018	TP13_0.4 6/06/2018	TP14_0.1 6/06/2018												
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt											
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m					
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	-	-	-	8	-	6	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	-	-	<1	-	<1	-	
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	14	-	
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	-	-	19	-	28	-	
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	-	-	<0.1	-	<0.1	-	
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	-	-	8	-	11	-	
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	-	-	30	-	48	-	
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	-	-	17	-	17	-	

				TP14_0.3 6/06/2018	TP14_0.5 6/06/2018	TP15_0.3 6/06/2018	TP15_0.5 6/06/2018	TP15_1.0 6/06/2018	TP15_2.0 6/06/2018	TP15_3.0 6/06/2018	TP16_0.3 6/06/2018															
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt														
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m								
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	-	-	-	-	7	6	-	-	-	9
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	-	-	-	<1	<1	-	-	-	<1	
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	17	-	-	-	14	
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	-	-	-	22	25	-	-	-	23	
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	-	-	-	9	14	-	-	-	11	
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	-	-	-	34	50	-	-	-	49	
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	-	-	-	20	19	-	-	-	16	



												TP17_0.1	TP17_0.6	TP18_0.15	TP18_0.3	TP18_0.5	TP18_1.0	TP18_2.0	TP18_3.0		
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt									
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m			
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	-	-	8	-	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	-	-	<1	-	-
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	-	-	27	-	-
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	-	-	<0.1	-	-
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	-	-	18	-	-
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	-	-	55	-	-
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	-	-	27	-	-

				TP19_0.1 6/06/2018	TP19_0.3 6/06/2018	TP20_0.3 6/06/2018	TP20_0.5 6/06/2018	TP20_2.0 6/06/2018	TP21_0.1 5/06/2018	TP21_0.4 5/06/2018	TP21_1.0 5/06/2018												
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt											
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m					
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	-	-	-	8	10	-	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	-	-	<1	<1	-	-	
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	20	-	-	
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	-	-	15	18	-	-	
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	-	-	4	8	-	-	
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	-	-	18	33	-	-	
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	-	-	14	18	-	-	



JORDAN SPRINGS PUBLIC SCHOOL ENVIRONMENTAL SITE ASSESSMENT
Table E1: Metals

										TP21_2.0	TP21_3.0	TP22_0.3	TP23_0.3	TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1		
										5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018		
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt							
												0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	-	-	
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	-	-	
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	-	-	
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	-	-	
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	-	-	
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	-	-	

										TP27_0.3 5/06/2018	TP27_0.5 5/06/2018	TP27_2.0 5/06/2018	TP28_0.5 5/06/2018	TP29_0.1 5/06/2018	TP29_0.3 5/06/2018	TP29_1.0 5/06/2018		
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt						
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	-	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	-	-
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	-	-
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	-	-
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	-	-
	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	-	-
Lead	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	-	-

				TP29_3.0 5/06/2018	TP30_0.3 5/06/2018	TP31_0.3 5/06/2018	TP31_0.5 5/06/2018	TP31_2.0 5/06/2018	TP31_3.0 5/06/2018	TP32_0.3 5/06/2018	TP32_1.0 5/06/2018								
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt							
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m	
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	8	9	-	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	<1	<1	-	-
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	22	23	-	-
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	30	23	-	-
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	<0.1	<0.1	-	-
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	12	10	-	-
	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	53	37	-	-
Lead	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	21	21	-	-

				TP32_2.0 5/06/2018	TP32_3.0 5/06/2018	TP33_0.3 5/06/2018	TP33_0.5 5/06/2018	TP33_1.0 5/06/2018	TP34_0.1 5/06/2018	TP35_0.1 5/06/2018	TP35_0.4 13/06/2018								
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt							
		Units	EQL								0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m	
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	9	-	8
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	<1	-	<1
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	28	-	39
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	20	-	9
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	<0.1	-	<0.1
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	9	-	5
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	35	-	11
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	22	-	17

										TP35_1.0	TP35_2.0	TP36_0.1	TP37_0.3	TP37_0.5	TP37_3.0	TP38_0.3	TP38_2.0					
										5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018					
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt										
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m				
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	9	5	-	-	7	-
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	<1	<1	-	-	<1	-
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	24	13	-	-	30	-
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	21	24	-	-	18	-
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	<0.1	<0.1	-	-	<0.1	-
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	10	8	-	-	6	-
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	44	34	-	-	26	-
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	21	15	-	-	19	-

										TP39_0.1	TP39_0.3	TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3				
										5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018				
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt				NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt				
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m	
Metals	Arsenic	mg/kg	5	-	-	-	-	-	300	100	-	-	-	-	-	-	-	-	7
	Cadmium	mg/kg	1	-	-	-	-	-	90	20	-	-	-	-	-	-	-	-	<1
	Chromium (III+VI)	mg/kg	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
	Copper	mg/kg	5	-	-	-	-	-	17000	6000	-	-	-	-	-	-	-	-	23
	Mercury	mg/kg	0.1	-	-	-	-	-	80	40	-	-	-	-	-	-	-	-	<0.1
	Nickel	mg/kg	2	-	-	-	-	-	1200	400	-	-	-	-	-	-	-	-	8
Lead	Zinc	mg/kg	5	-	-	-	-	-	30000	7400	-	-	-	-	-	-	-	-	41
	Lead	mg/kg	5	-	-	-	-	-	600	300	-	-	-	-	-	-	-	-	13

										TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3	TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0	TP05_0.3	TP06_0.5	TP07_0.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
										7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	6/06/2018	6/06/2018																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
										CRC CARE Soil Direct Contact HSL-A Residential (Low Density)				CRC CARE Soil Direct Contact HSL-C Recreational / Open Space				CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion				CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion				CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion				NEPM 2013 Table 1A(1) HSLs Rec C Soil				NEPM 2013 Table 1A(1) HSLs Res A Soil				NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt				NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

				TP08 0.1	TP09 0.5	TP10 0.2	TP10 0.4	TP10 0.6	TP10 2.0	TP11 0.1	TP11 0.3	TP11 2.0	TP12 0.3	TP12 1.0	TP12 3.0	TP13 0.4									
				6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018									
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HSLs Rec C Soil	NEPM 2013 Table 1A(1) HSLs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt													
				Units	EQL	0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m												
BTEX	Benzene	mg/kg	0.2	100	120	0.6	0.7	1	-	-	NL	NL	NL	NL	0.6	0.7	1	2	<0.2	<0.2	-	<0.2	-	-	<0.2
	Ethylbenzene	mg/kg	0.5	4500	5300	-	-	-	-	-	NL	NL	NL	NL	NL	NL	NL	NL	<0.5	<0.5	-	<0.5	-	-	<0.5
	Toluene	mg/kg	0.5	14000	18000	390	-	-	-	-	NL	NL	NL	NL	390	NL	NL	NL	<0.5	<0.5	-	<0.5	-	-	<0.5
	Total BTEX	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	-	<0.2	-	-	<0.2
	Xylene (m & p)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	-	-	<0.5
	Xylene (o)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	-	-	<0.5
TPH	Xylene Total	mg/kg	0.5	12000	15000	93	210	-	-	-	NL	NL	NL	NL	95	210	NL	NL	<0.5	<0.5	-	<0.5	-	-	<0.5
	C6-C10 less BTEX (F1)	mg/kg	10	-	-	-	-	-	-	-	NL	NL	NL	NL	40	65	100	190	<10	<10	-	<10	-	-	<10
	C10-C16	mg/kg	50	3300	3800	230	-	-	-	-	-	NL	NL	NL	NL	NL	NL	NL	<50	<50	-	<50	-	-	<50
	C16-C34	mg/kg	100	4500	5300	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	-	<100	-	-	<100
	C34-C40	mg/kg	100	6300	7400	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	-	<100	-	-	<100
	F2-NAPHTHALENE	mg/kg	50	-	-	-	-	-	-	-	-	NL	NL	NL	NL	230	NL	NL	<50	<50	-	<50	-	-	<50
VOCs	C10 - C40 (Sum of total)	mg/kg	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	-	<50	-	-	<50
	C6-C10	mg/kg	10	4400	5100	41	64	100	-	-	-	-	-	-	-	-	-	-	<10	<10	-	<10	-	-	<10
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	-	-	<0.5
	Pentachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	-	-	<0.5
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	-	-	<0.5

[illegible]

										TP18_0.5	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3	TP20_0.3	TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4	TP21_1.0	TP21_2.0					
										5/06/2018	5/06/2018	5/06/2018	5/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018					
			CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HSLs Rec C Soil	NEPM 2013 Table 1A(1) HSLs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																
		Units	EQL							0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m										
BTEX	Benzene	mg/kg	0.2	100	120	0.6	0.7	1	-	-	NL	NL	NL	NL	0.6	0.7	1	2	-	<0.2	-	-	-	<0.2	-	-	-
	Ethylbenzene	mg/kg	0.5	4500	5300	-	-	-	-	-	NL	NL	NL	NL	NL	NL	NL	NL	-	<0.5	-	-	-	<0.5	-	-	-
	Toluene	mg/kg	0.5	14000	18000	390	-	-	-	-	NL	NL	NL	NL	390	NL	NL	NL	-	<0.5	-	-	-	<0.5	-	-	-
	Total BTEX	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	<0.2	-	-	-
	Xylene (m & p)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-
	Xylene (o)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-
	Xylene Total	mg/kg	0.5	12000	15000	93	210	-	-	-	NL	NL	NL	NL	95	210	NL	NL	-	<0.5	-	-	-	<0.5	-	-	-
TPH	C6-C10 less BTEX (F1)	mg/kg	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	<10	<10	-	-
	C10-C16	mg/kg	50	3300	3800	230	-	-	-	-	NL	NL	NL	NL	40	65	100	190	-	<50	-	-	-	<50	<50	-	-
	C16-C34	mg/kg	100	4500	5300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	<100	<100	-	-
	C34-C40	mg/kg	100	6300	7400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	<100	<100	-	-
	F2-NAPHTHALENE	mg/kg	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	-	<50	<50	-	-
	C10 - C40 (Sum of total)	mg/kg	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	-	<50	<50	-	-
	C6-C10	mg/kg	10	4400	5100	41	64	100	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	<10	<10	-	-
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
	Pentachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-

				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)		CRC CARE Soil Direct Contact HSL-C Recreational / Open Space		CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion		CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion		CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion		NEPM 2013 Table 1A(1) HLLs Rec C Soil		NEPM 2013 Table 1A(1) HLLs Res A Soil		NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt				NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt				TP21_3.0 5/06/2018	TP22_0.3 5/06/2018	TP23_0.3 5/06/2018	TP24_0.3 5/06/2018	TP25_0.3 5/06/2018	TP26_0.15 5/06/2018	TP27_0.1 5/06/2018	TP27_0.3 5/06/2018	TP27_0.5 5/06/2018	TP27_2.0 5/06/2018	TP28_0.5 5/06/2018	TP29_0.1 5/06/2018	TP29_0.3 5/06/2018																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		Units	EQL	100	120	0.6	0.7	1	-	-	-	-	-	0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

				TP29 1.0	TP29 3.0	TP30 0.3	TP31 0.3	TP31 0.5	TP31 2.0	TP31 3.0	TP32 0.3	TP32 1.0	TP32 2.0	TP32 3.0	TP33 0.3	TP33 0.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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													TP39_0.3	TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3					
													5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018					
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt	0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m		
BTEX		Units	EQL																			
	Benzene	mg/kg	0.2	100	120	0.6	0.7	1	-	-	NL	NL	NL	NL	0.6	0.7	1	2	<0.2	-	-	<0.2
	Ethylbenzene	mg/kg	0.5	4500	5300	-	-	-	-	-	NL	NL	NL	NL	NL	NL	NL	NL	<0.5	-	-	<0.5
	Toluene	mg/kg	0.5	14000	18000	390	-	-	-	-	NL	NL	NL	NL	390	NL	NL	NL	<0.5	-	-	<0.5
	Total BTEX	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	<0.2
	Xylene (m & p)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	<0.5
	Xylene (o)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	<0.5
	Xylene Total	mg/kg	0.5	12000	15000	93	210	-	-	-	NL	NL	NL	NL	95	210	NL	NL	<0.5	-	-	<0.5
TPH	C6-C10 less BTEX (F1)	mg/kg	10	-	-	-	-	-	-	-	NL	NL	NL	NL	40	65	100	190	<10	-	-	<10
	C10-C16	mg/kg	50	3300	3800	230	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	<50
	C16-C34	mg/kg	100	4500	5300	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	<100
	C34-C40	mg/kg	100	6300	7400	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	<100
	P2-NAPHTHALENE	mg/kg	50	-	-	-	-	-	-	-	NL	NL	NL	NL	230	NL	NL	NL	<50	-	-	<50
	C10 - C40 (Sum of total)	mg/kg	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	<50
VOCs	C6-C10	mg/kg	10	4400	5100	41	64	100	-	-	-	-	-	-	-	-	-	-	<10	-	-	<10
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

														TP03_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3	TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0	TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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														CRC CARE Soil Contact HSL-A Residential (Low Density)														CRC CARE Soil Direct Contact HSL-A Recreational / Open Space														CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion														CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion														CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion														NPM 2013 Table 1A(1) HSLs Rec C Soil														NPM 2013 Table 1A(3) HSLs Rec A Soil														NPM 2013 Table 1A(3) HSLs Rec C Soil HSLs for Vapour Intrusion, Silt														NPM 2013 Table 1A(3) HSLs Rec A/B Soil HSLs for Vapour Intrusion, Silt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Herbicides	2,4,5-Trichlorophenoxy Acetic Acid														mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-</

		Units	EQC	CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEMF 2013 Table 1A(1) HLL Res C Soil	NEMF 2013 Table 1A(1) HLL Res A Soil	NEMF 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEMF 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt	TP10_0.2 6/06/2018	TP10_0.4 6/06/2018	TP10_0.6 6/06/2018	TP10_2.0 6/06/2018	TP11_0.1 6/06/2018	TP11_0.3 6/06/2018	TP11_2.0 6/06/2018	TP12_0.3 6/06/2018	TP12_1.0 6/06/2018	TP12_3.0 6/06/2018	TP13_0.4 6/06/2018	TP14_0.1 6/06/2018	TP14_0.3 6/06/2018	TP14_0.5 6/06/2018	TP15_0.3 6/06/2018
Herbicides	2,4,5-Trichlorophenoxy Acetic Acid	mg/kg	0.02	-	-	-	-	-	800	600	0-1m 1-2m 2-4m >4m	0-1m 1-2m 2-4m >4m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4,5-TP (Silvex)	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-dichlorophenoxybutanoic acid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexazinol	mg/kg	0.02	-	-	-	-	-	1300	900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-Dichloroprop	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Chlorophenoxy acetic acid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorthalid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dicamba	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ruoxypyr	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mecoprop	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides	Triclopyr	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4,4-DDD	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Aldrin	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Aldrin + Dieldrin	mg/kg	0.05	-	-	-	-	-	10	6	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Chlordane	mg/kg	0.05	-	-	-	-	-	70	50	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Chlordane (cis)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Chlordane (trans)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	DDD	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	DDT	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	<0.2	-
	DDT-CDE-DDD	mg/kg	0.05	-	-	-	-	-	400	240	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Dieldrin	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Endosulfan	mg/kg	0.05	-	-	-	-	-	340	270	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Endosulfan I	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Endosulfan II	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Endosulfan sulphate	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Endrin	mg/kg	0.05	-	-	-	-	-	20	10	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Endrin aldehyde	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Endrin ketone	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	p-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Heptachlor	mg/kg	0.05	-	-	-	-	-	10	6	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Methoxychlor	mg/kg	0.2	-	-	-	-	-	400	300	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	<0.2	-
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Bromophos-ethyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Carbophenothion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Chlorfenvinphos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Chlorpyrifos	mg/kg	0.05	-	-	-	-	-	250	160	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Chlorpyrifos-methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Diazinon	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Dichlorvos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Dimethoate	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Ethion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Fenitrothion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Malathion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Methyl parathion	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	<0.2	-
	Monocrotophos	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	<0.2	-
Pesticides	Prothiofos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Demeton-S-methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Fenamiphos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-
	Parathion	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	<0.2	-
	Pirimphos-ethyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.05	-

														TP15_0.5	TP15_1.0	TP15_2.0	TP15_3.0	TP16_0.3	TP17_0.1	TP17_0.6	TP18_0.15	TP18_0.3	TP18_0.5	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
														6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	6/06/2018	6/06/2018	
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NPM 2013 Table 1A(1) HSLs Rec C Soil	NPM 2013 Table 1A(1) HSLs Res A Soil	NPM 2013 Table 1A(3) Rec C Soil HSLs for Vapour Intrusion, Silt	NPM 2013 Table 1A(3) Rec A/B Soil HSLs for Vapour Intrusion, Silt	NPM 2013 Table 1A(3) Res A/B Soil HSLs for Vapour Intrusion, Silt															
				Units	ECL	0-1m								1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m								
Herbicides	2,4,5-Trichlorophenoxy Acetic Acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	2,4,5-TP (lives)	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	2,4-dichlorophenoxybutanoic acid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Redona	mg/kg	0.02	-	-	-	-	-	1300	900	-	-	-	-	-	-	-	-	-	-	-	-	-					
	2,4-Dichloroprop	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	4-Chlorophenoxy acetic acid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Clopyralid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Dicamba	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Fluroxypyr	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-					
	2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Meoprop	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-					
Organochlorine Pesticides	Triclopyr	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	4,4-DDD	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Aldrin	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Aldrin + Dieldrin	mg/kg	0.05	-	-	-	-	-	10	6	-	-	-	-	-	-	-	-	-	-	-	-	-					
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlordane	mg/kg	0.05	-	-	-	-	-	70	50	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlordane (cis)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlordane (trans)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	DDD	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	DDT	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	DDT+DDD+DDD	mg/kg	0.05	-	-	-	-	-	400	240	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Dieldrin	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Endosulfan	mg/kg	0.05	-	-	-	-	-	340	270	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Endosulfan I	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Endosulfan II	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Endosulfan sulphate	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Endrin	mg/kg	0.05	-	-	-	-	-	20	10	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Endrin aldehyde	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Endrin lactone	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	p-BHC (lindane)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Heptachlor	mg/kg	0.05	-	-	-	-	-	10	6	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Methoxychlor	mg/kg	0.2	-	-	-	-	-	400	300	-	-	-	-	-	-	-	-	-	-	-	-	-					
Organophosphorous Pesticides	Azinphos methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Bromophos-ethyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Carbophenothion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlorfenvinphos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlorpyrifos	mg/kg	0.05	-	-	-	-	-	250	160	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlorpyrifos-methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Diazinon	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Dichlorvos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Dimethoate	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Ethion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Fenitrothion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Malathion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Methyl parathion	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Monocrotophos	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Pesticides	Prothiofos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Demeton-S-methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Fenamiphos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Parathion	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Pirimphos-ethyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

														TP20_0.3	TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4	TP21_1.0	TP21_2.0	TP21_3.0	TP22_0.3	TP23_0.3	TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1	TP27_0.3				
														6/06/2018	6/06/2018	6/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018
		Units	EOL	CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NPM 2013 Table 1A(1) HSLs Rec C Soil				NPM 2013 Table 1A(1) HSLs Rec A Soil				NPM 2013 Table 1A(3) Rec A/B Soil HSLs for Vapour Intrusion, Silt															
									0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m																
Herbicides	2,4,5-Trichlorophenoxy Acetic Acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	2,4,5-TP (Silver)	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	2,4-dichlorophenoxybutanoic acid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Hexachlorocyclopentadiene	mg/kg	0.02	-	-	-	-	-	1300	900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	2,4-Dichloroprop	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	4-Chlorophenoxy acetic acid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Oxyflorid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Dicamba	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Fluroxypyr	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.02	-	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Organochlorine Pesticides	2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Mecoprop	mg/kg	0.02	-	-	-	-	-	600	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Triclopyr	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	1,4-DDD	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Aldrin	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Aldrin + Dieldrin	mg/kg	0.05	-	-	-	-	-	10	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlordane	mg/kg	0.05	-	-	-	-	-	70	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlordane (cis)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Chlordane (trans)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
DDD	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
DDT	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
DDT-DDD-DDD	mg/kg	0.05	-	-	-	-	-	-	400	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Dieldrin	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Endosulfan	mg/kg	0.05	-	-	-	-	-	-	340	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Endosulfan I	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Endosulfan II	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Endosulfan sulphate	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Endrin	mg/kg	0.05	-	-	-	-	-	-	20	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Endrin aldehyde	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Endrin ketone	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
p-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Heptachlor	mg/kg	0.05	-	-	-	-	-	-	10	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Methoxychlor	mg/kg	0.2	-	-	-	-	-	-	400	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Organophosphorus Pesticides	Azinphos methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Bromophos-ethyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Carbofenthiethos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlorfenvinphos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlorpyrifos	mg/kg	0.05	-	-	-	-	-	-	250	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Chlorpyrifos-methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
	Diazinon	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
	Dichlorvos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Dimethoate	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Ethion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Fenitrothion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Malathion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Pesticides	Methyl parathion	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Monocrotophos	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Prothiofos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Demeton-S-methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Fenamiphos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	Parathion	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Priniphenos-ethyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						

[illegible]

														TP39_0.1	TP39_0.3	TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3	
														5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	
		Units	EQL	CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, SHI Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, SHI Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, SHI Soils for Vapour Intrusion	NEMF 2013 Table 1A(1) HSLs Rec C Soil	NEMF 2013 Table 1A(1) HSLs Res A Soil	NEMF 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, SHI	NEMF 2013 Table 1A(3) Rec A/B Soil HSL for Vapour Intrusion, SHI	NEMF 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, SHI	NEMF 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, SHI	NEMF 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, SHI	NEMF 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, SHI	NEMF 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, SHI	NEMF 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, SHI	NEMF 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, SHI	
																				0-1m
Herbicides	2,4,5-Trichlorophenoxy Acetic Acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-
	2,4,5-TP (Silvex)	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-dichlorophenoxybutanoic acid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorocyclopentadiene	mg/kg	0.02	-	-	-	-	-	1300	900	-	-	-	-	-	-	-	-	-	-
	2,4-Dichloroprop	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Chlorophenoxy acetic acid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Clopyralid	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dicamba	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fluroxypyr	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-
	2-Methyl-4-chlorophenoxy Butanoic Acid	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-
	Macropyr	mg/kg	0.02	-	-	-	-	-	800	600	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides	Triclorpyr	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,4-DDD	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin	mg/kg	0.05	-	-	-	-	-	10	6	-	-	-	-	-	-	-	-	-	-
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlordane	mg/kg	0.05	-	-	-	-	-	70	50	-	-	-	-	-	-	-	-	-	-
	Chlordane (cis)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlordane (trans)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-BHC	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDD	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT+DDD+DDD	mg/kg	0.5	-	-	-	-	-	400	240	-	-	-	-	-	-	-	-	-	-
	Dieldrin	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan	mg/kg	0.05	-	-	-	-	-	340	270	-	-	-	-	-	-	-	-	-	-
	Endosulfan I	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan II	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulphate	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	mg/kg	0.05	-	-	-	-	-	20	10	-	-	-	-	-	-	-	-	-	-
	Endrin aldehyde	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin ketone	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-BHC (Lindane)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	mg/kg	0.05	-	-	-	-	-	10	6	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organophosphorus Pesticides	Methoxychlor	mg/kg	0.2	-	-	-	-	-	400	300	-	-	-	-	-	-	-	-	-	-
	Azinphos methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromophos-ethyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbofenthoxy	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorfenvinphos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorpyrifos	mg/kg	0.05	-	-	-	-	-	250	160	-	-	-	-	-	-	-	-	-	-
	Chlorpyrifos-methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Diazinon	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dichlorvos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dimethoate	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ethion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fenitrothion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Malathion	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Methyl parathion	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Monocrotophos	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Prothiofos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pesticides	Demeton-S-methyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fenamiphos	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Parathion	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pirimiphos-ethyl	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3	TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0	TP06_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5	TP10_0.2	
				7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt									
										0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m			
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,1-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,3-trichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dibromo-3-chloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromodichloromethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromoform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbon tetrachloride	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorodibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloromethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobutadiene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Trichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	trans-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
trans-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Vinyl chloride	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

											TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1	TP11_0.3	TP11_2.0	TP12_0.3	TP12_1.0	TP12_3.0	TP13_0.4	TP14_0.1	TP14_0.3	TP14_0.5	TP15_0.3	TP15_0.5	TP15_1.0	TP15_2.0	TP15_3.0					
											6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																					
				Units	EQL									0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m												
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,1,1-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,1,2,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,1,2-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,1-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,1-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,1-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,2,3-trichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,2-dibromo-3-chloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,2-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	1,3-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	2,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Bromodichloromethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Bromoform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Carbon tetrachloride	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Chlorodibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Chloroethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Chloroform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Chloromethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	cis-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	cis-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Dibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Hexachlorobutadiene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Trichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Tetrachloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
trans-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
trans-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Vinyl chloride	mg/kg	5	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

				TP16_0.3	TP17_0.1	TP17_0.6	TP18_0.15	TP18_0.3	TP18_0.5	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3	TP20_0.3	TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4	TP21_1.0	TP21_2.0	TP21_3.0
				6/06/2018	6/06/2018	6/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018
Chlorinated Hydrocarbons		Units	EQL	CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt										
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m				
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1,2-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,3-trichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,2-dichlorobutane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromodichloromethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromoform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorodibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloromethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobutadiene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vinyl chloride	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				TP22_0.3	TP23_0.3	TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1	TP27_0.3	TP27_0.5	TP27_2.0	TP28_0.5	TP29_0.1	TP29_0.3	TP29_1.0	TP29_3.0	TP30_0.3	TP31_0.3	TP31_0.5	TP31_2.0	TP31_3.0	
				5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt											
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m					
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,1-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,3-trichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dibromo-3-chloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromodichloromethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromoform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbon tetrachloride	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorodibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloromethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachlorobutadiene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Trichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Tetrachloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
trans-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
trans-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Vinyl chloride	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

				TP32_0.3	TP32_1.0	TP32_2.0	TP32_3.0	TP33_0.3	TP33_0.5	TP33_1.0	TP34_0.1	TP35_0.1	TP35_0.4	TP35_1.0	TP35_2.0	TP36_0.1	TP37_0.3	TP37_0.5	TP37_3.0	TP38_0.3	TP38_2.0	TP39_0.1	
				5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	13/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILS Rec C Soil	NEPM 2013 Table 1A(1) HILS Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt											
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m					
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,1-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2-trichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,3-trichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dibromo-3-chloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,2-dichloropropane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromodichloromethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromoform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbon tetrachloride	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorodibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroform	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloromethane	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibromomethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobutadiene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Trichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	trans-1,2-dichloroethene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	trans-1,3-dichloropropene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Vinyl chloride	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

				TP39_0.3 5/06/2018	TP39_0.6 5/06/2018	TP39_1.0 5/06/2018	TP39_1.5 5/06/2018	TP40_0.3 5/06/2018																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HLS Rec C Soil	NEPM 2013 Table 1A(1) HLS Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
				Units	EQL									0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

														TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3	TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0	TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5	TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1	TP11_0.3	TP11_2.0					
														7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																												
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m																						
PAH/Phenols	Acenaphthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	<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	<0.5	-	<0.5	-	-	-	<0.5	-									
	Anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	<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	<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	<0.5	-	<0.5	-	-	-	<0.5	-									
	Benzo(g,h)perylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	<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	<0.5	-	<0.5	-	-	-	<0.5	-									
	Chrysene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	<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	<0.5	-	<0.5	-	-	-	<0.5	-									
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	<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	<0.5	-	<0.5	-	-	-	<0.5	-									
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-									
	Naphthalene	mg/kg	0.5	1400	1900	4	-	-	-	-	-	NL	NL	NL	NL	4	NL	NL	NL																					
	PAHs (Sum of total)	mg/kg	0.5	-	-	-	-	-	300	300	-	<0.5	-	-	-	<0.5	-	-	<0.5	-	<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	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-									
Picloram	mg/kg	0.02	-	-	-	-	-	5700	4500	-	-	-	-	-	-	-	-	-																						
Pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-									

				TP12_0.3 6/06/2018												TP12_1.0 6/06/2018													
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)		CRC CARE Soil Direct Contact HSL-C Recreational / Open Space		CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion		CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion		CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion		NEPM 2013 Table 1A(1) Hills Rec C Soil		NEPM 2013 Table 1A(1) Hills Res A Soil		NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt				NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt							
																		0-1m		1-2m		2-4m		>4m					
PAH/Phenols	Acenaphthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Benz(a)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Benzo(a) pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Benzo(g,h,i)perylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Chrysene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Dibenz(a,h)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Fluorene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
	Naphthalene	mg/kg	0.5	1400	1900	4	-	-	-	-	-	-	-	-	-	-	-	-	NL	NL	NL	NL	4	NL	NL	NL	<0.5	-	
	PAHs (Sum of total)	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	300	300	-	-	-	-	-	-	-	-	-	-	<0.5	-	
Phenanthrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		
Picloram	mg/kg	0.02	-	-	-	-	-	-	-	-	-	-	-	5700	4500	-	-	-	-	-	-	-	-	-	-	-	-		
Pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-		



				TP12_3.0	TP13_0.4	TP14_0.1	TP14_0.3	TP14_0.5	TP15_0.3	TP15_0.5	TP15_1.0	TP15_2.0	TP15_3.0	TP16_0.3	TP17_0.1	TP17_0.6	TP18_0.15	TP18_0.3	TP18_0.5	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3	TP20_0.3
				6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	6/06/2018	6/06/2018	6/06/2018
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(3) Rec A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil for Vapour Intrusion, Silt	
				Units	EQL																				
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

				TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4						
				6/06/2018	6/06/2018	5/06/2018	5/06/2018						
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)									
				CRC CARE Soil Direct Contact HSL-C Recreational / Open Space									
				CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion									
				CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion									
				CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion									
				NEPM 2013 Table 1A(1) HILs Rec C Soil									
				NEPM 2013 Table 1A(1) HILs Res A Soil									
				NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt									
				NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt									



				TP21_1.0	TP21_2.0	TP21_3.0	TP22_0.3	TP23_0.3	TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1	TP27_0.3	TP27_0.5	TP27_2.0	TP28_0.5	TP29_0.1	TP29_0.3	TP29_1.0	TP29_3.0	TP30_0.3	TP31_0.3	TP31_0.5	TP31_2.0	TP31_3.0			
				5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018		
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m										
PAH/Phenols	Acenaphthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Benzo(a)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Benzo(a) pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Benzo(g,h,i)perylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Chrysene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Dibenz(a,h)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Fluorene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Naphthalene	mg/kg	0.5	1400	1900	4	-	-	-	-	-	NL	NL	NL	NL	4	NL	NL	NL	-	-	-	-	-	-	-		
	PAHs (Sum of total)	mg/kg	0.5	-	-	-	-	-	-	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Picloram	mg/kg	0.02	-	-	-	-	-	-	5700	4500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		



				TP32_0.3	TP32_1.0	TP32_2.0	TP32_3.0	TP33_0.3	TP33_0.5	TP33_1.0	TP34_0.1	TP35_0.1	TP35_0.4	TP35_1.0	TP35_2.0	TP36_0.1	TP37_0.3	TP37_0.5	TP37_3.0	TP38_0.3	TP38_2.0	TP39_0.1	TP39_0.3	TP39_0.6	TP39_1.0	
				5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	13/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Res C Soil HSL for Vapour Intrusion, Silt				NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt											
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m								
PAH/Phenols	Acenaphthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzo(a)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzo(a) pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzo(g,h,i)perylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chrysene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibenz(a,h)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Fluorene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Naphthalene	mg/kg	0.5	1400	1900	4	-	-	-	-	NL	NL	NL	NL	4	NL	NL	NL	NL	-	-	-	-	-	-	
	PAHs (Sum of total)	mg/kg	0.5	-	-	-	-	-	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Picloram	mg/kg	0.02	-	-	-	-	-	5700	4500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

														TP39_1.5	TP40_0.3	
														5/06/2018	5/06/2018	
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) Hills Rec C Soil	NEPM 2013 Table 1A(1) Hills Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt			
											0-1m	1-2m	2-4m	>4m		
PAH/Phenols	Acenaphthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Acenaphthylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Benz(a)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Benzo(a) pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Benzo(g,h)perylene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Chrysene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Dibenz(a,h)anthracene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Fluoranthene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Fluorene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	
	Naphthalene	mg/kg	0.5	1400	1900	4	-	-	-	-	-	NL	NL	NL	NL	<0.5
	PAHs (Sum of total)	mg/kg	0.5	-	-	-	-	-	-	300	300	-	-	-	-	<0.5
	Phenanthrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
	Picloram	mg/kg	0.02	-	-	-	-	-	-	5700	4500	-	-	-	-	-
	Pyrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	<0.5

		Units	EQL	CRC CARE Soil Direct Contact Residential (Low Density)	CRC CARE Soil HSL - Direct Contact HSL - C Recreational / Open Space	CRC CARE Soil HSL - A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL - A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL - A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt	TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3	TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5
													7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018	7/06/2018
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	4- & 2-AM-DNT(isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	-	-	-	-
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	-	-	-	-
	RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
MAH	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-

														TP04_2.0	TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5	TP10_0.2					
														7/06/2018	7/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018					
				CRC CARE Soil Direct Contact A Residential (Low Density)	CRC CARE Soil HSL- Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt				NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt										
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m							
Explosives		Units	EQL																						
	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	4- & 2-AM-DNT (isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-
RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	
MAH	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-

				TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1	TP11_0.3	TP11_2.0	TP12_0.3	TP12_1.0	TP12_3.0							
				6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018	6/06/2018							
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt							
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m	
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	4- & 2-AM-DNT (Isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-
	RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-
MAH	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-

														TP13_0.4 6/06/2018	TP14_0.1 6/06/2018	TP14_0.3 6/06/2018	TP14_0.5 6/06/2018	TP15_0.3 6/06/2018	TP15_0.5 6/06/2018	TP15_1.0 6/06/2018	TP15_2.0 6/06/2018	TP15_3.0 6/06/2018						
				CRC CARE Soil Direct Contact HSL- A	CRC CARE Soil Direct Contact HSL- C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																
				Residential (Low Density)							0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m										
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4- & 2-AM-DNT(Isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAH	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				TP16_0.3	TP17_0.1	TP17_0.6	TP18_0.15	TP18_0.3	TP18_0.5	TP18_1.0	TP18_2.0	TP18_3.0											
				6/06/2018	6/06/2018	6/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018											
				CRC CARE Soil Direct Contact HSL-A Residential (Low Density)	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL-A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL-A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt											
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m					
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4- & 2-AM-DNT(Isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MAH	RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

														TP19_0.1 6/06/2018	TP19_0.3 6/06/2018	TP20_0.3 6/06/2018	TP20_0.5 6/06/2018	TP20_2.0 6/06/2018	TP21_0.1 5/06/2018	TP21_0.4 5/06/2018	TP21_1.0 5/06/2018	TP21_2.0 5/06/2018						
				CRC CARE Soil Direct Contact HSL- A	CRC CARE Soil Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																
				Residential (Low Density)							0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m										
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4- & 2-AM-DNT(Isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAH	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[illegible]

		Units	EQL	CRC CARE Soil Direct Contact HSL - Residential (Low Density)	CRC CARE Soil HSL - Direct Contact HSL - C Recreational / Open Space	CRC CARE Soil HSL - A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL - A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL - A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt	TP27_2.0 5/06/2018	TP28_0.5 5/06/2018	TP29_0.1 5/06/2018	TP29_0.3 5/06/2018	TP29_1.0 5/06/2018	TP29_3.0 5/06/2018	TP30_0.3 5/06/2018	TP31_0.3 5/06/2018	TP31_0.5 5/06/2018
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m			
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4- & 2-AM-DNT (isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAH	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

													TP31_2.0	TP31_3.0	TP32_0.3	TP32_1.0	TP32_2.0	TP32_3.0	TP33_0.3	TP33_0.5	TP33_1.0
													5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018
				CRC CARE Soil Direct Contact HSL- A	CRC CARE Soil Direct Contact HSL- C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt									
				Residential (Low Density)							0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m			
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	4- & 2-AM-DNT(Isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
MAH	RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

																	TP34_0.1 5/06/2018	TP35_0.1 5/06/2018	TP35_0.4 13/06/2018	TP35_1.0 5/06/2018	TP35_2.0 5/06/2018	TP36_0.1 5/06/2018	TP37_0.3 5/06/2018	TP37_0.5 5/06/2018	TP37_3.0 5/06/2018			
				CRC CARE Soil Direct Contact HSL- A Residential (Low Density)	CRC CARE Soil HSL- Direct Contact HSL-C Recreational / Open Space	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt				NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt													
											0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m										
Explosives		Units	EQL																									
	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4- & 2-AM-DNT (isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MAH	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

				TP38_0.3	TP38_2.0	TP39_0.1	TP39_0.3	TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3														
				5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018														
		Units	EQL	CRC CARE Soil Direct Contact A	CRC CARE Soil HSL- Direct Contact HSL-C	CRC CARE Soil HSL- A/B, 0 to <1m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 1m to <2m, Silt Soils for Vapour Intrusion	CRC CARE Soil HSL- A/B, 2m to <4m, Silt Soils for Vapour Intrusion	NEPM 2013 Table 1A(1) HILs Rec C Soil	NEPM 2013 Table 1A(1) HILs Res A Soil	NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt	NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt													
				Residential (Low Density)	Recreational / Open Space																				
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m	-	-	-	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,6-Trinitrotoluene (TNT)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-Amino-4,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4- & 2-AM-DNT(Isomeric Mixture)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-Amino-2,6-Dinitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	HMX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	m-Nitrotoluene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrobenzene	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitroglycerine	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PETN	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	RDX	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MAH	Tetryl	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,4-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3,5-trimethylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Isopropylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	n-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	n-propylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	p-isopropyltoluene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	sec-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Styrene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	tert-butylbenzene	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Field ID	Sampled Date/Time	ALSE-Sydney 13-Jun-18		ALSE-Sydney 13-Jun-18	RPD
		TP34 0.1	QA02		
		5/06/2018 12:55	5/06/2018 12:55		
Chem_Group	ChemName	Units	EQL		
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	0
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	0
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)		
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)	<0.2	0
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)	<0.2	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)	<0.5	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)		
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)	<0.5	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	0
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,1-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,1-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,1-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,2-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,3-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	2,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Bromodichloromethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Bromoform	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Carbon tetrachloride	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Chlorodibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)		
	Chloroform	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)		
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Dibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Trichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Tetrachloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Vinyl chloride	mg/kg	5 (Primary): 0.1 (Interlab)		
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	0
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)		
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)		
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)		
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)		
Inorganics	Moisture	%	1	10.7	34
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	21.0	33
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
Metals	tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		
	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	9.0	40
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)	<1.0	0
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)	26.0	48
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)	24.0	29
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	0
Organochlorine Pesticides	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)	10.0	35
	Zinc	mg/kg	5 (Primary): 2 (Interlab)	41.0	38
	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	0
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	0
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	0
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	0
	chlordanes	mg/kg	0.05	<0.05	0
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	0
	Chlordane (trans)	mg/kg	0.05	<0.05	0
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	0

			Field ID	ALSE-Sydney 13-Jun-18		ALSE-Sydney 13-Jun-18	RPD
			Sampled Date/Time	TP34_0.1	QA02		
				5/06/2018 12:55	5/06/2018 12:55		
Chem_Group	ChemName	Units	EQL				
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.2	0
	DDT+DDE+DDD	mg/kg	0.05		<0.05	<0.05	0
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Endosulfan	mg/kg	0.05		<0.05	<0.05	0
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.2	0
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Carbophenothion	mg/kg	0.05		<0.05	<0.05	0
	Chlorfenvinphos	mg/kg	0.05		<0.05	<0.05	0
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Chlorpyrifos-methyl	mg/kg	0.05		<0.05	<0.05	0
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.05	0
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.05	0
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.05	0
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Fenthion	mg/kg	0.05		<0.05	<0.05	0
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Methyl parathion	mg/kg	0.2		<0.2	<0.2	0
	Monocrotophos	mg/kg	0.2		<0.2	<0.2	0
	Prothiofos	mg/kg	0.05		<0.05	<0.05	0
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)		<1.0	<1.0	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)				
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)		<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
Pesticides	Demeton-S-methyl	mg/kg	0.05		<0.05	<0.05	0
	Fenamiphos	mg/kg	0.05		<0.05	<0.05	0
	Parathion	mg/kg	0.2		<0.2	<0.2	0
	Pirimphos-ethyl	mg/kg	0.05		<0.05	<0.05	0
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)		<0.1	<0.1	0
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)				
	2-hexanone (MBK)	mg/kg	5				
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)				
	Carbon disulfide	mg/kg	0.5				
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)				
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)		<50.0	<50.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)		<100.0	<100.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)		<100.0	<100.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)		<50.0	<50.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)		<10.0	<10.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)		<50.0	<50.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)		<100.0	<100.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)		<100.0	<100.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)		<50.0	<50.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)		<50.0	<50.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)		<10.0	<10.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)				

Chem_Group	ChemName	Units	EQL	ALSE-Sydney 13-Jun-18 TP26_0.15	ALSE-Sydney 13-Jun-18 QA04	RPD
				5/06/2018 12:25	5/06/2018 12:25	
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	0
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	0
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	<0.5	0
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)			
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)	<0.2	<0.2	0
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)	<0.2	<0.2	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)	<0.5	<0.5	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)			
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)	<0.5	<0.5	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,3-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	2,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Bromodichloromethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Bromoform	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Carbon tetrachloride	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Chlorodibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)			
	Chloroform	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)			
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Dibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Trichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Tetrachloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Vinyl chloride	mg/kg	5 (Primary): 0.1 (Interlab)			
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)			
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)			
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)			
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)			
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)			
Inorganics	Moisture	%	1	9.6	9.2	4
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	20.0	32.0	46
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
Metals	tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	9.0	8.0	12
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)	<1.0	<1.0	0
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)	21.0	22.0	5
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)	23.0	36.0	44
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0
	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)	10.0	12.0	18
Organochlorine Pesticides	Zinc	mg/kg	5 (Primary): 2 (Interlab)	48.0	49.0	2
	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Aldrin + Dieldrin	mg/kg	0.05			
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	chlordan	mg/kg	0.05			
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Chlordane (trans)	mg/kg	0.05			
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)			

Field ID Sampled Date/Time				ALSE-Sydney 13-Jun-18 TP26_0.15 5/06/2018 12:25	ALSE-Sydney 13-Jun-18 QA04 5/06/2018 12:25	RPD
Chem_Group	ChemName	Units	EQL			
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)			
	DDT+DDE+DDD	mg/kg	0.05			
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan	mg/kg	0.05			
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)			
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Carbophenothion	mg/kg	0.05			
	Chlorfenvinphos	mg/kg	0.05			
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Chlorpyrifos-methyl	mg/kg	0.05			
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Fenthion	mg/kg	0.05			
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Methyl parathion	mg/kg	0.2			
	Monocrotophos	mg/kg	0.2			
	Prothiofos	mg/kg	0.05			
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Benzo[a]anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Benzo[a]pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Benzo[g,h,i]perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Benzo[k]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Dibenz[a,h]anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.8	46
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Indeno[1,2,3-c,d]pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)			
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)	<0.5	1.6	105
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.8	46
Pesticides	Demeton-S-methyl	mg/kg	0.05			
	Fenamiphos	mg/kg	0.05			
	Parathion	mg/kg	0.2			
	Phosphos-ethyl	mg/kg	0.05			
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)			
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)			
	2-hexanone (MBK)	mg/kg	5			
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)			
	Carbon disulfide	mg/kg	0.5			
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)			
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<50.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)	<100.0	<100.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)	<100.0	<100.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<50.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)	<10.0	<10.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)	<50.0	<50.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<100.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<100.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)	<50.0	<50.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)	<50.0	<50.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)			

Chem_Group	ChemName	Units	EQL	Field ID	ALSE-Sydney 13-Jun-18	ALSE-Sydney 13-Jun-18	RPD
				Sampled Date/Time	TP09_0.5 6/06/2018 15:00	QA05 6/06/2018 15:00	
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5				
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5				
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5				
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)				
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.2	0
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)		<0.2	<0.2	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)		<0.5	<0.5	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)		<0.5	<0.5	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)		<10.0	<10.0	0
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromodichloromethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromoform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Carbon tetrachloride	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorodibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)				
	Chloroform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)				
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Dibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Trichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Tetrachloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Vinyl chloride	mg/kg	5 (Primary): 0.1 (Interlab)				
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)				
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)				
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
Inorganics	Moisture	%	1				
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)		12.0	13.0	8
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
Metals	tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Arsenic	mg/kg	5 (Primary): 1 (Interlab)		7.0	6.0	15
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)		<1.0	<1.0	0
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)		14.0	14.0	0
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)		25.0	13.0	63
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)		<0.1	<0.1	0
Organochlorine Pesticides	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)		3.0	5.0	50
	Zinc	mg/kg	5 (Primary): 2 (Interlab)		17.0	20.0	16
	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05		<0.05	<0.05	0
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	chlordane	mg/kg	0.05		<0.05	<0.05	0
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Chlordane (trans)	mg/kg	0.05		<0.05	<0.05	0
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0

			Field ID	ALSE-Sydney 13-Jun-18		ALSE-Sydney 13-Jun-18	RPD
			Sampled Date/Time	TP09_0.5	QA05		
				6/06/2018 15:00	6/06/2018 15:00		
Chem_Group	ChemName	Units	EQL				
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.2	0
	DDT+DDE+DDD	mg/kg	0.05		<0.05	<0.05	0
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Endosulfan	mg/kg	0.05		<0.05	<0.05	0
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.2	0
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Carbophenothion	mg/kg	0.05		<0.05	<0.05	0
	Chlorfenvinphos	mg/kg	0.05		<0.05	<0.05	0
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Chlorpyrifos-methyl	mg/kg	0.05		<0.05	<0.05	0
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.05	0
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.05	0
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.05	0
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Fenthion	mg/kg	0.05		<0.05	<0.05	0
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.05	0
	Methyl parathion	mg/kg	0.2		<0.2	<0.2	0
	Monocrotophos	mg/kg	0.2		<0.2	<0.2	0
	Prothiofos	mg/kg	0.05		<0.05	<0.05	0
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)		<1.0	<1.0	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)				
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)		<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.5	0
Pesticides	Demeton-S-methyl	mg/kg	0.05		<0.05	<0.05	0
	Fenamiphos	mg/kg	0.05		<0.05	<0.05	0
	Parathion	mg/kg	0.2		<0.2	<0.2	0
	Pirimphos-ethyl	mg/kg	0.05		<0.05	<0.05	0
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)		<0.1	<0.1	0
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)				
	2-hexanone (MBK)	mg/kg	5				
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)				
	Carbon disulfide	mg/kg	0.5				
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)				
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)		<50.0	<50.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)		<100.0	<100.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)		<100.0	<100.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)		<50.0	<50.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)		<10.0	<10.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)		<50.0	<50.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)		<100.0	<100.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)		<100.0	<100.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)		<50.0	<50.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)		<50.0	<50.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)		<10.0	<10.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)				

			Field ID	ALSE-Sydney 13-Jun-18		ALSE-Sydney 13-Jun-18	
			Sampled Date/Time	TP05_0.3	QA07	RPD	
				7/06/2018 15:00	7/06/2018 15:00		
Chem_Group	ChemName	Units	EQL				
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5				
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5				
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5				
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)				
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)	<0.2	<0.2	0	
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)	<0.2	<0.2	0	
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)	<0.5	<0.5	0	
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)	<0.5	<0.5	0	
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromodichloromethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromoform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Carbon tetrachloride	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorodibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)				
	Chloroform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)				
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Dibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Trichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Tetrachloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)					
trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)					
Vinyl chloride	mg/kg	5 (Primary): 0.1 (Interlab)					
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)				
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)				
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)				
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
Inorganics	Moisture	%	1				
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	20.0	18.0	11	
MAH							
	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)					
tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)					
Metals							
	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	9.0	8.0	12	
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)	<1.0	<1.0	0	
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)	24.0	19.0	23	
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)	18.0	18.0	0	
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	
	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)	8.0	8.0	0	
Zinc	mg/kg	5 (Primary): 2 (Interlab)	33.0	33.0	0		
Organochlorine Pesticides							
	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Aldrin + Dieldrin	mg/kg	0.05				
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	chlordan	mg/kg	0.05				
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Chlordane (trans)	mg/kg	0.05				
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				

Field ID Sampled Date/Time				ALSE-Sydney 13-Jun-18 TP05 0.3 7/06/2018 15:00	ALSE-Sydney 13-Jun-18 QA07 7/06/2018 15:00	RPD
Chem_Group	ChemName	Units	EQL			
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)			
	DDT+DDE+DDD	mg/kg	0.05			
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan	mg/kg	0.05			
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)			
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Carbophenothion	mg/kg	0.05			
	Chlorfenvinphos	mg/kg	0.05			
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Chlorpyrifos-methyl	mg/kg	0.05			
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Fenthion	mg/kg	0.05			
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Methyl parathion	mg/kg	0.2			
	Monocrotophos	mg/kg	0.2			
	Prothiofos	mg/kg	0.05			
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)			
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)	<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0
Pesticides	Demeton-S-methyl	mg/kg	0.05			
	Fenamiphos	mg/kg	0.05			
	Parathion	mg/kg	0.2			
	Prinphos-ethyl	mg/kg	0.05			
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)			
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)			
	2-hexanone (MBK)	mg/kg	5			
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)			
	Carbon disulfide	mg/kg	0.5			
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)			
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<50.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)	<100.0	<100.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)	<100.0	<100.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<50.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)	<10.0	<10.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)	<50.0	<50.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<100.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<100.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)	<50.0	<50.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)	<50.0	<50.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)			

Chem_Group	ChemName	Units	EQL	Field ID	ALSE-Sydney 13-Jun-18	SGS 14 Jun 18	RPD
				Sampled Date/Time	TP34 0.1 5/06/2018 12:55	QA02A 5/06/2018 12:55	
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5		0.6		
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5		1.2		
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5		<0.5		
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)				
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.1	0
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)		<0.2	<0.6	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)		<0.5	<0.2	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)		<0.5	<0.3	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)		<10.0	<25.0	0
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromodichloromethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromoform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Carbon tetrachloride	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorodibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)				
	Chloroform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)				
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Dibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Trichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Tetrachloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Vinyl chloride	mg/kg	5 (Primary): 0.1 (Interlab)				
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)				
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)				
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
Inorganics	Moisture	%	1		10.7		
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)		21.0	14.0	40
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)		9.0	5.0	57
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)		<1.0	<0.3	0
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)		26.0	12.0	74
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)		24.0	17.0	34
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)		<0.1	<0.05	0
	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)		10.0	5.2	63
	Zinc	mg/kg	5 (Primary): 2 (Interlab)		41.0	26.0	45
Organochlorine Pesticides	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	Aldrin + Dieldrin	mg/kg	0.05		<0.05		
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	chlordanes	mg/kg	0.05		<0.05		
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	Chlordane (trans)	mg/kg	0.05		<0.05		
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0

			Field ID	ALSE-Sydney 13-Jun-18 TP34 0.1	SGS 14 Jun 18 QA02A	RPD
			Sampled Date/Time	5/06/2018 12:55	5/06/2018 12:55	
Chem_Group	ChemName	Units	EQL			
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)	<0.2	<0.1	0
	DDT+DDE+DDD	mg/kg	0.05	<0.05		
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Endosulfan	mg/kg	0.05	<0.05		
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)	<0.2	<0.1	0
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Carbophenothion	mg/kg	0.05	<0.05		
	Chlorfenvinphos	mg/kg	0.05	<0.05		
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Chlorpyrifos-methyl	mg/kg	0.05	<0.05		
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)	<0.05	<0.5	0
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)	<0.05	<0.5	0
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)	<0.05	<0.5	0
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Fenthion	mg/kg	0.05	<0.05		
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.2	0
	Methyl parathion	mg/kg	0.2	<0.2		
	Monocrotophos	mg/kg	0.2	<0.2		
	Prothiofos	mg/kg	0.05	<0.05		
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)			
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)	<0.5	<0.8	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
Pesticides	Demeton-S-methyl	mg/kg	0.05	<0.05		
	Fenamiphos	mg/kg	0.05	<0.05		
	Parathion	mg/kg	0.2	<0.2	<0.2	0
	Phosphos-ethyl	mg/kg	0.05	<0.05		
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)	<0.1	<1.0	0
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)			
	2-hexanone (MBK)	mg/kg	5			
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)			
	Carbon disulfide	mg/kg	0.5			
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)			
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<25.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)	<100.0	<90.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)	<100.0	<120.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<25.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)	<10.0	<20.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)	<50.0	<20.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<45.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<45.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)	<50.0	<110.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)	<50.0	<210.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)			

			Field ID	ALSE-Sydney 13-Jun-18		SGS 14 Jun 18	RPD
			Sampled Date/Time	TP18 1.0	QA03A		
				5/06/2018 12:25	5/06/2018 12:25		
Chem_Group	ChemName	Units	EQL				
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5				
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5				
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5				
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.1	0
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.1	0
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)		<0.2	<0.6	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)		<0.5	<0.2	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)		<0.5	<0.2	0
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)		<0.5	<0.3	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)		<10.0	<25.0	0
	Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1
1,1,1-trichloroethane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,1,2,2-tetrachloroethane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,1,2-trichloroethane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,1-dichloroethane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,1-dichloroethene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,1-dichloropropene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,2,3-trichloropropane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,2-dibromo-3-chloropropane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,2-dichloroethane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,2-dichloropropane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
1,3-dichloropropane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
2,2-dichloropropane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Bromodichloromethane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Bromoform		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Carbon tetrachloride		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Chlorodibromomethane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Chloroethane		mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0
Chloroform		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Chloromethane		mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0
cis-1,2-dichloroethene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
cis-1,3-dichloropropene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Dibromomethane		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Hexachlorobutadiene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Trichloroethene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Tetrachloroethene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
trans-1,2-dichloroethene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
trans-1,3-dichloropropene		mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Vinyl chloride		mg/kg	5 (Primary): 0.1 (Interlab)		<5.0	<0.1	0
Halogenated Benzenes		1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)					
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)		<0.5	<5.0	0
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0
Inorganics	Moisture	%	1				
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)		27.0	19.0	35
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)		8.0	3.0	91
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)		<1.0	<0.3	0
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)		20.0	9.2	74
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)		27.0	49.0	58
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)		<0.1	<0.05	0
	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)		18.0	11.0	48
Zinc	mg/kg	5 (Primary): 2 (Interlab)		55.0	41.0	29	
Organochlorine Pesticides	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Aldrin + Dieldrin	mg/kg	0.05				
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	chlordane	mg/kg	0.05				
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Chlordane (trans)	mg/kg	0.05				
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				

				ALSE-Sydney 13-Jun-18 TP18 1.0 5/06/2018 12:25	SGS 14 Jun 18 QA03A 5/06/2018 12:25	RPD
Field ID	Sampled Date/Time					
Chem_Group	ChemName	Units	EQL			
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)			
	DDT+DDE+DDD	mg/kg	0.05			
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan	mg/kg	0.05			
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)			
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Carbophenothion	mg/kg	0.05			
	Chlorfenvinphos	mg/kg	0.05			
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Chlorpyrifos-methyl	mg/kg	0.05			
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Fenthion	mg/kg	0.05			
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Methyl parathion	mg/kg	0.2			
	Monocrotophos	mg/kg	0.2			
	Prothiofos	mg/kg	0.05			
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)	<0.5	<0.8	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
Pesticides	Demeton-S-methyl	mg/kg	0.05			
	Fenamiphos	mg/kg	0.05			
	Parathion	mg/kg	0.2			
	Phosphos-ethyl	mg/kg	0.05			
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)			
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)	<5.0	<10.0	0
	2-hexanone (MBK)	mg/kg	5	<5.0	<5.0	0
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)	<5.0	<1.0	0
	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	0
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)	<5.0	<10.0	0
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<25.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)	<100.0	<90.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)	<100.0	<120.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<25.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)	<10.0	<20.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)	<50.0	<20.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<45.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<45.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)	<50.0	<110.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)	<50.0	<210.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<1.0	0

			Field ID	ALSE-Sydney 13-Jun-18		SGS 14 Jun 18	RPD
			Sampled Date/Time	TP26_0.15		QA04A	
				5/06/2018 12:25		5/06/2018 12:25	
Chem_Group	ChemName	Units	EQL				
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5		0.6		
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5		1.2		
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5		<0.5		
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)				
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.1	0
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)		<0.2	<0.6	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)		<0.5	<0.2	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)		<0.5	<0.3	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)		<10.0	<25.0	0
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromodichloromethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromoform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Carbon tetrachloride	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorodibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)				
	Chloroform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)				
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Dibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Trichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Tetrachloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Vinyl chloride	mg/kg	5 (Primary): 0.1 (Interlab)				
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)				
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)				
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)				
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
Inorganics	Moisture	%	1		9.6		
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)		20.0	19.0	5
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)		9.0	3.0	100
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)		<1.0	<0.3	0
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)		21.0	11.0	63
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)		23.0	20.0	14
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)		<0.1	<0.05	0
	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)		10.0	9.1	9
	Zinc	mg/kg	5 (Primary): 2 (Interlab)		48.0	41.0	16
Organochlorine Pesticides	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Aldrin + Dieldrin	mg/kg	0.05				
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	chlordane	mg/kg	0.05				
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Chlordane (trans)	mg/kg	0.05				
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				

Field ID Sampled Date/Time				ALSE-Sydney 13-Jun-18 TP26_0.15 5/06/2018 12:25	SGS 14 Jun 18 QA04A 5/06/2018 12:25	RPD
Chem_Group	ChemName	Units	EQL			
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)			
	DDT+DDE+DDD	mg/kg	0.05			
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan	mg/kg	0.05			
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)			
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Carbophenothion	mg/kg	0.05			
	Chlorfenvinphos	mg/kg	0.05			
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Chlorpyrifos-methyl	mg/kg	0.05			
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Fenthion	mg/kg	0.05			
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Methyl parathion	mg/kg	0.2			
	Monocrotophos	mg/kg	0.2			
	Prothiofos	mg/kg	0.05			
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.3	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.2	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.2	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.3	0
	Benzo(k)fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.1	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.2	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.6	18
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.3	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)			
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)	<0.5	3.0	143
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.4	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0.5	0
Pesticides	Demeton-S-methyl	mg/kg	0.05			
	Fenamiphos	mg/kg	0.05			
	Parathion	mg/kg	0.2			
	Primphos-ethyl	mg/kg	0.05			
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)			
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)			
	2-hexanone (MBK)	mg/kg	5			
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)			
	Carbon disulfide	mg/kg	0.5			
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)			
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<25.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)	<100.0	<90.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)	<100.0	<120.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<25.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)	<10.0	<20.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)	<50.0	<20.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<45.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<45.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)	<50.0	<110.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)	<50.0	<210.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)			

		Field ID		ALSE-Sydney 13-Jun-18	SGS 14 Jun 18	RPD
		Sampled Date/Time		TP09 0.5 6/06/2018 15:00	QA05A 6/06/2018 15:00	
Chem_Group	ChemName	Units	EQL			
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5			
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5			
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5			
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)			
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)	<0.2	<0.1	0
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)	<0.2	<0.6	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)	<0.5	<0.2	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)			
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)	<0.5	<0.3	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,1-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,3-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	2,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Bromodichloromethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Bromoform	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Carbon tetrachloride	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Chlorodibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)			
	Chloroform	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)			
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Dibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Trichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Tetrachloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Vinyl chloride	mg/kg	5 (Primary): 0.1 (Interlab)			
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)			
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)			
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)			
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)			
Inorganics	Moisture	%	1			
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	12.0	15.0	22
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
Metals	tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)			
	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	7.0	9.0	25
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)	<1.0	<0.3	0
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)	14.0	12.0	15
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)	25.0	19.0	27
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.05	0
	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)	3.0	7.4	85
Organochlorine Pesticides	Zinc	mg/kg	5 (Primary): 2 (Interlab)	17.0	37.0	74
	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05		
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	chlordanes	mg/kg	0.05	<0.05		
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0
	Chlordane (trans)	mg/kg	0.05	<0.05		
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.1	0

				Field ID	ALSE-Sydney 13-Jun-18 TP09 0.5	SGS 14 Jun 18 QA05A	RPD
				Sampled Date/Time	6/06/2018 15:00	6/06/2018 15:00	
Chem_Group	ChemName	Units	EQL				
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.1	0
	DDT+DDE+DDD	mg/kg	0.05		<0.05		
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Endosulfan	mg/kg	0.05		<0.05		
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)		<0.05	<0.1	0
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)		<0.2	<0.1	0
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Carbophenothion	mg/kg	0.05		<0.05		
	Chlorfenvinphos	mg/kg	0.05		<0.05		
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Chlorpyrifos-methyl	mg/kg	0.05		<0.05		
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.5	0
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.5	0
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)		<0.05	<0.5	0
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Fenthion	mg/kg	0.05		<0.05		
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)		<0.05	<0.2	0
	Methyl parathion	mg/kg	0.2		<0.2		
	Monocrotophos	mg/kg	0.2		<0.2		
	Prothiofos	mg/kg	0.05		<0.05		
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)		<1.0	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)				
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)		<0.5	<0.8	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)		<0.5	<0.1	0
Pesticides	Demeton-S-methyl	mg/kg	0.05		<0.05		
	Fenamiphos	mg/kg	0.05		<0.05		
	Parathion	mg/kg	0.2		<0.2	<0.2	0
	Phosphos-ethyl	mg/kg	0.05		<0.05		
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)		<0.1	<1.0	0
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)				
	2-hexanone (MBK)	mg/kg	5				
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)				
	Carbon disulfide	mg/kg	0.5				
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)				
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)		<50.0	<25.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)		<100.0	<90.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)		<100.0	<120.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)		<50.0	<25.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)		<10.0	<20.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)		<50.0	<20.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)		<100.0	<45.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)		<100.0	<45.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)		<50.0	<110.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)		<50.0	<210.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)		<10.0	<25.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)				

			Field ID	ALSE-Sydney 13-Jun-18		SGS 14 Jun 18	RPD
			Sampled Date/Time	TP05_0.3		QA07A	
				7/06/2018 15:00		7/06/2018 15:00	
Chem_Group	ChemName	Units	EQL				
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5				
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5				
	Benzo(a)pyrene TEQ (zero)	mg/kg	0.5				
BTEX	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)				
	Benzene	mg/kg	0.2 (Primary): 0.1 (Interlab)	<0.2	<0.1	0	
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Ethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Total BTEX	mg/kg	0.2 (Primary): 0.6 (Interlab)	<0.2	<0.6	0	
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)	<0.5	<0.2	0	
	Xylene (m & p)	mg/kg	0.5 (Primary): 0.2 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	
	Xylene Total	mg/kg	0.5 (Primary): 0.3 (Interlab)	<0.5	<0.3	0	
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0	
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,1-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloroethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2,2-dichloropropane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromodichloromethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromoform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Carbon tetrachloride	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorodibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)				
	Chloroform	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)				
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Dibromomethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Trichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Tetrachloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Vinyl chloride	mg/kg	5 (Primary): 0.1 (Interlab)				
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	2-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	4-chlorotoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Chlorobenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interlab)				
Halogenated Hydrocarbons	1,2-dibromoethane	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)				
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
	Iodomethane	mg/kg	0.5 (Primary): 5 (Interlab)				
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)				
Inorganics	Moisture	%	1				
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	20.0	15.0	29	
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Isopropylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	n-propylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	p-isopropyltoluene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	sec-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
	Styrene	mg/kg	0.5 (Primary): 0.1 (Interlab)				
tert-butylbenzene	mg/kg	0.5 (Primary): 0.1 (Interlab)					
Metals	Arsenic	mg/kg	5 (Primary): 1 (Interlab)	9.0	5.0	57	
	Cadmium	mg/kg	1 (Primary): 0.3 (Interlab)	<1.0	<0.3	0	
	Chromium (III+VI)	mg/kg	2 (Primary): 0.3 (Interlab)	24.0	14.0	53	
	Copper	mg/kg	5 (Primary): 0.5 (Interlab)	18.0	18.0	0	
	Mercury	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.05	0	
	Nickel	mg/kg	2 (Primary): 0.5 (Interlab)	8.0	6.1	27	
	Zinc	mg/kg	5 (Primary): 2 (Interlab)	33.0	28.0	16	
Organochlorine Pesticides	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	a-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Aldrin + Dieldrin	mg/kg	0.05				
	b-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	chlordan	mg/kg	0.05				
	Chlordane (cis)	mg/kg	0.05 (Primary): 0.1 (Interlab)				
	Chlordane (trans)	mg/kg	0.05				
	d-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)				

Field ID Sampled Date/Time				ALSE-Sydney 13-Jun-18 TP05 0.3 7/06/2018 15:00	SGS 14 Jun 18 QA07A 7/06/2018 15:00	RPD
Chem_Group	ChemName	Units	EQL			
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	DDT	mg/kg	0.2 (Primary): 0.1 (Interlab)			
	DDT+DDE+DDD	mg/kg	0.05			
	Dieldrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan	mg/kg	0.05			
	Endosulfan I	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan II	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Endrin ketone	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	g-BHC (Lindane)	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Heptachlor epoxide	mg/kg	0.05 (Primary): 0.1 (Interlab)			
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)			
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Bromophos-ethyl	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Carbophenothion	mg/kg	0.05			
	Chlorfenvinphos	mg/kg	0.05			
	Chlorpyrifos	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Chlorpyrifos-methyl	mg/kg	0.05			
	Diazinon	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dichlorvos	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Dimethoate	mg/kg	0.05 (Primary): 0.5 (Interlab)			
	Ethion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Fenthion	mg/kg	0.05			
	Malathion	mg/kg	0.05 (Primary): 0.2 (Interlab)			
	Methyl parathion	mg/kg	0.2			
	Monocrotophos	mg/kg	0.2			
	Prothiofos	mg/kg	0.05			
PAH	Benzo[b+]fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
PAH/Phenols	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)			
	Naphthalene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	PAHs (Sum of total)	mg/kg	0.5 (Primary): 0.8 (Interlab)	<0.5	<0.8	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0
Pesticides	Demeton-S-methyl	mg/kg	0.05			
	Fenamiphos	mg/kg	0.05			
	Parathion	mg/kg	0.2			
	Primphos-ethyl	mg/kg	0.05			
Polychlorinated Biphenyls	PCBs (Sum of total)	mg/kg	0.1 (Primary): 1 (Interlab)			
Solvents	Methyl Ethyl Ketone	mg/kg	5 (Primary): 10 (Interlab)			
	2-hexanone (MBK)	mg/kg	5			
	4-Methyl-2-pentanone	mg/kg	5 (Primary): 1 (Interlab)			
	Carbon disulfide	mg/kg	0.5			
	Vinyl acetate	mg/kg	5 (Primary): 10 (Interlab)			
TPH	C10-C16	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<25.0	0
	C16-C34	mg/kg	100 (Primary): 90 (Interlab)	<100.0	<90.0	0
	C34-C40	mg/kg	100 (Primary): 120 (Interlab)	<100.0	<120.0	0
	F2-NAPHTHALENE	mg/kg	50 (Primary): 25 (Interlab)	<50.0	<25.0	0
	C6 - C9	mg/kg	10 (Primary): 20 (Interlab)	<10.0	<20.0	0
	C10 - C14	mg/kg	50 (Primary): 20 (Interlab)	<50.0	<20.0	0
	C15 - C28	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<45.0	0
	C29-C36	mg/kg	100 (Primary): 45 (Interlab)	<100.0	<45.0	0
	+C10 - C36 (Sum of total)	mg/kg	50 (Primary): 110 (Interlab)	<50.0	<110.0	0
	C10 - C40 (Sum of total)	mg/kg	50 (Primary): 210 (Interlab)	<50.0	<210.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0
VOCs	cis-1,4-Dichloro-2-butene	mg/kg	0.5 (Primary): 1 (Interlab)			

Sample ID	Depth (mbgl)	Soil Type	Multiplication Factor	pH	Sulfate	Chloride	EC	EC	EC _e	CEC	Exchangeable Na	ESP
				pH Units	mg/kg	mg/kg	µS/cm	dS/m	dS/m	meq/100g	meq/100g	%
TP01_0.1	0.1	Clay Loam	9	8.0	180	200	412	0.412	3.7	3.8	0.3	7.9
TP01_0.3	0.3	Clay Loam	9	6.3	-	-	245	0.245	2.2	-	-	-
TP01_2.0	2.0	Medium Clay	7	5.2	-	-	815	0.815	5.7	-	-	-
TP02_0.1	0.1	Clay Loam	9	6.5	-	-	41	0.041	0.4	-	-	-
TP02_0.3	0.3	Clay Loam	9	7.5	100	290	257	0.257	2.3	2.6	0.6	23.1
TP02_1.0	1.0	Medium Clay	7	5.1	-	-	627	0.627	4.4	-	-	-
TP04_0.1	0.1	Clay Loam	9	6.4	-	-	92	0.092	0.8	-	-	-
TP04_0.5	0.5	Medium Clay	7	6.3	60	100	104	0.104	0.7	9.6	1.7	17.7
TP04_2.0	2.0	Medium Clay	7	7.2	-	-	202	0.202	1.4	-	-	-
TP10_0.2	0.2	Clay Loam	9	6.6	-	-	181	0.181	1.6	-	-	-
TP10_0.6	0.6	Clay Loam	9	8.7	-	-	562	0.562	5.1	-	-	-
TP10_2.0	2.0	Medium Clay	7	6.8	150	610	263	0.263	1.8	16.1	4.1	25.5
TP11_0.1	0.1	Clay Loam	9	7.5	30	110	65	0.065	0.6	7.2	0.6	8.3
TP11_0.3	0.3	Clay Loam	9	6.6	-	-	148	0.148	1.3	-	-	-
TP11_2.0	2.0	Light Clay	8.5	5.2	-	-	854	0.854	7.3	-	-	-
TP12_0.3	0.3	Light Medium Clay	8	7.1	330	760	324	0.324	2.6	13.6	1.5	11.0
TP12_1.0	1.0	Light Medium Clay	8	6.6	-	-	258	0.258	2.1	-	-	-
TP12_3.0	3.0	Light Medium Clay	8	5.3	-	-	646	0.646	5.2	-	-	-
TP14_0.1	0.1	Clay Loam	9	6.5	-	-	80	0.08	0.7	-	-	-
TP14_0.3	0.3	Clay Loam	9	6.5	-	-	335	0.335	3.0	-	-	-
TP14_0.5	0.5	Light Medium Clay	8	7.7	180	630	237	0.237	1.9	3.3	0.7	21.2
TP15_0.5	0.5	Light Medium Clay	8	6.5	-	-	454	0.454	3.6	-	-	-
TP15_1.0	1.0	Light Medium Clay	8	4.6	-	-	531	0.531	4.2	-	-	-
TP15_2.0	2.0	Light Medium Clay	8	5.2	420	930	687	0.687	5.5	3.3	0.9	27.3
TP15_3.0	3.0	Light Medium Clay	8	5.2	-	-	701	0.701	5.6	-	-	-
TP17_0.1	0.1	Clay Loam	9	6.2	60	180	163	0.163	1.5	15.5	1.9	12.3
TP17_0.6	0.6	Light Medium Clay	8	7.3	-	-	615	0.615	4.9	-	-	-
TP18_0.15	0.2	Clay Loam	9	6.6	-	-	416	0.416	3.7	-	-	-
TP18_0.3	0.3	Clay Loam	9	6.0	-	-	407	0.407	3.7	-	-	-
TP18_0.5	0.5	Light Medium Clay	8	7.9	-	-	407	0.407	3.3	-	-	-
TP18_1.0	1.0	Light Medium Clay	8	8.0	-	-	363	0.363	2.9	-	-	-
TP18_2.0	2.0	Light Medium Clay	8	6.7	-	-	367	0.367	2.9	-	-	-
TP18_3.0	3.0	Sand	17	9.3	100	760	694	0.694	11.8	13.9	3.7	26.6
TP19_0.1	0.1	Clay Loam	9	6.7	-	-	90	0.09	0.8	-	-	-
TP20_0.3	0.3	Clay Loam	9	6.1	140	280	249	0.249	2.2	15.7	2.7	17.2
TP20_0.5	0.5	Medium Clay	7	8.8	-	-	516	0.516	3.6	-	-	-
TP20_2.0	2.0	Light Medium Clay	8	7.2	-	-	348	0.348	2.8	-	-	-
TP21_0.1	0.1	Clay Loam	9	6.1	-	-	326	0.326	2.9	-	-	-
TP21_0.4	0.4	Clay Loam	9	7.0	-	-	350	0.35	3.2	-	-	-
TP21_1.0	1.0	Heavy Clay	6	6.4	-	-	226	0.226	1.4	-	-	-
TP21_2.0	2.0	Sand	17	5.6	-	-	478	0.478	8.1	-	-	-
TP21_3.0	3.0	Sand	17	5.5	390	610	549	0.549	9.3	2.5	0.8	32.0
TP27_0.1	0.1	Clay Loam	9	6.2	240	520	478	0.478	4.3	2.8	0.6	21.4
TP27_0.5	0.5	Medium Clay	7	8.2	-	-	424	0.424	3.0	-	-	-
TP27_2.0	2.0	Medium Clay	7	5.6	-	-	503	0.503	3.5	-	-	-
TP29_0.1	0.1	Clay Loam	9	6.3	-	-	155	0.155	1.4	-	-	-
TP29_0.3	0.3	Light Medium Clay	8	7.3	-	-	663	0.663	5.3	-	-	-
TP29_1.0	1.0	Light Medium Clay	8	8.1	300	460	505	0.505	4.0	7.1	1.6	22.5
TP29_3.0	3.0	Light Medium Clay	8	5.2	-	-	435	0.435	3.5	-	-	-
TP31_0.3	0.3	Clay Loam	9	6.2	-	-	419	0.419	3.8	-	-	-
TP31_0.5	0.5	Medium Clay	7	6.6	-	-	304	0.304	2.1	-	-	-
TP31_2.0	2.0	Medium Clay	7	5.8	-	-	443	0.443	3.1	-	-	-
TP31_3.0	3.0	Medium Clay	7	6.5	40	520	262	0.262	1.8	13.3	3.2	24.1
TP32_1.0	1.0	Medium Clay	7	5.8	-	-	364	0.364	2.5	-	-	-
TP32_2.0	2.0	Heavy Clay	6	6.3	60	740	414	0.414	2.5	3.5	0.8	22.9
TP32_3.0	3.0	Heavy Clay	6	5.1	-	-	680	0.68	4.1	-	-	-
TP33_0.3	0.3	Clay Loam	9	6.4	110	340	274	0.274	2.5	15.6	2.7	17.3
TP33_0.5	0.5	Clay Loam	9	8.1	-	-	517	0.517	4.7	-	-	-
TP33_1.0	1.0	Heavy Clay	6	8.7	-	-	494	0.494	3.0	-	-	-
TP35_0.1	0.1	Clay Loam	9	6.2	-	-	270	0.27	2.4	-	-	-
TP35_0.4	0.4	Clay Loam	9	5.8	110	440	343	0.343	3.1	11.6	1.0	8.6
TP35_1.0	1.0	Clay Loam	9	6.4	-	-	229	0.229	2.1	-	-	-
TP35_2.0	2.0	Light Medium Clay	8	8.5	-	-	391	0.391	3.1	-	-	-
TP37_0.3	0.3	Clay Loam	9	6.9	-	-	365	0.365	3.3	-	-	-
TP37_0.5	0.5	Clay Loam	9	7.4	160	240	268	0.268	2.4	7.7	1.3	16.9
TP37_3.0	3.0	Medium Clay	7	6.3	-	-	157	0.157	1.1	-	-	-
TP39_0.1	0.1	Clay Loam	9	7.2	200	550	468	0.468	4.2	12.4	0.5	4.0
TP39_0.3	0.3	Medium Clay	7	7.0	-	-	344	0.344	2.4	-	-	-
TP39_0.6	0.6	Medium Clay	7	7.9	-	-	458	0.458	3.2	-	-	-
TP39_1.5	1.5	Medium Clay	7	6.9	-	-	417	0.417	2.9	-	-	-

Salinity and sodicity ranking based on NSW DLWC (2002), *Site Investigations for Urban Salinity*

Salinity		Sodicity	
EC _e <2 dS/cm	Non-saline	ESP <5	Non-Sodic
EC _e 2-4 dS/cm	Slightly Saline	ESP 5-15	Sodic
EC _e 4-8 dS/cm	Moderately Saline	ESP >15	Highly Sodic
EC _e 8-16 dS/cm	Very Saline		
EC _e >16 dS/cm	Highly Saline		

APPENDIX F

CALIBRATION CERTIFCATES

.





Calibration Record

Unit Type: Oil/Water Interface Meter
Model: Geotech, Kynar Tape (30m)
Serial Number: 5034

Calibration Date: 26th April, 2018
Calibration Due: 26th October, 2018

ITEM	TEST	PASS
Battery	Compartment	✓
Probe	Operation	✓
Tape Check	Cleaned	✓
Connectors	Checked for cuts	✓
Instrument Test	At surface level	✓

Calibrated By: Joanna Wong

Equipment Coordinator

A handwritten signature in black ink, appearing to read 'Joanna Wong'.

Date: 26/04/2018

WSP Australia Pty Limited
Level 27, 680 George Street
Sydney NSW
2000 Australia

Tel: +61 (02) 9272 5100
Fax: +61 (02) 9272 5101
www.wsp.com

APPENDIX G

LABORATORY REPORTS



JACOBLADE 21 Burns Road, Pootah, SA 5066
Ph: 08 8366 0000 F: alstaustralia@alst.com.au
28-38 BLANE, 37 Street Street, Sturtford QLD 4053
Ph: 07 3225 1232 E: alstaustralia@alst.com.au
45, AUSTINE, 48 Chalmers Road, Chalmers QLD 4060
Ph: 07 331 5000 E: alstaustralia@alst.com.au

CHACKAN 10 Harbour Road, Murrumbidgee NSW 2540
Ph: 02 4642 0177 E: murrumbidgee@alst.com.au
JUNIOR 24, Theatrical Road, Southport QLD 4215
Ph: 07 5540 2000 E: junior@alst.com.au
241 DOSE, 27 Sydney Road, Murrumbidgee NSW 2540
Ph: 02 4642 0177 E: murrumbidgee@alst.com.au

JUNIOR 24, Theatrical Road, Murrumbidgee NSW 2540
Ph: 02 4642 0177 E: murrumbidgee@alst.com.au
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Ph: 02 4642 0177 E: murrumbidgee@alst.com.au

JUNIOR 24, Theatrical Road, Murrumbidgee NSW 2540
Ph: 02 4642 0177 E: murrumbidgee@alst.com.au
JUNIOR 24, Theatrical Road, Murrumbidgee NSW 2540
Ph: 02 4642 0177 E: murrumbidgee@alst.com.au

CLIENT: WSP

OFFICE: 1/21, 508 George St, Sydney NSW 2000

PROJECT: Hayball - Jordan Springs

ORDER NUMBER:

PROJECT MANAGER: Nicholas Gilmour

CONTACT PH: 02 92725230

SAMPLER: Claire Williamson

COC emailed to ALST? (YES / NO)

Email Reports to: Nicholas.Gilmour@wsp.com

Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS: Standard TAT (last due date):

(Standard TAT may be longer for some tests e.g. Ultra Trace Elements)

ALST QUOTE NO.:

SY004/18

RELINQUISHED BY:

DATE/TIME:

4/6/18 - 7/6/18

RECEIVED BY:

DATE/TIME:

COC SEQUENCE NUMBER (Circle)

1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 22

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

DATE/TIME:

DATE/TIME:

DATE/TIME:

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ANALYSIS REQUIRED including SUTES (NB: State Codes must be listed to attract state price) where Matrix are required specify Total (undiluted bottle required) or Dissolved (filtered bottle required).

Additional Information

Comments on likely contaminant levels, dilutions or samples requiring specific QC and/or etc.

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Comments on likely contaminant levels, dilutions or samples requiring specific QC and/or etc.

LABORATORY 24 Broom Road, Broomfield, QLD 4108
Ph: 07 4914 0177 E: mlab@als.com.au
JANUARY 2018
Ph: 07 4914 0177 E: mlab@als.com.au

LABORATORY 24 Broom Road, Broomfield, QLD 4108
Ph: 07 4914 0177 E: mlab@als.com.au
JANUARY 2018
Ph: 07 4914 0177 E: mlab@als.com.au

LABORATORY 24 Broom Road, Broomfield, QLD 4108
Ph: 07 4914 0177 E: mlab@als.com.au
JANUARY 2018
Ph: 07 4914 0177 E: mlab@als.com.au

LABORATORY 24 Broom Road, Broomfield, QLD 4108
Ph: 07 4914 0177 E: mlab@als.com.au
JANUARY 2018
Ph: 07 4914 0177 E: mlab@als.com.au

CLIENT: WSP

OFFICE: 121, 123 George St, Sydney NSW 2000

PROJECT: Heyball - Jordan Springs

ORDER NUMBER:

PROJECT MANAGER: Nicholas Gilmour

SAMPLER: Claire Williamson

COC emailed to ALS? (YES / NO)

Email Reports to: Nicholas.Gilmour@wsp.com

Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS: Standard TAT (last due date):

(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (last due date):

ALS QUOTE NO.: 57004/18

CONTACT PH: 02 92725230

SAMPLER MOBILE: 0428283466

EDD FORMAT (or default):

RELINQUISHED BY: Claire Williamson

DATE/TIME: 4/6/18 - 7/6/18

RECEIVED BY:

DATE/TIME:

DATE/TIME:

DATE/TIME:

DATE/TIME:

DATE/TIME:

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LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to)	TOTAL CONTAINERS	S-26 (TRH (C6-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002 - pH (1:5) EA010 (Electrical Conductivity (1:5))	NT-25 - (Major Anions (CL, SO4))	ED008 - (CEC all parameters)	Additional Information
25	TP05_0.1	7/06/2018	S			1									
26	TP05_0.3	7/06/2018	S			1	X								
27	TP05_0.5	7/06/2018	S			1									
28	TP05_1.0	7/06/2018	S			1									
29	TP05_2.0	7/06/2018	S			1									
30	TP05_3.0	7/06/2018	S			1									
31	TP06_0.1	6/06/2018	S			1									
32	TP06_0.5	6/06/2018	S			1	X								
33	TP06_1.0	6/06/2018	S			1									
34	TP06_2.0	6/06/2018	S			1									
35	TP06_3.0	6/06/2018	S			1									
TOTAL						11	2	1	1	1	0	0	0	0	

JACOBI ALICE 21 Burrendong Road Bourke NSW 2836
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JACOBI ALICE 21 Burrendong Road Bourke NSW 2836
Ph: 08 8354 5000 E: jacobial@als.com.au

ULINAKAY 28 Hettich Road Mackay QLD 4740
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ULINAKAY 28 Hettich Road Mackay QLD 4740
Ph: 07 4446 0177 E: ulinakay@als.com.au

ULINAKAY 28 Hettich Road Mackay QLD 4740
Ph: 07 4446 0177 E: ulinakay@als.com.au
ULINAKAY 28 Hettich Road Mackay QLD 4740
Ph: 07 4446 0177 E: ulinakay@als.com.au

ULINAKAY 28 Hettich Road Mackay QLD 4740
Ph: 07 4446 0177 E: ulinakay@als.com.au
ULINAKAY 28 Hettich Road Mackay QLD 4740
Ph: 07 4446 0177 E: ulinakay@als.com.au

CLIENT: WSP

OFFICE: 127 600 George St, Sydney NSW 2000

PROJECT: Heyball - Jordan Springs

ORDER NUMBER:

PROJECT MANAGER: Nicholas Gilmour

SAMPLER: Claire Williamson

COC emailed to ALS? (YES / NO)

Email Reports to: Nicholas.Gilmour@wsp.com

Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:

(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.:

CONTACT PH: 02 92725230

SAMPLER MOBILE: 0428283466

EDD FORMAT (or default):

RELINQUISHED BY:

DATE/TIME:

DATE/TIME:

Standard TAT (list due date):

Non Standard or urgent TAT (list due date):

SYMBOLS

COC SEQUENCE NUMBER (check)

COC 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 22

RECEIVED BY:

DATE/TIME:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

DATE/TIME:

DATE/TIME:

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ANALYSIS REQUIRED including SURTES (NB: Surte Codes must be listed to attract surte prices)
Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).

Additional Information

Comments on likely contaminant levels, dilutions, or samples requiring specific OC analysis etc.

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to)	TOTAL CONTAINERS	S- 26 (TRH (C6-C40) / BTEXN / PAH / 8 metals)	\$13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002-pH (1:6) EA010 (Electrical Conductivity (1:5))	NT-25 - (Major Anions (Cl, SO4))	ED008 - (CEC all parameters)	
36	TP07_0.16	6/06/2018	S			1									
37	TP07_0.3	6/06/2018	S			1	X								
38	TP07_0.6	6/06/2018	S			1									
39	TP07_1.0	6/06/2018	S			1									
40	TP07_2.1	6/06/2018	S			1									
41	TP07_3.1	6/06/2018	S			1									
42	TP08_0.1	6/06/2018	S			1	X	X							
43	TP08_0.3	6/06/2018	S			1									
44	TP08_0.5	6/06/2018	S			1									
45	TP08_1.0	6/06/2018	S			1									
46	TP08_2.0	6/06/2018	S			1									
47	TP08_3.0	6/06/2018	S			1									
TOTAL						12	2	1	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitrile Preserved Plastic; ORC = Nitric Preserved Plastic; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sample; S = Unpreserved Bag.



CHAIN OF CUSTODY
ALS Laboratory
Please tick →

LABORATORY: 11 Burnside Road, Adelaide SA 5006
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MELBOURNE: 100 Collins Street, Melbourne VIC 3000
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CHICAGO: 1000 N. Dearborn Street, Chicago IL 60610
Ph: 630 354 6000 E: chicago@als.com.au
LOS ANGELES: 2750 Wilshire Blvd, Los Angeles CA 90010
Ph: 02 637 8135 E: losangeles@als.com.au

CLIENT: WSP

OFFICE: 120, 50th Street, New York, NY 10014

PROJECT: Hayfield - Jordan Springs

ORDER NUMBER:

PROJECT MANAGER: Nicholas Gilmour

SAMPLER: Claire Williamson

COCC emailed to ALS? (YES / NO)

Email Reports to: Nicholas.Gilmour@wsp.com

Email Invoice to: (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS: Standard TAT (list due date):

(Standard TAT may be longer for some tests e.g. ☐ Non Standard or urgent TAT (list due date):

ALS QUOTE NO.: SY004/18

CONTACT PH: 02 92725230

SAMPLER MOBILE: 042828466

RELINQUISHED BY: Claire Williamson

DATE/TIME: 4/6/18 - 7/6/18

RECEIVED BY:

DATE/TIME:

COCC SEQUENCE NUMBER (check)

COCC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 22

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

DATE/TIME:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to)	TOTAL CONTAINERS	S-26 (TRH (C6-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002 - pH (1:5) EA010 (Electrical Conductivity 1:5)	NT-2S - (Major Anions (CL, SO4)	ED008 - (CEC all parameters)	Additional Information
48	TP09_0.1	6/06/2018	S			1									
49	TP09_0.3	6/06/2018	S			1									
50	TP09_0.5	6/06/2018	S			1	X	X							
51	TP09_1.0	6/06/2018	S			1									
52	TP09_2.0	6/06/2018	S			1									
53	TP09_3.0	6/06/2018	S			1									
54	TP10_0.2	6/06/2018	S			1						X			
55	TP10_0.4	6/06/2018	S			1	X	X	X						
56	TP10_0.6	6/06/2018	S			1						X			
57	TP10_1.0	6/06/2018	S			1									
58	TP10_2.0	6/06/2018	S			1						X	X	X	
59	TP10_3.0	6/06/2018	S			1									
TOTAL						12	2	2	1	1	0	3	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Air-tight Unpreserved Plastic
V = VOA Vol HCl Preserved; VB = VOA Vol Sodium Bisulfate Preserved; VS = VOA Vol Sulfuric Preserved; AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Ascorbic Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory
please tick →

2/806 LAURE 21 Roma Road, Roma, SA 5085
Ph: 08 8336 0800 E: romas@alslab.com
JERRIBAKE 38 Stuart Street, Sturt, QLD 4073
Ph: 07 3245 7222 F: sturt@alslab.com
DULACSTONE 40 Calamag Road, Dulac, QLD 4170
Ph: 07 3471 6000 E: dulac@alslab.com

1/200 KAY 78 Harbour Road, Kowanyala, QLD 4740
Ph: 07 4214 0177 E: kowanya@alslab.com
UNELBOING 244 Main Road, Springvale, VIC 3171
Ph: 03 8515 8000 E: unelboing@alslab.com
DRAIDSE 27 Sydney Road, Dargaville, NSW 2822
Ph: 02 6372 0735 E: dargaville@alslab.com

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Ph: 02 3888 9433 E: warburton@alslab.com
2/200 CASTLE 415 Seely Place, North Maitland, NSW 2321
Ph: 02 4333 2030 E: northmaitland@alslab.com
2/200 CASTLE 10-12 West Way, Maitland, NSW 2320
Ph: 02 3225 7055 E: maitland@alslab.com

2/200 DUNEY 277-289 Windsor Road, Duneely, NSW 2304
Ph: 02 6764 8565 E: duneely@alslab.com
2/200 DUNEY 11-15 Deane Court, Baulk, QLD 4168
Ph: 07 4780 0000 E: baulk@alslab.com
2/200 DUNEY 30 Kennedy Street, Wollongong, NSW 2500
Ph: 02 4225 3125 E: wollongong@alslab.com

CLIENT: WSP

TURNAROUND REQUIREMENTS:

Standard TAT (list due date):

Non Standard or urgent TAT (list due date):

OFFICE: 127 600 George St, Sydney, NSW 2000

ALB QUOTE NO.: \$7004/18

COC SEQUENCE NUMBER (circle)

RECEIVED BY:

DATE/TIME:

PROJECT: Hayball - Jordan Springs

CONTACT PH: 02 92725230

RECEIVED BY:

DATE/TIME:

ORDER NUMBER:

SAMPLER: Claire Williamson

RECEIVED BY:

DATE/TIME:

COC emailed to ALS? (YES / NO)

EDD FORMAT (or default):

DATE/TIME:

DATE/TIME:

Email Reports to: Nicholas.Gilmour@wsp.com

DATE/TIME:

DATE/TIME:

DATE/TIME:

Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com

DATE/TIME:

DATE/TIME:

DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SITES (NB: Suite Codes must be listed to attract suite price)

Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).

Additional Information

LAB ID

SAMPLE ID

DATE / TIME

MATRIX

TYPE & PRESERVATIVE codes below

60

TP11_0.1

6/06/2018

S

1

61

TP11_0.3

6/06/2018

S

1

62

TP11_0.5

6/06/2018

S

1

63

TP11_1.0

6/06/2018

S

1

64

TP11_2.0

6/06/2018

S

1

65

TP11_3.0

6/06/2018

S

1

66

TP12_0.1

6/06/2018

S

1

67

TP12_0.3

6/06/2018

S

1

68

TP12_0.5

6/06/2018

S

1

69

TP12_1.0

6/06/2018

S

1

70

TP12_2.0

6/06/2018

S

1

71

TP12_3.0

6/06/2018

S

1

TOTAL

12

2

0

0

0

0

0

0

6

2

2

2

2

2

Comments on likely contaminant levels, dilutions, or samples requiring specific GC analysis etc.

Comments on likely contaminant levels, dilutions, or samples requiring specific GC analysis etc.

Comments on likely contaminant levels, dilutions, or samples requiring specific GC analysis etc.

Comments on likely contaminant levels, dilutions, or samples requiring specific GC analysis etc.

Comments on likely contaminant levels, dilutions, or samples requiring specific GC analysis etc.

Printer Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisphosphate Preserved; VS = VOA Vial Sulphuric Preserved; AV = Airtight Unpreserved Vial SG = Sulphuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulphuric Preserved Plastic; F = Fomaldenhyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Supplite Stais; B = Unpreserved Bag.

Printer Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisphosphate Preserved; VS = VOA Vial Sulphuric Preserved; AV = Airtight Unpreserved Vial SG = Sulphuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulphuric Preserved Plastic; F = Fomaldenhyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Supplite Stais; B = Unpreserved Bag.

Printer Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisphosphate Preserved; VS = VOA Vial Sulphuric Preserved; AV = Airtight Unpreserved Vial SG = Sulphuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulphuric Preserved Plastic; F = Fomaldenhyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Supplite Stais; B = Unpreserved Bag.

Printer Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisphosphate Preserved; VS = VOA Vial Sulphuric Preserved; AV = Airtight Unpreserved Vial SG = Sulphuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulphuric Preserved Plastic; F = Fomaldenhyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Supplite Stais; B = Unpreserved Bag.

Printer Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisphosphate Preserved; VS = VOA Vial Sulphuric Preserved; AV = Airtight Unpreserved Vial SG = Sulphuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulphuric Preserved Plastic; F = Fomaldenhyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Supplite Stais; B = Unpreserved Bag.

ALS **CHAIN OF CUSTODY** **enforcement**

LABORATORY: JACOBI & JACOBI 21 Avon Road, South Australia 5006
PH: 08 8399 0500 **E:** info@jacobijacobi.com
LABORATORY: JACOBI & JACOBI 21 Avon Road, South Australia 5006
PH: 08 8399 0500 **E:** info@jacobijacobi.com
LABORATORY: JACOBI & JACOBI 21 Avon Road, South Australia 5006
PH: 08 8399 0500 **E:** info@jacobijacobi.com

CLIENT: WSP **TURNAROUND REQUIREMENTS:** (Standard TAT may be longer for some tests e.g. ☐ Non Standard or urgent TAT (List due date):

OFFICE: L27, 680 George St, Sydney NSW 2000 **ALSO QUOTE NO.:** SYM00418 **COC SEQUENCE NUMBER (Circle):**

PROJECT: Hayball - Jordan Springs **PROJECT MANAGER:** Nicholas Gilmour **CONTACT PH:** 02 92752330 **RELINQUISHED BY:** **RECEIVED BY:**

ORDER NUMBER: **SAMPLER:** Claire Williamson **SAMPLER MOBILE E:** 0428283466 **RELINQUISHED BY:** **RECEIVED BY:**

COC emailed to: ALS? (YES / NO) **EDD FORMAT (or default):** Claire Williamson **DATE/TIME:** **DATE/TIME:**

Email Reports to: Nicholas.Gilmour@wsp.com **DATE/TIME:** **DATE/TIME:**

Email Invoice to: (will default to PM if no other addresses are listed) Nicholas.Gilmour@wsp.com **DATE/TIME:** **DATE/TIME:**

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	(refer to codes below)	TOTAL CONTAINERS	9-26 (TRH (C6-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002 - pH (1:5) EA010 (Electrical Conductivity 1:5)	NT-25 - (Major Anions (CL, SO4)	ED008 - (CEC all parameters)	Additional Information
72	TP13_0.1	6/06/2018	S			1									
73	TP13_0.4	6/06/2018	S			1	X								
74	TP13_0.8	6/06/2018	S			1									
75	TP13_3.0	6/06/2018	S			1									
76	TP14_0.1	6/06/2018	S			1						X			
77	TP14_0.3	6/06/2018	S			1									
78	TP14_0.5	6/06/2018	S			1	X	X				X	X	X	
79	TP14_0.9	6/06/2018	S			1									
80	TP14_2.0	6/06/2018	S			1									
81	TP14_3.0	6/06/2018	S			1									
82	TP15_0.1	6/06/2018	S			1									
83	TP15_0.3	6/06/2018	S			1	X								
TOTAL						12	3	1	0	0	0	3	1	1	

Notes: Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AS = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA via HCl Preserved; VS = VOA via Sodium Bisulfate Preserved; AV = Airtight Unpreserved via SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Specimen bottles; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Ascorbic Preserved Bottles; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soil; B = Unpreserved Bag

84 TP06-0.3 85 TP13-2.0 86 TP17-0.3 87 TP19-2.0 88 TP21-0.3 89 TP21-0.3

CERTIFICATE OF ANALYSIS

Work Order	: ES1817093	Page	: 1 of 40
Amendment	: 2		
Client	: WSP Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: Nicholas Gilmour	Contact	: Brenda Hong
Address	: ABN: 80 078 004 798 GPO BOX 5394 SYDNEY NSW, AUSTRALIA 2001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: JORDAN SPRINGS	Date Samples Received	: 13-Jun-2018 10:45
Order number	:	Date Analysis Commenced	: 14-Jun-2018
C-O-C number	: ----	Issue Date	: 30-Jan-2019 14:17
Sampler	: CW		
Site	: ----		
Quote number	: SY/004/18		
No. of samples received	: 89		
No. of samples analysed	: 33		



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. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical 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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini		Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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.

- ALS is not NATA accredited for the analysis of Exchangeable Cations on Alkaline Soils when performed under ALS Method ED006.
- Amendment (30/01/2019): This report has been amended to alter the project name. All analysis results are as per the previous report.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEX 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.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) 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.
- 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⁺).



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3
Client sampling date / time					07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-001	ES1817093-002	ES1817093-005	ES1817093-007	ES1817093-008
					Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		8.0	6.3	5.2	6.5	7.5
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		412	245	815	41	257
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		15.7	----	----	----	10.8
ED006: Exchangeable Cations on Alkaline Soils									
Exchangeable Calcium	----	0.2	meq/100g		2.1	----	----	----	0.6
Exchangeable Magnesium	----	0.2	meq/100g		1.2	----	----	----	1.4
Exchangeable Potassium	----	0.2	meq/100g		<0.2	----	----	----	<0.2
Exchangeable Sodium	----	0.2	meq/100g		0.3	----	----	----	0.6
Cation Exchange Capacity	----	0.2	meq/100g		3.8	----	----	----	2.6
Exchangeable Calcium Percent	----	0.2	%		55.8	----	----	----	22.9
Exchangeable Magnesium Percent	----	0.2	%		32.3	----	----	----	52.7
Exchangeable Potassium Percent	----	0.2	%		3.6	----	----	----	<0.2
Exchangeable Sodium Percent	----	0.2	%		8.2	----	----	----	24.4
Calcium/Magnesium Ratio	----	0.2	-		1.7	----	----	----	0.4
Magnesium/Potassium Ratio	----	0.2	-		N/A	----	----	----	N/A
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		180	----	----	----	100
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		200	----	----	----	290
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	----	----	----	9
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	<1
Chromium	7440-47-3	2	mg/kg		19	----	----	----	13
Copper	7440-50-8	5	mg/kg		21	----	----	----	25
Lead	7439-92-1	5	mg/kg		17	----	----	----	17
Nickel	7440-02-0	2	mg/kg		6	----	----	----	18
Zinc	7440-66-6	5	mg/kg		32	----	----	----	66
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)									



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3
Client sampling date / time				07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-001	ES1817093-002	ES1817093-005	ES1817093-007	ES1817093-008
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
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
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	72-54-8/72-55-9/50-29-3	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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3
Compound				ES1817093-001	ES1817093-002	ES1817093-005	ES1817093-007	ES1817093-008
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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
EP074A: Monocyclic Aromatic Hydrocarbons								
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
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	----	<0.5
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	----	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	----	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	----	<0.5
EP074D: Fumigants								



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3
Client sampling date / time				07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-001	ES1817093-002	ES1817093-005	ES1817093-007	ES1817093-008
				Result	Result	Result	Result	Result
EP074D: Fumigants - Continued								
2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	----	----	<0.5
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	----	----	<0.5
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	----	----	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	----	<5
Chloromethane	74-87-3	5	mg/kg	<5	----	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	----	<5
Bromomethane	74-83-9	5	mg/kg	<5	----	----	----	<5
Chloroethane	75-00-3	5	mg/kg	<5	----	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	----	<5
1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	----	<0.5
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	----	<0.5
1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	----	<0.5
cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	----	<0.5
1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	----	<0.5
1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	----	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	----	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	----	<0.5
1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	----	<0.5
1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	----	<0.5
1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	----	<0.5
trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	----	<0.5
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	----	<0.5
1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3
Compound				ES1817093-001	ES1817093-002	ES1817093-005	ES1817093-007	ES1817093-008
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	----	<0.5
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	----	<0.5
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	<0.5
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	----	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	----	<0.5
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	----	<0.5
EP074H: Naphthalene								
Naphthalene	91-20-3	1	mg/kg	<1	----	----	----	<1
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
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3
Client sampling date / time					07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-001	ES1817093-002	ES1817093-005	ES1817093-007	ES1817093-008
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ 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
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
EP203A: Explosives									
HMX	2691-41-0	0.1	mg/kg		<0.1	----	----	----	<0.1
RDX	----	0.1	mg/kg		<0.1	----	----	----	<0.1
1,3,5-Trinitrobenzene	99-35-4	0.1	mg/kg		<0.1	----	----	----	<0.1
1,3-Dinitrobenzene	99-65-0	0.1	mg/kg		<0.1	----	----	----	<0.1
Tetryl	479-45-8	0.1	mg/kg		<0.1	----	----	----	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3
Compound				ES1817093-001	ES1817093-002	ES1817093-005	ES1817093-007	ES1817093-008
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP203A: Explosives - Continued								
2,4,6-TNT	118-96-7	0.1	mg/kg	<0.1	----	----	----	<0.1
4-Amino-2,6-DNT	19406-51-0	0.1	mg/kg	<0.1	----	----	----	<0.1
2-Amino-4,6-DNT	35572-78-2	0.1	mg/kg	<0.1	----	----	----	<0.1
4-& 2-AM-DNT(Isomeric Mixture)	----	0.1	mg/kg	<0.1	----	----	----	<0.1
2,4-Dinitrotoluene	121-14-2	0.1	mg/kg	<0.1	----	----	----	<0.1
2,6-Dinitrotoluene	606-20-2	0.1	mg/kg	<0.1	----	----	----	<0.1
2,4-& 2,6-DNT(Isomeric Mixture)	51-28-5/606-20-2	0.1	mg/kg	<0.1	----	----	----	<0.1
Nitrobenzene	98-95-3	0.1	mg/kg	<0.1	----	----	----	<0.1
2-Nitrotoluene	88-72-2	0.1	mg/kg	<0.1	----	----	----	<0.1
3-Nitrotoluene	99-08-1	0.1	mg/kg	<0.1	----	----	----	<0.1
4-Nitrotoluene	99-99-0	0.1	mg/kg	<0.1	----	----	----	<0.1
Nitroglycerine	55-63-0	1	mg/kg	<1	----	----	----	<1
PETN	78-11-5	1	mg/kg	<1	----	----	----	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	84.1	----	----	----	86.8
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	116	----	----	----	103
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	91.2	----	----	----	75.2
EP074S: VOC Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.5	%	99.5	----	----	----	102
Toluene-D8	2037-26-5	0.5	%	100	----	----	----	100
4-Bromofluorobenzene	460-00-4	0.5	%	91.3	----	----	----	90.7
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	70.5	----	----	----	71.0
2-Chlorophenol-D4	93951-73-6	0.5	%	75.6	----	----	----	75.3
2,4,6-Tribromophenol	118-79-6	0.5	%	65.5	----	----	----	61.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	87.4	----	----	----	87.2
Anthracene-d10	1719-06-8	0.5	%	87.3	----	----	----	85.5
4-Terphenyl-d14	1718-51-0	0.5	%	76.1	----	----	----	75.7
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.2	%	104	----	----	----	107
Toluene-D8	2037-26-5	0.2	%	90.7	----	----	----	91.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP01_0.1	TP01_0.3	TP01_2.0	TP02_0.1	TP02_0.3
Client sampling date / time					07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-001	ES1817093-002	ES1817093-005	ES1817093-007	ES1817093-008
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		87.5	----	----	----	90.3
EP203S: Explosives Surrogate									
o-Dinitrobenzene	528-29-0	0.1	%		81.2	----	----	----	90.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0
Client sampling date / time					07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-010	ES1817093-014	ES1817093-019	ES1817093-021	ES1817093-023
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		5.1	----	6.4	6.3	7.2
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		627	----	92	104	202
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		----	6.5	----	13.8	----
ED007: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		----	----	----	3.4	----
Exchangeable Magnesium	----	0.1	meq/100g		----	----	----	4.2	----
Exchangeable Potassium	----	0.1	meq/100g		----	----	----	0.3	----
Exchangeable Sodium	----	0.1	meq/100g		----	----	----	1.7	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	9.6	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	<0.1	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	17.6	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	43.8	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	3.2	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	35.4	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	0.8	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	13.7	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	----	60	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	----	100	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	6	----	<5	----
Cadmium	7440-43-9	1	mg/kg		----	<1	----	<1	----
Chromium	7440-47-3	2	mg/kg		----	11	----	6	----
Copper	7440-50-8	5	mg/kg		----	39	----	15	----
Lead	7439-92-1	5	mg/kg		----	18	----	16	----
Nickel	7440-02-0	2	mg/kg		----	20	----	<2	----
Zinc	7440-66-6	5	mg/kg		----	86	----	12	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	<0.1	----	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	----	----	<0.1	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0
Compound				ES1817093-010	ES1817093-014	ES1817093-019	ES1817093-021	ES1817093-023
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	----
4,4'-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	----
4,4'-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	----	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	----	----	<0.05	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0
Client sampling date / time				07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-010	ES1817093-014	ES1817093-019	ES1817093-021	ES1817093-023
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Fenthion	55-38-9	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	----	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	----	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	<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	----
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	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0
Client sampling date / time					07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-010	ES1817093-014	ES1817093-019	ES1817093-021	ES1817093-023
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	----
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	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	93.7	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	112	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	74.4	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	70.2	----	68.5	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	74.4	----	73.1	----
2,4,6-Tribromophenol	118-79-6	0.5	%		----	57.8	----	55.9	----
EP075(SIM)T: PAH Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP02_1.0	TP03_0.3	TP04_0.1	TP04_0.5	TP04_2.0
Client sampling date / time					07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-010	ES1817093-014	ES1817093-019	ES1817093-021	ES1817093-023
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	0.5	%		----	85.6	----	85.6	----
Anthracene-d10	1719-06-8	0.5	%		----	88.3	----	87.4	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	76.1	----	75.2	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	108	----	92.3	----
Toluene-D8	2037-26-5	0.2	%		----	122	----	112	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	124	----	111	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5
Client sampling date / time					07-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-026	ES1817093-032	ES1817093-037	ES1817093-042	ES1817093-050
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		8.6	9.4	8.7	11.8	13.4
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		9	<5	7	5	7
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		24	20	18	18	14
Copper	7440-50-8	5	mg/kg		18	36	22	27	25
Lead	7439-92-1	5	mg/kg		20	15	18	21	12
Nickel	7440-02-0	2	mg/kg		8	15	14	10	3
Zinc	7440-66-6	5	mg/kg		33	65	43	45	17
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
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5
Client sampling date / time					07-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-026	ES1817093-032	ES1817093-037	ES1817093-042	ES1817093-050
					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
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	72-54-8/72-55-9/5 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
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	<0.5	----	----	----
Styrene	100-42-5	0.5	mg/kg		----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg		----	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg		----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5
Compound				ES1817093-026	ES1817093-032	ES1817093-037	ES1817093-042	ES1817093-050
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	<0.5	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	<0.5	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5
Client sampling date / time				07-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-026	ES1817093-032	ES1817093-037	ES1817093-042	ES1817093-050
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1,2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----
1,3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----
trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----
EP074H: Naphthalene								
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----
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



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5
Client sampling date / time				07-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-026	ES1817093-032	ES1817093-037	ES1817093-042	ES1817093-050
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
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
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5
Client sampling date / time					07-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-026	ES1817093-032	ES1817093-037	ES1817093-042	ES1817093-050
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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
EP203A: Explosives									
HMX	2691-41-0	0.1	mg/kg		----	<0.1	----	----	----
RDX	----	0.1	mg/kg		----	<0.1	----	----	----
1,3,5-Trinitrobenzene	99-35-4	0.1	mg/kg		----	<0.1	----	----	----
1,3-Dinitrobenzene	99-65-0	0.1	mg/kg		----	<0.1	----	----	----
Tetryl	479-45-8	0.1	mg/kg		----	<0.1	----	----	----
2,4,6-TNT	118-96-7	0.1	mg/kg		----	<0.1	----	----	----
4-Amino-2,6-DNT	19406-51-0	0.1	mg/kg		----	<0.1	----	----	----
2-Amino-4,6-DNT	35572-78-2	0.1	mg/kg		----	<0.1	----	----	----
4-& 2-AM-DNT(Isomeric Mixture)	----	0.1	mg/kg		----	<0.1	----	----	----
2,4-Dinitrotoluene	121-14-2	0.1	mg/kg		----	<0.1	----	----	----
2,6-Dinitrotoluene	606-20-2	0.1	mg/kg		----	<0.1	----	----	----
2,4-& 2,6-DNT(Isomeric Mixture)	51-28-5/606-20-2	0.1	mg/kg		----	<0.1	----	----	----
Nitrobenzene	98-95-3	0.1	mg/kg		----	<0.1	----	----	----
2-Nitrotoluene	88-72-2	0.1	mg/kg		----	<0.1	----	----	----
3-Nitrotoluene	99-08-1	0.1	mg/kg		----	<0.1	----	----	----
4-Nitrotoluene	99-99-0	0.1	mg/kg		----	<0.1	----	----	----
Nitroglycerine	55-63-0	1	mg/kg		----	<1	----	----	----
PETN	78-11-5	1	mg/kg		----	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	76.8	----	84.3	88.2
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	100	----	97.4	110
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	95.0	----	70.2	72.0
EP074S: VOC Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP05_0.3	TP06_0.5	TP07_0.3	TP08_0.1	TP09_0.5
Client sampling date / time					07-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-026	ES1817093-032	ES1817093-037	ES1817093-042	ES1817093-050
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
1,2-Dichloroethane-D4	17060-07-0	0.5	%		----	94.4	----	----	----
Toluene-D8	2037-26-5	0.5	%		----	90.8	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%		----	91.2	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		73.0	71.7	74.4	69.2	70.4
2-Chlorophenol-D4	93951-73-6	0.5	%		76.3	77.3	78.5	73.5	75.1
2,4,6-Tribromophenol	118-79-6	0.5	%		62.2	65.4	59.8	56.5	58.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		89.4	89.4	92.0	86.1	87.3
Anthracene-d10	1719-06-8	0.5	%		88.4	89.4	92.1	87.0	88.8
4-Terphenyl-d14	1718-51-0	0.5	%		78.0	82.2	80.1	75.2	76.0
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		98.5	93.1	101	96.8	94.6
Toluene-D8	2037-26-5	0.2	%		113	82.2	117	116	116
4-Bromofluorobenzene	460-00-4	0.2	%		114	94.2	118	114	117
EP203S: Explosives Surrogate									
o-Dinitrobenzene	528-29-0	0.1	%		----	94.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-054	ES1817093-055	ES1817093-056	ES1817093-058	ES1817093-060
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.6	----	8.7	6.8	7.5
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		181	----	562	263	65
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		----	9.0	----	11.7	12.3
ED006: Exchangeable Cations on Alkaline Soils									
Exchangeable Calcium	----	0.2	meq/100g		----	----	----	----	2.8
Exchangeable Magnesium	----	0.2	meq/100g		----	----	----	----	3.6
Exchangeable Potassium	----	0.2	meq/100g		----	----	----	----	<0.2
Exchangeable Sodium	----	0.2	meq/100g		----	----	----	----	0.6
Cation Exchange Capacity	----	0.2	meq/100g		----	----	----	----	7.2
Exchangeable Calcium Percent	----	0.2	%		----	----	----	----	38.7
Exchangeable Magnesium Percent	----	0.2	%		----	----	----	----	49.5
Exchangeable Potassium Percent	----	0.2	%		----	----	----	----	2.7
Exchangeable Sodium Percent	----	0.2	%		----	----	----	----	9.0
Calcium/Magnesium Ratio	----	0.2	-		----	----	----	----	0.8
Magnesium/Potassium Ratio	----	0.2	-		----	----	----	----	N/A
ED007: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		----	----	----	3.2	----
Exchangeable Magnesium	----	0.1	meq/100g		----	----	----	8.5	----
Exchangeable Potassium	----	0.1	meq/100g		----	----	----	0.4	----
Exchangeable Sodium	----	0.1	meq/100g		----	----	----	4.1	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	16.1	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	<0.1	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	25.2	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	52.4	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	2.6	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	19.7	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	0.4	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	20.1	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	----	150	30
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	----	610	110



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-054	ES1817093-055	ES1817093-056	ES1817093-058	ES1817093-060
				Result	Result	Result	Result	Result
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	5	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	----	24	----	----	----
Copper	7440-50-8	5	mg/kg	----	13	----	----	----
Lead	7439-92-1	5	mg/kg	----	15	----	----	----
Nickel	7440-02-0	2	mg/kg	----	6	----	----	----
Zinc	7440-66-6	5	mg/kg	----	20	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1
Compound				ES1817093-054	ES1817093-055	ES1817093-056	ES1817093-058	ES1817093-060
CAS Number				Result	Result	Result	Result	Result
LOR								
Unit								
EP068A: Organochlorine Pesticides (OC) - Continued								
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	----	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----
Styrene	100-42-5	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	<0.5	----	----	----
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	<0.5	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1
Compound				ES1817093-054	ES1817093-055	ES1817093-056	ES1817093-058	ES1817093-060
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	<0.5	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	----
EP074D: Fumigants								
2,2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	----
1,2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	----
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1,1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1,1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----
1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1,1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----
1,2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1
Compound				ES1817093-054	ES1817093-055	ES1817093-056	ES1817093-058	ES1817093-060
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----
EP074H: Naphthalene								
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1
Compound				ES1817093-054	ES1817093-055	ES1817093-056	ES1817093-058	ES1817093-060
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----
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	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1
Compound				ES1817093-054	ES1817093-055	ES1817093-056	ES1817093-058	ES1817093-060
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----
EP203A: Explosives								
HMX	2691-41-0	0.1	mg/kg	----	<0.1	----	----	----
RDX	----	0.1	mg/kg	----	<0.1	----	----	----
1,3,5-Trinitrobenzene	99-35-4	0.1	mg/kg	----	<0.1	----	----	----
1,3-Dinitrobenzene	99-65-0	0.1	mg/kg	----	<0.1	----	----	----
Tetryl	479-45-8	0.1	mg/kg	----	<0.1	----	----	----
2,4,6-TNT	118-96-7	0.1	mg/kg	----	<0.1	----	----	----
4-Amino-2,6-DNT	19406-51-0	0.1	mg/kg	----	<0.1	----	----	----
2-Amino-4,6-DNT	35572-78-2	0.1	mg/kg	----	<0.1	----	----	----
4- & 2-AM-DNT(Isomeric Mixture)	----	0.1	mg/kg	----	<0.1	----	----	----
2,4-Dinitrotoluene	121-14-2	0.1	mg/kg	----	<0.1	----	----	----
2,6-Dinitrotoluene	606-20-2	0.1	mg/kg	----	<0.1	----	----	----
2,4- & 2,6-DNT(Isomeric Mixture)	51-28-5/606-20-2	0.1	mg/kg	----	<0.1	----	----	----
Nitrobenzene	98-95-3	0.1	mg/kg	----	<0.1	----	----	----
2-Nitrotoluene	88-72-2	0.1	mg/kg	----	<0.1	----	----	----
3-Nitrotoluene	99-08-1	0.1	mg/kg	----	<0.1	----	----	----
4-Nitrotoluene	99-99-0	0.1	mg/kg	----	<0.1	----	----	----
Nitroglycerine	55-63-0	1	mg/kg	----	<1	----	----	----
PETN	78-11-5	1	mg/kg	----	<1	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	80.4	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	90.2	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	61.0	----	----	----
EP074S: VOC Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.5	%	----	90.2	----	----	----
Toluene-D8	2037-26-5	0.5	%	----	96.3	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP10_0.2	TP10_0.4	TP10_0.6	TP10_2.0	TP11_0.1
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-054	ES1817093-055	ES1817093-056	ES1817093-058	ES1817093-060
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.5	%		----	90.0	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	69.3	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	73.9	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		----	58.4	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	86.6	----	----	----
Anthracene-d10	1719-06-8	0.5	%		----	86.8	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	76.8	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	89.4	----	----	----
Toluene-D8	2037-26-5	0.2	%		----	88.0	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	93.7	----	----	----
EP203S: Explosives Surrogate									
o-Dinitrobenzene	528-29-0	0.1	%		----	81.6	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP11_0.3	TP11_2.0	TP12_0.3	TP12_1.0	TP12_3.0
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-061	ES1817093-064	ES1817093-067	ES1817093-069	ES1817093-071
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.6	5.2	7.1	6.6	5.3
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		148	854	324	258	646
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		11.6	----	9.4	----	----
ED008: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		----	----	3.7	----	----
Exchangeable Magnesium	----	0.1	meq/100g		----	----	8.2	----	----
Exchangeable Potassium	----	0.1	meq/100g		----	----	0.2	----	----
Exchangeable Sodium	----	0.1	meq/100g		----	----	1.5	----	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	<0.1	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	13.6	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	27.0	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	60.2	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	1.8	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	11.0	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	<0.1	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	0.4	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	34.2	----	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	330	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	760	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	----	6	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	<1	----	----
Chromium	7440-47-3	2	mg/kg		18	----	14	----	----
Copper	7440-50-8	5	mg/kg		19	----	28	----	----
Lead	7439-92-1	5	mg/kg		17	----	17	----	----
Nickel	7440-02-0	2	mg/kg		8	----	11	----	----
Zinc	7440-66-6	5	mg/kg		30	----	48	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	<0.1	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP11_0.3	TP11_2.0	TP12_0.3	TP12_1.0	TP12_3.0
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-061	ES1817093-064	ES1817093-067	ES1817093-069	ES1817093-071
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----
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	----	----
Benzo(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	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP11_0.3	TP11_2.0	TP12_0.3	TP12_1.0	TP12_3.0
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-061	ES1817093-064	ES1817093-067	ES1817093-069	ES1817093-071
				Result	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	----	----
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	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		99.3	----	67.3	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		103	----	72.0	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		87.0	----	58.5	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		122	----	84.5	----	----
Anthracene-d10	1719-06-8	0.5	%		122	----	84.3	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		106	----	73.3	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		97.8	----	94.0	----	----
Toluene-D8	2037-26-5	0.2	%		114	----	109	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		114	----	109	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP13_0.4	TP14_0.1	TP14_0.3	TP14_0.5	TP15_0.3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-073	ES1817093-076	ES1817093-077	ES1817093-078	ES1817093-083
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit	----	6.5	6.5	7.7	----	----
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm	----	80	335	237	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	18.7	----	----	10.7	10.6	----
ED006: Exchangeable Cations on Alkaline Soils									
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	1.0	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	1.6	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	<0.2	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	0.7	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	3.3	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	30.7	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	48.6	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	<0.2	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	20.7	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	0.6	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	N/A	----	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg	----	----	----	180	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg	----	----	----	630	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	18	----	----	7	6	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	<1	<1	----
Chromium	7440-47-3	2	mg/kg	9	----	----	20	17	----
Copper	7440-50-8	5	mg/kg	27	----	----	22	25	----
Lead	7439-92-1	5	mg/kg	14	----	----	20	19	----
Nickel	7440-02-0	2	mg/kg	8	----	----	9	14	----
Zinc	7440-66-6	5	mg/kg	45	----	----	34	50	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	<0.1	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)									



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP13_0.4	TP14_0.1	TP14_0.3	TP14_0.5	TP15_0.3
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-073	ES1817093-076	ES1817093-077	ES1817093-078	ES1817093-083
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	----
4,4'-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	----
4,4'-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	----	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	----	----	<0.05	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP13_0.4	TP14_0.1	TP14_0.3	TP14_0.5	TP15_0.3
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817093-073	ES1817093-076	ES1817093-077	ES1817093-078	ES1817093-083
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Fenthion	55-38-9	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	----	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	----	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	0.6	0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	1.0	0.7
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	0.9	0.7
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<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
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<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
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	2.5	1.9
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP13_0.4	TP14_0.1	TP14_0.3	TP14_0.5	TP15_0.3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-073	ES1817093-076	ES1817093-077	ES1817093-078	ES1817093-083
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<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
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	----	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	85.4	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	101	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	71.7	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		70.6	----	----	67.4	71.8
2-Chlorophenol-D4	93951-73-6	0.5	%		74.8	----	----	71.6	76.1
2,4,6-Tribromophenol	118-79-6	0.5	%		60.1	----	----	55.7	62.6
EP075(SIM)T: PAH Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP13_0.4	TP14_0.1	TP14_0.3	TP14_0.5	TP15_0.3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817093-073	ES1817093-076	ES1817093-077	ES1817093-078	ES1817093-083
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	0.5	%		86.9	----	----	83.2	88.3
Anthracene-d10	1719-06-8	0.5	%		85.5	----	----	83.3	89.7
4-Terphenyl-d14	1718-51-0	0.5	%		75.7	----	----	71.4	77.1
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		90.4	----	----	99.4	102
Toluene-D8	2037-26-5	0.2	%		105	----	----	110	114
4-Bromofluorobenzene	460-00-4	0.2	%		108	----	----	109	112



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TB	TS	TSC	----	----
Client sampling date / time					01-Jun-2018 00:00	31-May-2018 00:00	31-May-2018 00:00	----	----
Compound	CAS Number	LOR	Unit		ES1817093-089	ES1817093-090	ES1817093-091	-----	-----
					Result	Result	Result	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	42	46	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	48	52	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	23	27	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	0.3	0.3	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	12.4	12.8	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	1.6	1.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	8.0	7.7	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	3.1	3.0	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	25.4	25.3	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	11.1	10.7	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		96.7	77.9	80.5	----	----
Toluene-D8	2037-26-5	0.2	%		109	87.8	91.8	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		105	84.3	87.4	----	----



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
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
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
EP203S: Explosives Surrogate			
o-Dinitrobenzene	528-29-0	50	144

QUALITY CONTROL REPORT

Work Order : **ES1817093**

Page : 1 of 20

Amendment : **2**

Client : **WSP Australia Pty Ltd**

Contact : Nicholas Gilmour

Address : ABN: 80 078 004 798 GPO BOX 5394
SYDNEY NSW, AUSTRALIA 2001

Telephone : ----

Project : JORDAN SPRINGS

Order number :

C-O-C number : ----

Sampler : CW

Site : ----

Quote number : SY/004/18

No. of samples received : 89

No. of samples analysed : 33

Laboratory : Environmental Division Sydney

Contact : Brenda Hong

Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : +61 2 8784 8555

Date Samples Received : 13-Jun-2018

Date Analysis Commenced : 14-Jun-2018

Issue Date : 30-Jan-2019



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. 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
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini		Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA002: pH 1:5 (Soils) (QC Lot: 1726285)									
ES1817093-078	TP14_0.5	EA002: pH Value	----	0.1	pH Unit	7.7	7.8	1.42	0% - 20%
ES1817093-058	TP10_2.0	EA002: pH Value	----	0.1	pH Unit	6.8	6.9	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 1727111)									
ES1817093-001	TP01_0.1	EA002: pH Value	----	0.1	pH Unit	8.0	8.0	0.00	0% - 20%
ES1817100-012	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.5	6.5	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 1730897)									
ES1817093-002	TP01_0.3	EA002: pH Value	----	0.1	pH Unit	6.3	6.4	1.73	0% - 20%
ES1817360-003	Anonymous	EA002: pH Value	----	0.1	pH Unit	5.7	5.6	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 1733047)									
ES1817093-077	TP14_0.3	EA002: pH Value	----	0.1	pH Unit	6.5	6.5	0.00	0% - 20%
ES1817099-022	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.7	6.7	0.00	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1726284)									
ES1817093-078	TP14_0.5	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	237	217	8.81	0% - 20%
ES1817093-058	TP10_2.0	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	263	306	15.1	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1727108)									
ES1817093-001	TP01_0.1	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	412	417	1.21	0% - 20%
ES1817100-012	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	262	265	1.14	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1730896)									
ES1817093-002	TP01_0.3	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	245	263	7.09	0% - 20%
ES1817360-003	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	84	94	10.7	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1733046)									
ES1817093-077	TP14_0.3	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	335	362	7.75	0% - 20%
ES1817099-022	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	90	92	2.32	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1729160)									
EB1813939-003	Anonymous	EA055: Moisture Content	----	0.1	%	21.6	20.0	7.61	0% - 20%
EB1813939-023	Anonymous	EA055: Moisture Content	----	0.1	%	15.8	15.0	5.37	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1729161)									
ES1817093-021	TP04_0.5	EA055: Moisture Content	----	0.1	%	13.8	14.9	7.44	0% - 50%
ES1817093-073	TP13_0.4	EA055: Moisture Content	----	0.1	%	18.7	18.8	0.554	0% - 50%
ED006: Exchangeable Cations on Alkaline Soils (QC Lot: 1732658)									
ES1817093-001	TP01_0.1	ED006: Calcium/Magnesium Ratio	----	0.1	-	1.7	1.8	0.00	No Limit
		ED006: Exchangeable Calcium Percent	----	0.2	%	55.8	55.8	0.00	0% - 20%
		ED006: Exchangeable Magnesium Percent	----	0.2	%	32.3	31.8	1.62	0% - 20%
		ED006: Exchangeable Potassium Percent	----	0.2	%	3.6	3.9	7.15	0% - 50%
		ED006: Exchangeable Sodium Percent	----	0.2	%	8.2	8.5	3.72	0% - 20%
		ED006: Exchangeable Calcium	----	0.2	meq/100g	2.1	2.0	4.90	0% - 50%
		ED006: Exchangeable Magnesium	----	0.2	meq/100g	1.2	1.2	0.00	No Limit
		ED006: Exchangeable Potassium	----	0.2	meq/100g	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Sodium	----	0.2	meq/100g	0.3	0.3	0.00	No Limit
		ED006: Cation Exchange Capacity	----	0.2	meq/100g	3.8	3.6	4.79	0% - 50%
ED007: Exchangeable Cations (QC Lot: 1735066)									
ES1816996-030	Anonymous	ED007: Calcium/Magnesium Ratio	----	0.1	-	<0.1	<0.1	0.00	No Limit
		ED007: Magnesium/Potassium Ratio	----	0.1	-	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Calcium Percent	----	0.1	%	10.6	10.5	1.53	0% - 20%
		ED007: Exchangeable Magnesium Percent	----	0.1	%	65.0	66.6	2.34	0% - 20%
		ED007: Exchangeable Potassium Percent	----	0.1	%	11.4	11.3	1.24	0% - 20%
		ED007: Exchangeable Sodium Percent	----	0.1	%	12.9	11.7	10.0	0% - 20%
		ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	0.2	0.1	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	0.2	0.2	0.00	No Limit
		ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED008: Exchangeable Cations (QC Lot: 1734476)							
ES1817093-067	TP12_0.3	ED008: Calcium/Magnesium Ratio	----	0.1	-	0.4	0.4	0.00	0% - 20%
		ED008: Magnesium/Potassium Ratio	----	0.1	-	34.2	34.6	1.13	0% - 20%
		ED008: Exchangeable Sodium Percent	----	0.1	%	11.0	11.0	0.00	0% - 20%
		ED008: Exchangeable Calcium	----	0.1	meq/100g	3.7	3.6	0.00	0% - 20%
		ED008: Exchangeable Magnesium	----	0.1	meq/100g	8.2	8.0	1.76	0% - 20%
		ED008: Exchangeable Potassium	----	0.1	meq/100g	0.2	0.2	0.00	0% - 20%
		ED008: Exchangeable Sodium	----	0.1	meq/100g	1.5	1.5	0.00	0% - 20%
		ED008: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	0.00	0% - 20%
		ED008: Cation Exchange Capacity	----	0.1	meq/100g	13.6	13.3	2.00	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED040S: Soluble Major Anions (QC Lot: 1726286)									
ES1817093-078	TP14_0.5	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	180	150	15.3	0% - 50%
ED040S: Soluble Major Anions (QC Lot: 1727110)									
ES1817093-001	TP01_0.1	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	180	180	0.00	0% - 50%
ES1817100-012	Anonymous	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	40	50	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 1726287)									
ES1817093-058	TP10_2.0	ED045G: Chloride	16887-00-6	10	mg/kg	610	640	4.55	0% - 50%
ED045G: Chloride by Discrete Analyser (QC Lot: 1727109)									
ES1817093-001	TP01_0.1	ED045G: Chloride	16887-00-6	10	mg/kg	200	200	0.00	0% - 20%
ES1817100-012	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	520	520	0.00	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1732510)									
ES1817093-001	TP01_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	13	37.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	8	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	21	35	49.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	15	14.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	32	30	7.53	No Limit
ES1817093-061	TP11_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	21	14.3	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	8	8	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	9	11.2	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	19	19	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	18	9.14	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	30	33	9.94	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1732511)									
ES1817093-001	TP01_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1817093-061	TP11_0.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1726593)									
ES1817016-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1817093-032	TP06_0.5	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1726590)									
ES1817016-001	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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1726590) - continued									
ES1817016-001	Anonymous	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
ES1817093-032	TP06_0.5	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: 1726590)							
ES1817016-001	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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1726590) - continued									
ES1817016-001	Anonymous	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
ES1817093-032	TP06_0.5	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
		EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1726466)							
ES1817093-001	TP01_0.1	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1726466) - continued									
ES1817093-001	TP01_0.1	EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1726466)									
ES1817093-001	TP01_0.1	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1726466)									
ES1817093-001	TP01_0.1	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074D: Fumigants (QC Lot: 1726466)									
ES1817093-001	TP01_0.1	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1726466)									
ES1817093-001	TP01_0.1	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1726466) - continued									
ES1817093-001	TP01_0.1	EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.00	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1726466)									
ES1817093-001	TP01_0.1	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074G: Trihalomethanes (QC Lot: 1726466)									
ES1817093-001	TP01_0.1	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074H: Naphthalene (QC Lot: 1726466)									
ES1817093-001	TP01_0.1	EP074: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1726592)									
ES1817016-001	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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1726592) - continued										
ES1817016-001	Anonymous	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			205-82-3							
		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		
ES1817093-032	TP06_0.5	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	0.7	30.1	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	0.7	34.3	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			205-82-3							
		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	1.4	94.7	No Limit	
			EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1726465)								
ES1817093-001	TP01_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1726591)										
ES1817016-001	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	
ES1817093-032	TP06_0.5	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	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1727043)									
ES1817024-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1817093-067	TP12_0.3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1726465)									
ES1817093-001	TP01_0.1	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: 1726591)									
ES1817016-001	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
ES1817093-032	TP06_0.5	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: 1727043)									
ES1817024-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1817093-067	TP12_0.3	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 1726465)									
ES1817093-001	TP01_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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		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: 1727043)									
ES1817024-001	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES1817093-067	TP12_0.3	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
		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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		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		
EP203A: Explosives (QC Lot: 1729529)									
ES1817093-001	TP01_0.1	EP203: HMX	2691-41-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP203A: Explosives (QC Lot: 1729529) - continued									
ES1817093-001	TP01_0.1	EP203: RDX	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 1.3.5-Trinitrobenzene	99-35-4	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 1.3-Dinitrobenzene	99-65-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: Tetryl	479-45-8	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2.4.6-TNT	118-96-7	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 4-Amino.2.6-DNT	19406-51-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2-Amino-4.6-DNT	35572-78-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 4- & 2-AM-DNT(Isomeric Mixture)	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2.4-Dinitrotoluene	121-14-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2.6-Dinitrotoluene	606-20-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2.4- & 2.6-DNT(Isomeric Mixture)	51-28-5/606-20-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: Nitrobenzene	98-95-3	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2-Nitrotoluene	88-72-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 3-Nitrotoluene	99-08-1	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 4-Nitrotoluene	99-99-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: Nitroglycerine	55-63-0	1	mg/kg	<1	<1	0.00	No Limit
		EP203: PETN	78-11-5	1	mg/kg	<1	<1	0.00	No Limit



Method Blank (MB) and Laboratory Control Spike (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 Spike (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**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
				LCS		Low	High	
EA010: Conductivity (1:5) (QCLot: 1726284)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	98.0	92	108
EA010: Conductivity (1:5) (QCLot: 1727108)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	95.1	92	108
EA010: Conductivity (1:5) (QCLot: 1730896)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	96.4	92	108
EA010: Conductivity (1:5) (QCLot: 1733046)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	95.7	92	108
ED006: Exchangeable Cations on Alkaline Soils (QCLot: 1732658)								
ED006: Exchangeable Calcium	----	0.2	meq/100g	<0.2	2.5 meq/100g	96.4	80	110
ED006: Exchangeable Magnesium	----	0.2	meq/100g	<0.2	4.17 meq/100g	98.8	80	110
ED006: Exchangeable Potassium	----	0.2	meq/100g	<0.2	1.28 meq/100g	102	80	110
ED006: Exchangeable Sodium	----	0.2	meq/100g	<0.2	2.17 meq/100g	94.0	80	110
ED006: Cation Exchange Capacity	----	0.2	meq/100g	<0.2	----	----	----	----
ED006: Exchangeable Calcium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Magnesium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Potassium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Sodium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED006: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED007: Exchangeable Cations (QCLot: 1735066)								
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	97.9	76	120
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	100	75	115
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	110	80	120
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	103	80	120
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
ED007: Exchangeable Calcium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Magnesium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Potassium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Sodium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED007: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Exchangeable Cations (QCLot: 1734476)								



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
ED008: Exchangeable Cations (QCLot: 1734476) - continued								
ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	97.3	82	128
ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	99.9	82	120
ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	107	70	140
ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	103	78	136
ED008: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
ED008: Exchangeable Sodium Percent	----	0.1	%	<0.1	----	----	----	----
ED008: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED040S: Soluble Major Anions (QCLot: 1726286)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	104	80	120
ED040S: Soluble Major Anions (QCLot: 1727110)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	93.8	80	120
ED045G: Chloride by Discrete Analyser (QCLot: 1726287)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	110	75	125
				<10	5000 mg/kg	104	79	117
ED045G: Chloride by Discrete Analyser (QCLot: 1727109)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	100	75	125
				<10	5000 mg/kg	100	79	117
EG005T: Total Metals by ICP-AES (QCLot: 1732510)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	97.2	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	97.9	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	89.2	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	98.6	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	96.6	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	99.6	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	107	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732511)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	76.8	70	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1726593)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	90.0	62	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 1726590)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	69	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	65	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	100	67	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	68	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	65	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	67	115



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 1726590) - continued								
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	69	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	62	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	63	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.5	66	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	64	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	66	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.9	67	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.1	67	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	69	115
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	69	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	105	56	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	62	124
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	102	66	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	64	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	102	54	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1726590)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	59	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.5	62	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	99.0	54	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	103	67	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	70	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	72	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	80.3	68	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	68	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.3	69	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	76	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	86.0	64	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	85.9	70	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	117	69	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	66	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	102	68	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	102	62	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	68	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.6	65	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	41	123
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466)								
EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	71	121
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	108	65	131
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	104	72	114



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466) - continued								
EP074: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	105	70	116
	106-42-3							
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	98.8	67	113
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	75	115
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	105	65	117
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	106	66	122
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	103	68	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	105	69	119
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	103	69	117
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	105	69	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	102	66	118
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	108	59	125
EP074B: Oxygenated Compounds (QCLot: 1726466)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	101	30	156
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	94.8	58	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	94.9	62	132
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	95.2	54	136
EP074C: Sulfonated Compounds (QCLot: 1726466)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	106	54	126
EP074D: Fumigants (QCLot: 1726466)								
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	110	60	126
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	106	68	124
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	97.3	51	119
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	96.9	52	114
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	101	63	115
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	106	30	148
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	94.1	41	141
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	94.9	43	147
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	91.4	47	141
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	93.8	49	143
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	97.5	49	135
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	92.8	54	126
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	92.4	43	129
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	92.0	64	120
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	108	67	125
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	104	69	121
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	106	65	117



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466) - continued								
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	110	65	123
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	107	59	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	102	65	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	108	70	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	99.2	68	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	99.2	64	126
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	104	68	122
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	107	67	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.1	62	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	94.9	54	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	99.1	55	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	96.0	65	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	93.6	61	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	94.4	20	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	92.2	53	129
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	114	50	128
EP074F: Halogenated Aromatic Compounds (QCLot: 1726466)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	106	68	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	103	70	114
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	105	68	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	104	67	123
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	102	70	116
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	105	67	117
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	103	70	114
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	108	48	122
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	107	52	122
EP074G: Trihalomethanes (QCLot: 1726466)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	105	66	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	96.9	61	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	94.1	63	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	94.9	60	126
EP074H: Naphthalene (QCLot: 1726466)								
EP074: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	67	129
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1726592)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	107	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	104	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	107	72	126



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1726592) - continued								
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	110	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	110	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	115	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	115	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	97.9	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	105	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	98.7	68	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	112	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	107	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	94.7	61	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	90.8	62	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	89.7	63	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1726465)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	99.1	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1726591)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	104	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	106	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	106	71	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727043)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	95.1	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1726465)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	105	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1726591)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	104	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	112	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	103	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727043)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	100	68	128
EP080: BTEXN (QCLot: 1726465)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.8	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	89.5	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	83.5	65	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	95.0	66	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	89.6	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	110	63	119
EP080: BTEXN (QCLot: 1727043)								



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080: BTEXN (QCLot: 1727043) - continued								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.7	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	96.1	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	96.4	65	117
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	98.0	66	118
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.1	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	63	119
EP203A: Explosives (QCLot: 1729529)								
EP203: HMX	2691-41-0	0.1	mg/kg	<0.1	1 mg/kg	117	54	122
EP203: RDX	----	0.1	mg/kg	<0.1	----	----	----	----
EP203: 1.3.5-Trinitrobenzene	99-35-4	0.1	mg/kg	<0.1	----	----	----	----
EP203: 1.3-Dinitrobenzene	99-65-0	0.1	mg/kg	<0.1	----	----	----	----
EP203: Tetryl	479-45-8	0.1	mg/kg	<0.1	----	----	----	----
EP203: 2.4.6-TNT	118-96-7	0.1	mg/kg	<0.1	1 mg/kg	89.6	61	1221
EP203: 4-Amino-2.6-DNT	19406-51-0	0.1	mg/kg	<0.1	1 mg/kg	93.8	53	127
EP203: 2-Amino-4.6-DNT	35572-78-2	0.1	mg/kg	<0.1	----	----	----	----
EP203: 2.4-Dinitrotoluene	121-14-2	0.1	mg/kg	<0.1	1 mg/kg	89.9	56	126
EP203: 2.6-Dinitrotoluene	606-20-2	0.1	mg/kg	<0.1	----	----	----	----
EP203: Nitrobenzene	98-95-3	0.1	mg/kg	<0.1	1 mg/kg	91.3	60	132
EP203: 2-Nitrotoluene	88-72-2	0.1	mg/kg	<0.1	----	----	----	----
EP203: 3-Nitrotoluene	99-08-1	0.1	mg/kg	<0.1	----	----	----	----
EP203: 4-Nitrotoluene	99-99-0	0.1	mg/kg	<0.1	----	----	----	----
EP203: Nitroglycerine	55-63-0	1	mg/kg	<1	----	----	----	----
EP203: PETN	78-11-5	1	mg/kg	<1	1 mg/kg	86.4	71	147

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				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number			Low	High
ED045G: Chloride by Discrete Analyser (QCLot: 1726287)							
ES1817093-058	TP10_2.0	ED045G: Chloride	16887-00-6	12500 mg/kg	126	70	130
ED045G: Chloride by Discrete Analyser (QCLot: 1727109)							
ES1817093-001	TP01_0.1	ED045G: Chloride	16887-00-6	1250 mg/kg	122	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1732510)							
ES1817093-001	TP01_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	92.7	70	130



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1732510) - continued							
ES1817093-001	TP01_0.1	EG005T: Cadmium	7440-43-9	50 mg/kg	94.6	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	84.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	96.9	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.5	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	93.8	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	100	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732511)							
ES1817093-001	TP01_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	87.8	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1726593)							
ES1817016-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	94.0	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1726590)							
ES1817016-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	111	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	98.7	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	82.4	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	76.6	70	130
		EP068: Endrin	72-20-8	2 mg/kg	77.8	70	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	97.9	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1726590)							
ES1817016-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	77.4	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	70.2	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	75.1	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	72.5	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	75.4	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466)							
ES1817093-001	TP01_0.1	EP074: Benzene	71-43-2	2.5 mg/kg	97.4	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	104	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466)							
ES1817093-001	TP01_0.1	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	96.1	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	90.2	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1726466)							
ES1817093-001	TP01_0.1	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	107	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1726592)							
ES1817016-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	110	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	128	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1726465)							
ES1817093-001	TP01_0.1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	84.3	70	130



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1726591)							
ES1817016-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	97.2	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	119	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	124	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727043)							
ES1817024-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	75.3	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1726465)							
ES1817093-001	TP01_0.1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.7	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1726591)							
ES1817016-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	101	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	125	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	119	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727043)							
ES1817024-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	75.0	70	130
EP080: BTEXN (QCLot: 1726465)							
ES1817093-001	TP01_0.1	EP080: Benzene	71-43-2	2.5 mg/kg	81.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	83.9	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.6	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	82.2	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	84.5	70	130
ES1817024-001	Anonymous	EP080: Naphthalene	91-20-3	2.5 mg/kg	80.8	70	130
EP080: BTEXN (QCLot: 1727043)							
ES1817024-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	80.9	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	76.7	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	79.2	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	80.4	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	83.4	70	130
ES1817093-001	TP01_0.1	EP080: Naphthalene	91-20-3	2.5 mg/kg	93.4	70	130
EP203A: Explosives (QCLot: 1729529)							
ES1817093-001	TP01_0.1	EP203: HMX	2691-41-0	1 mg/kg	127	58	141
		EP203: 2,4,6-TNT	118-96-7	1 mg/kg	126	58	139
		EP203: 4-Amino-2,6-DNT	19406-51-0	1 mg/kg	119	56	140
		EP203: 2,4-Dinitrotoluene	121-14-2	1 mg/kg	119	59	139
		EP203: Nitrobenzene	98-95-3	1 mg/kg	122	60	132
		EP203: PETN	78-11-5	1 mg/kg	110	59	136

QA/QC Compliance Assessment to assist with Quality Review

Work Order : **ES1817093**

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Amendment : **2**

Client : **WSP Australia Pty Ltd**

Laboratory : Environmental Division Sydney

Contact : Nicholas Gilmour

Telephone : +61 2 8784 8555

Project : JORDAN SPRINGS

Date Samples Received : 13-Jun-2018

Site : ----

Issue Date : 30-Jan-2019

Sampler : CW

No. of samples received : 89

Order number :

No. of samples analysed : 33

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		Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved TP10_0.2, TP10_2.0, TP11_0.3, TP12_0.3, TP12_3.0, TP14_0.5		14-Jun-2018	13-Jun-2018	1	----	----	----
TP10_0.6, TP11_0.1, TP11_2.0, TP12_1.0, TP14_0.1							
Soil Glass Jar - Unpreserved TP14_0.3		18-Jun-2018	13-Jun-2018	5	----	----	----
Soil Glass Jar - Unpreserved TP01_0.3, TP02_0.1, TP04_0.1		18-Jun-2018	14-Jun-2018	4	----	----	----
TP01_2.0, TP02_1.0, TP04_2.0							
EA010: Conductivity							
Soil Glass Jar - Unpreserved TP10_0.2, TP10_2.0, TP11_0.3, TP12_0.3, TP12_3.0, TP14_0.5		14-Jun-2018	13-Jun-2018	1	----	----	----
TP10_0.6, TP11_0.1, TP11_2.0, TP12_1.0, TP14_0.1							
Soil Glass Jar - Unpreserved TP14_0.3		18-Jun-2018	13-Jun-2018	5	----	----	----
Soil Glass Jar - Unpreserved TP01_0.3, TP02_0.1, TP04_0.1		18-Jun-2018	14-Jun-2018	4	----	----	----
TP01_2.0, TP02_1.0, TP04_2.0							
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved TP06_0.5,		14-Jun-2018	13-Jun-2018	1	14-Jun-2018	13-Jun-2018	1
TP10_0.4							
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved TP06_0.5,		14-Jun-2018	13-Jun-2018	1	14-Jun-2018	13-Jun-2018	1
TP10_0.4							
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved TP06_0.5,		14-Jun-2018	13-Jun-2018	1	14-Jun-2018	13-Jun-2018	1
TP10_0.4							
EP074D: Fumigants							



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
EP074D: Fumigants - Analysis Holding Time Compliance						
Soil Glass Jar - Unpreserved TP06_0.5, TP10_0.4	14-Jun-2018	13-Jun-2018	1	14-Jun-2018	13-Jun-2018	1
EP074E: Halogenated Aliphatic Compounds						
Soil Glass Jar - Unpreserved TP06_0.5, TP10_0.4	14-Jun-2018	13-Jun-2018	1	14-Jun-2018	13-Jun-2018	1
EP074F: Halogenated Aromatic Compounds						
Soil Glass Jar - Unpreserved TP06_0.5, TP10_0.4	14-Jun-2018	13-Jun-2018	1	14-Jun-2018	13-Jun-2018	1
EP074G: Trihalomethanes						
Soil Glass Jar - Unpreserved TP06_0.5, TP10_0.4	14-Jun-2018	13-Jun-2018	1	14-Jun-2018	13-Jun-2018	1
EP074H: Naphthalene						
Soil Glass Jar - Unpreserved TP06_0.5, TP10_0.4	14-Jun-2018	13-Jun-2018	1	14-Jun-2018	13-Jun-2018	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	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA002 : pH (Soils)								
Soil Glass Jar - Unpreserved (EA002) TP10_0.2, TP10_2.0, TP11_0.3, TP12_0.3, TP12_3.0, TP14_0.5 TP10_0.6, TP11_0.1, TP11_2.0, TP12_1.0, TP14_0.1	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	14-Jun-2018	✔	
Soil Glass Jar - Unpreserved (EA002) TP14_0.3	06-Jun-2018	18-Jun-2018	13-Jun-2018	✖	18-Jun-2018	18-Jun-2018	✔	
Soil Glass Jar - Unpreserved (EA002) TP01_0.1, TP04_0.5 TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔	
Soil Glass Jar - Unpreserved (EA002)								



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils) - Continued								
TP01_0.3, TP02_0.1, TP04_0.1,	TP01_2.0, TP02_1.0, TP04_2.0	07-Jun-2018	18-Jun-2018	14-Jun-2018	✖	18-Jun-2018	18-Jun-2018	✔
EA010: Conductivity								
Soil Glass Jar - Unpreserved (EA010)								
TP10_0.2, TP10_2.0, TP11_0.3, TP12_0.3, TP12_3.0, TP14_0.5	TP10_0.6, TP11_0.1, TP11_2.0, TP12_1.0, TP14_0.1,	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	12-Jul-2018	✔
Soil Glass Jar - Unpreserved (EA010)								
TP14_0.3		06-Jun-2018	18-Jun-2018	13-Jun-2018	✖	18-Jun-2018	16-Jul-2018	✔
Soil Glass Jar - Unpreserved (EA010)								
TP01_0.1, TP04_0.5	TP02_0.3,	07-Jun-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	12-Jul-2018	✔
Soil Glass Jar - Unpreserved (EA010)								
TP01_0.3, TP02_0.1, TP04_0.1,	TP01_2.0, TP02_1.0, TP04_2.0	07-Jun-2018	18-Jun-2018	14-Jun-2018	✖	18-Jun-2018	16-Jul-2018	✔
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
TP06_0.5, TP08_0.1, TP10_0.4, TP11_0.1, TP12_0.3, TP14_0.5,	TP07_0.3, TP09_0.5, TP10_2.0, TP11_0.3, TP13_0.4, TP15_0.3	06-Jun-2018	----	----	----	15-Jun-2018	20-Jun-2018	✔
Soil Glass Jar - Unpreserved (EA055)								
TP01_0.1, TP03_0.3, TP05_0.3	TP02_0.3, TP04_0.5,	07-Jun-2018	----	----	----	15-Jun-2018	21-Jun-2018	✔
ED006: Exchangeable Cations on Alkaline Soils								
Soil Glass Jar - Unpreserved (ED006)								
TP11_0.1,	TP14_0.5	06-Jun-2018	18-Jun-2018	04-Jul-2018	✔	18-Jun-2018	04-Jul-2018	✔
Soil Glass Jar - Unpreserved (ED006)								
TP01_0.1,	TP02_0.3	07-Jun-2018	18-Jun-2018	05-Jul-2018	✔	18-Jun-2018	05-Jul-2018	✔
ED007: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED007)								
TP10_2.0		06-Jun-2018	18-Jun-2018	04-Jul-2018	✔	18-Jun-2018	04-Jul-2018	✔
Soil Glass Jar - Unpreserved (ED007)								
TP04_0.5		07-Jun-2018	18-Jun-2018	05-Jul-2018	✔	18-Jun-2018	05-Jul-2018	✔



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED008: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED008) TP12_0.3		06-Jun-2018	18-Jun-2018	04-Jul-2018	✔	18-Jun-2018	04-Jul-2018	✔
ED040S : Soluble Sulfate by ICPAES								
Soil Glass Jar - Unpreserved (ED040S) TP10_2.0, TP12_0.3, TP11_0.1, TP14_0.5		06-Jun-2018	14-Jun-2018	04-Jul-2018	✔	14-Jun-2018	12-Jul-2018	✔
Soil Glass Jar - Unpreserved (ED040S) TP01_0.1, TP04_0.5, TP02_0.3		07-Jun-2018	14-Jun-2018	05-Jul-2018	✔	14-Jun-2018	12-Jul-2018	✔
ED045G: Chloride by Discrete Analyser								
Soil Glass Jar - Unpreserved (ED045G) TP10_2.0, TP12_0.3, TP11_0.1, TP14_0.5		06-Jun-2018	14-Jun-2018	04-Jul-2018	✔	14-Jun-2018	12-Jul-2018	✔
Soil Glass Jar - Unpreserved (ED045G) TP01_0.1, TP04_0.5, TP02_0.3		07-Jun-2018	14-Jun-2018	05-Jul-2018	✔	14-Jun-2018	12-Jul-2018	✔
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) TP06_0.5, TP08_0.1, TP10_0.4, TP12_0.3, TP14_0.5, TP07_0.3, TP09_0.5, TP11_0.3, TP13_0.4, TP15_0.3		06-Jun-2018	16-Jun-2018	03-Dec-2018	✔	18-Jun-2018	03-Dec-2018	✔
Soil Glass Jar - Unpreserved (EG005T) TP01_0.1, TP03_0.3, TP05_0.3, TP02_0.3, TP04_0.5		07-Jun-2018	16-Jun-2018	04-Dec-2018	✔	18-Jun-2018	04-Dec-2018	✔
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) TP06_0.5, TP08_0.1, TP10_0.4, TP12_0.3, TP14_0.5, TP07_0.3, TP09_0.5, TP11_0.3, TP13_0.4, TP15_0.3		06-Jun-2018	16-Jun-2018	04-Jul-2018	✔	18-Jun-2018	04-Jul-2018	✔
Soil Glass Jar - Unpreserved (EG035T) TP01_0.1, TP03_0.3, TP05_0.3, TP02_0.3, TP04_0.5		07-Jun-2018	16-Jun-2018	05-Jul-2018	✔	18-Jun-2018	05-Jul-2018	✔



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
TP06_0.5, TP09_0.5, TP14_0.5	TP08_0.1, TP10_0.4,	06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP066)								
TP01_0.1, TP04_0.5	TP02_0.3,	07-Jun-2018	15-Jun-2018	21-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)								
TP06_0.5, TP09_0.5, TP14_0.5	TP08_0.1, TP10_0.4,	06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP068)								
TP01_0.1, TP04_0.5	TP02_0.3,	07-Jun-2018	15-Jun-2018	21-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
TP06_0.5, TP09_0.5, TP14_0.5	TP08_0.1, TP10_0.4,	06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP068)								
TP01_0.1, TP04_0.5	TP02_0.3,	07-Jun-2018	15-Jun-2018	21-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074)								
TP06_0.5,	TP10_0.4	06-Jun-2018	14-Jun-2018	13-Jun-2018	✗	14-Jun-2018	13-Jun-2018	✗
Soil Glass Jar - Unpreserved (EP074)								
TP01_0.1,	TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074)								
TP06_0.5,	TP10_0.4	06-Jun-2018	14-Jun-2018	13-Jun-2018	✗	14-Jun-2018	13-Jun-2018	✗
Soil Glass Jar - Unpreserved (EP074)								
TP01_0.1,	TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074)								
TP06_0.5,	TP10_0.4	06-Jun-2018	14-Jun-2018	13-Jun-2018	✗	14-Jun-2018	13-Jun-2018	✗
Soil Glass Jar - Unpreserved (EP074)								
TP01_0.1,	TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074) TP06_0.5,	TP10_0.4	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	13-Jun-2018	✖
Soil Glass Jar - Unpreserved (EP074) TP01_0.1,	TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074) TP06_0.5,	TP10_0.4	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	13-Jun-2018	✖
Soil Glass Jar - Unpreserved (EP074) TP01_0.1,	TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074) TP06_0.5,	TP10_0.4	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	13-Jun-2018	✖
Soil Glass Jar - Unpreserved (EP074) TP01_0.1,	TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074) TP06_0.5,	TP10_0.4	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	13-Jun-2018	✖
Soil Glass Jar - Unpreserved (EP074) TP01_0.1,	TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔
EP074H: Naphthalene								
Soil Glass Jar - Unpreserved (EP074) TP06_0.5,	TP10_0.4	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	13-Jun-2018	✖
Soil Glass Jar - Unpreserved (EP074) TP01_0.1,	TP02_0.3	07-Jun-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) TP06_0.5, TP08_0.1, TP10_0.4, TP12_0.3, TP14_0.5,	TP07_0.3, TP09_0.5, TP11_0.3, TP13_0.4, TP15_0.3	06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP075(SIM)) TP01_0.1, TP03_0.3, TP05_0.3	TP02_0.3, TP04_0.5,	07-Jun-2018	15-Jun-2018	21-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) TB	01-Jun-2018	14-Jun-2018	15-Jun-2018	✓	14-Jun-2018	15-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP06_0.5, TP07_0.3, TP08_0.1, TP09_0.5, TP10_0.4, TP11_0.3, TP12_0.3, TP13_0.4, TP14_0.5, TP15_0.3	06-Jun-2018	14-Jun-2018	20-Jun-2018	✓	14-Jun-2018	20-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP071) TP06_0.5, TP07_0.3, TP08_0.1, TP09_0.5, TP10_0.4, TP11_0.3, TP12_0.3, TP13_0.4, TP14_0.5, TP15_0.3	06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP01_0.1, TP02_0.3, TP03_0.3, TP04_0.5, TP05_0.3	07-Jun-2018	14-Jun-2018	21-Jun-2018	✓	14-Jun-2018	21-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP071) TP01_0.1, TP02_0.3, TP03_0.3, TP04_0.5, TP05_0.3	07-Jun-2018	15-Jun-2018	21-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP080) TS, TSC	31-May-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			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) TB		01-Jun-2018	14-Jun-2018	15-Jun-2018	✓	14-Jun-2018	15-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP06_0.5, TP07_0.3, TP08_0.1, TP09_0.5, TP10_0.4, TP11_0.3, TP12_0.3, TP13_0.4, TP14_0.5, TP15_0.3		06-Jun-2018	14-Jun-2018	20-Jun-2018	✓	14-Jun-2018	20-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP071) TP06_0.5, TP07_0.3, TP08_0.1, TP09_0.5, TP10_0.4, TP11_0.3, TP12_0.3, TP13_0.4, TP14_0.5, TP15_0.3		06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP01_0.1, TP02_0.3, TP03_0.3, TP04_0.5, TP05_0.3		07-Jun-2018	14-Jun-2018	21-Jun-2018	✓	14-Jun-2018	21-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP071) TP01_0.1, TP02_0.3, TP03_0.3, TP04_0.5, TP05_0.3		07-Jun-2018	15-Jun-2018	21-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP080) TS, TSC		31-May-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) TB		01-Jun-2018	14-Jun-2018	15-Jun-2018	✓	14-Jun-2018	15-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP06_0.5, TP07_0.3, TP08_0.1, TP09_0.5, TP10_0.4, TP11_0.3, TP12_0.3, TP13_0.4, TP14_0.5, TP15_0.3		06-Jun-2018	14-Jun-2018	20-Jun-2018	✓	14-Jun-2018	20-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP01_0.1, TP02_0.3, TP03_0.3, TP04_0.5, TP05_0.3		07-Jun-2018	14-Jun-2018	21-Jun-2018	✓	14-Jun-2018	21-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TS, TSC		31-May-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓

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 Work Order : ES1817093 Amendment 2
 Client : WSP Australia Pty Ltd
 Project : JORDAN SPRINGS



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP203A: Explosives								
Soil Glass Jar - Unpreserved (EP203)	TP10_0.4	06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	15-Jun-2018	25-Jul-2018	✔
TP06_0.5,								
Soil Glass Jar - Unpreserved (EP203)	TP02_0.3	07-Jun-2018	15-Jun-2018	21-Jun-2018	✔	15-Jun-2018	25-Jul-2018	✔
TP01_0.1,								



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)							
Chloride Soluble By Discrete Analyser	ED045G	3	20	15.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	8	67	11.94	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	3	20	15.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	4	40	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	13	15.38	10.00	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	8	67	11.94	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	13	15.38	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	27	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chloride Soluble By Discrete Analyser	ED045G	4	20	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	4	67	5.97	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	2	20	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	27	7.41	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride Soluble By Discrete Analyser	ED045G	2	20	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	4	67	5.97	5.00	✓	NEPM 2013 B3 & ALS QC Standard



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	
Method Blanks (MB) - Continued							
Exchangeable Cations	ED007	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	2	20	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	27	7.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	2	20	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	27	7.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	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 (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 (2013) 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 (2013) 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 (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Exchangeable Cations on Alkaline Soils	ED006	SOIL	In house: Referenced to Soil Survey Test Method C5. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with alcoholic ammonium chloride at pH 8.5. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil.
Exchangeable Cations	ED007	SOIL	In house: Referenced to Rayment & Lyons (2011) 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 (2013) Schedule B(3) (Method 301)
Exchangeable Cations with pre-treatment	ED008	SOIL	In house: Referenced to Rayment & Higginson (2011) Method 15A2. Soluble salts are removed from the sample prior to analysis. 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 (2013) Schedule B(3) (Method 301)
Major Anions - Soluble	ED040S	SOIL	In house: Soluble Anions are determined off a 1:5 soil / water extract by ICPAES.
Chloride Soluble By Discrete Analyser	ED045G	SOIL	In house: Referenced to APHA 4500-Cl- E. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm. Analysis is performed on a 1:5 soil / water leachate.
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 (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (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 SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D 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 (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D 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 (2013) Schedule B(3) (Method 504,505)



Analytical Methods	Method	Matrix	Method Descriptions
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260B Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. 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 (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.
Explosives	EP203	SOIL	In house: Referenced to USEPA 8330 UV-DAD, LCMS (APCI in negative mode). Residues of explosives are extracted from air-dried soil samples with acetonitrile. An aliquot of the organic phase is taken and diluted with water for LC/MS determination.

Preparation Methods	Method	Matrix	Method Descriptions
Exchangeable Cations Preparation Method (Alkaline Soils)	ED006PR	SOIL	In house: Referenced to Rayment and Lyons 2011 method 15C1.
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Higginson (1992) 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 (2013) Schedule B(3) (Method 202)
Tumbler Extraction for Explosives.	EP203-PR	SOIL	In house: Referenced to USEPA8330. Sample extractions are performed using end over end tumbling in place of sonic bath extraction.
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.

19/06 ②

 CHAIN OF CUSTODY ALS Laboratory please tick →		ADELAIDE 21 Burke Road Port Adelaide SA 5015 Ph: 08 8359 0600 E: adelaide@alsglobal.com BIRMINGHAM 32 Smeeth Street Stratford Rd D4 4553 Ph: 07 5243 7232 E: samples.birmingham@alsglobal.com GLADSTONE 46 Ceresmondah Drive Clinton Qld 4680 Ph: 07 1471 5630 E: gladstone@alsglobal.com		MACKAY 79 Hercules Road Mackay QLD 4740 Ph: 07 4949 0177 E: mackay@alsglobal.com MELBOURNE 2-4 Yarrall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com MUDGELL 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6755 E: mudgee@alsglobal.com		NEWCASTLE 5 Rose Cum Road Waratah NSW 2204 Ph: 02 4988 9133 E: samples.newcastle@alsglobal.com NOWRA 413 Geary Place North Nowra NSW 2541 Ph: 024428 2000 E: nowra@alsglobal.com PERTH 10 Hod Way Mirrabell WA 6009 Ph: 08 9209 7655 E: samples.perth@alsglobal.com		SYDNEY 777384 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com TOWNSVILLE 14-15 Drama Court Bona QLD 4818 Ph: 07 4796 0000 E: townsville.environment@alsglobal.com WOLLONGONG 60 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3175 E: wollongong@alsglobal.com																																																																																																																													
CLIENT: WSP OFFICE: L27, S80 George St, Sydney NSW 2003 PROJECT: Hayball - Jordan Springs ORDER NUMBER: PROJECT MANAGER: Nicholas Gilmour SAMPLER: Claire Williamson COC emailed to ALS? (YES / NO) Email Reports to: Nicholas.Gilmour@wsp.com Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com		TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ALS QUOTE NO.: SY/004/18 CONTACT PH: 02 92725230 SAMPLER MOBILE: 0428283466 EDD FORMAT (or default): RELINQUISHED BY: Claire Williamson DATE/TIME: 4/6/18 - 7/6/18		Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date): COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 8 OF: 1 2 3 4 5 6 22		FOR LABORATORY USE ONLY (Circle) RECEIVED BY: Uma DATE/TIME: 13/06/18 10:45am RELINQUISHED BY: DATE/TIME:																																																																																																																															
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:																																																																																																																																					
<table border="1"> <thead> <tr> <th>LAB ID</th> <th>SAMPLE ID</th> <th>DATE / TIME</th> <th>MATRIX</th> <th>TYPE & PRESERVATIVE (codes below)</th> <th>(refer to)</th> <th>TOTAL CONTAINERS</th> <th>ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).</th> <th>Additional Information</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>TP15_0.5</td> <td>6/06/2018</td> <td>S</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>TP15_1.0</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>TP15_2.0</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>TP15_3.0</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>TP16_0.1</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>6</td> <td>TP16_0.3</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td>X</td> <td></td> </tr> <tr> <td>7</td> <td>TP16_0.5</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>8</td> <td>TP16_1.0</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>9</td> <td>TP16_2.0</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>TP16_3.0</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>11</td> <td>TP17_0.1</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td>X</td> <td></td> </tr> <tr> <td>12</td> <td>TP17_0.6</td> <td>6/06/2018</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> </tr> <tr> <td colspan="6"></td> <td>TOTAL</td> <td>12</td> <td>2</td> </tr> </tbody> </table>								LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to)	TOTAL CONTAINERS	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information	1	TP15_0.5	6/06/2018	S			1			2	TP15_1.0	6/06/2018				1			3	TP15_2.0	6/06/2018				1			4	TP15_3.0	6/06/2018				1			5	TP16_0.1	6/06/2018				1			6	TP16_0.3	6/06/2018				1	X		7	TP16_0.5	6/06/2018				1			8	TP16_1.0	6/06/2018				1			9	TP16_2.0	6/06/2018				1			10	TP16_3.0	6/06/2018				1			11	TP17_0.1	6/06/2018				1	X		12	TP17_0.6	6/06/2018				1									TOTAL	12	2
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 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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Ph. 07 4796 0900 E. townsrville.environmental@telstra.com.au

WOLLONGONG 65 Kenny Street Wollongong NSW 2500
Ph. 02 4225 3125 E. wovember@telstra.com

CLIENT: WSP		TURNAROUND REQUIREMENTS : [REDACTED] Standard TAT (List due date):		FORM 100-100 (ORIGINALS ONLY) (Circle) Circle: 1. Minimum 24 hours (prior to 10:00am) 2. Minimum 48 hours (prior to 10:00am) 3. Minimum 72 hours (prior to 10:00am) Random Sample Turnaround on Request Other arguments: [REDACTED]	
OFFICE: 127, 880 George St Sydney NSW 2000		(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):			
PROJECT: Hayball - Jordan Springs		ALS QUOTE NO.: SY/004/18		COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER:				COC: 1 2 3 4 5 6 9	
PROJECT MANAGER: Nicholas Gilmour		CONTACT PH: 02 92725230		OF: 1 2 3 4 5 6 22	
SAMPLER: Claire Williamson		SAMPLER MOBILE: 0428283466		RECEIVED BY: uma	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):		RELINQUISHED BY:	
Email Reports to : Nicholas.Gilmour@wsp.com		DATE/TIME:		DATE/TIME: 13/06/18	
Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com		4/6/18 - 7/6/18		10:45am	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:									

CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>(codes below)</i>	(refer to	TOTAL CONTAINERS	S- 26 (TRH (C6-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002- pH (1:5) EA010 (Electrical Conductivity (1:5)	NT-25 - (Major Anions (CL, SO4)	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	TP17_0.9	6/06/2018	S			1									
14	TP17_2.1	6/06/2018	S			1									
15	TP17_3.2	6/06/2018	S			1									
16	TP18_0.15	5/06/2018	S			1						X			
17	TP18_0.3	5/06/2018	S			1						X			
18	TP18_0.5	5/06/2018	S			1						X			
19	TP18_1.0	5/06/2018	S			1	X		X	X		X			
20	TP18_2.0	5/06/2018	S			1						X			
21	TP18_3.0	5/06/2018	S			1						X	X	X	
22	TP19_0.1	6/06/2018	S			1						X			
23	TP19_0.3	6/06/2018	S			1	X	X							
24	TP19_0.5	6/06/2018	S			1									
TOTAL						12	2	1	1	1	0	7	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Specialization bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Solis; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory
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Ph: 07 7471 5000 E: gladstone@alsglobal.com

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Ph: 08 9209 7855 E: perth@alsglobal.com

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Ph: 07 4766 0600 E: littonsville@alsglobal.com
WOLLONGONG 69 Kewey Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: WSP	TURNAROUND REQUIREMENTS : ☒ Standard TAT (List due date):		
OFFICE: L27, 680 George St Sydney NSW 2000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):		
PROJECT: Hayball - Jordan Springs	ALS QUOTE NO.: SY/004/18	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 10 DF: 1 2 3 4 5 6 22	
ORDER NUMBER:			
PROJECT MANAGER: Nicholas Gilmour	CONTACT PH: 02 92725230		
SAMPLER: Claire Williamson	SAMPLER MOBILE: 0428283466	RELINQUISHED BY: Claire Williamson	RECEIVED BY: <u>uma</u>
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 4/6/18 - 7/6/18	DATE/TIME: 13/06/18 10:45am
Email Reports to: Nicholas.Gilmour@wsp.com	Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

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LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>codes below</i> <i>(refer to</i>	TOTAL CONTAINERS	S-26 (TRH /CG-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxycetic acid Herbicides (EP202)	EA002- pH (1-5) EA010 (Electrical Conductivity (15))	NT-2S - (Major Anions (CL, SO4))	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific GC analysis etc.
25	TP19_1.0	6/06/2018	S		1									
26	TP19_3.0	6/06/2018	S		1									
27	TP20_0.1	6/06/2018	S		1									
28	TP20_0.3	6/06/2018	S		1	X	X				X	X	X	
29	TP20_0.5	6/06/2018	S		1						X			
30	TP20_1.0	6/06/2018	S		1									
31	TP20_2.0	6/06/2018	S		1						X			
32	TP20_3.0	6/06/2018	S		1									
33	TP21_0.1	5/06/2018	S		1						X			
34	TP21_0.4	5/06/2018	S		1	X	X				X			
35	TP21_1.0	5/06/2018	S		1						X			
36	TP21_2.0	5/06/2018	S		1						X			
TOTAL					12	2	2	0	0	0	7	1		

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CHAIN OF CUSTODY ALS Laboratory: please tick →		ADELAIDE 21 Burma Road Footscray SA 5065 Ph: 08 8358 0850 E: adeelaide@alsglobal.com BRISBANE 37 Sharn Street Stafford QLD 4055 Ph: 07 3243 7222 E: brisbane@alsglobal.com GLADSTONE 48 Galeswood Drive Gladstone Qld 4700 Ph: 07 7471 5600 E: gladstone@alsglobal.com		MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com MELBOURNE 2-4 Jessell Road Springvale VIC 3171 Ph: 03 8549 9800 E: samples.melbourne@alsglobal.com MUDGEE 37 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee@alsglobal.com		NEWCASTLE 5 Ross Gum Road Waratah NSW 2304 Ph: 02 4968 9450 E: samples.newcastle@alsglobal.com PERTH 4/13 Quarry Place North Perth NSW 2641 Ph: 08 94423 2063 E: perth@alsglobal.com PERTH 10 Havel Way Maraga WA 6009 Ph: 08 9209 7055 E: samples.perth@alsglobal.com		SYDNEY 277-158 Woodpark Road Smithfield NSW 2164 Ph: 02 6761 6555 E: samples.sydney@alsglobal.com TOWNVILLE 14-15 Drama Court Bonville QLD 4818 Ph: 07 4750 0600 E: townville@alsglobal.com WOLLONGONG 90 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com																	
		CLIENT: WSP		TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):		OFFICE: 127, 688 George St, Sydney NSW 2000		PROJECT: Hayball - Jordan Springs		ALS QUOTE NO.: SY/004/18		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 11 OF: 1 2 3 4 5 6 22		ORDER NUMBER:		PROJECT MANAGER: Nicholas Gilmour CONTACT PH: 02 92725230		SAMPLER: Claire Williamson SAMPLER MOBILE: 0428283466		RELINQUISHED BY: Claire Williamson		RECEIVED BY: umg		RELINQUISHED BY:	
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37	TP21_3.0	5/06/2018	S			1						X	X	X											
38	TP22_0.1	5/06/2018	S			1																			
39	TP22_0.3	5/06/2018	S			1	X	X																	
40	TP22_0.5	5/06/2018	S			1																			
41	TP22_1.0	5/06/2018	S			1																			
42	TP22_2.0	5/06/2018	S			1																			
43	TP22_3.0	5/06/2018	S			1																			
44	TP23_0.1	5/06/2018	S			1																			
45	TP23_0.3	5/06/2018	S			1	X	X																	
46	TP23_0.5	5/06/2018	S			1																			
47	TP23_1.0	5/06/2018	S			1																			
48	TP23_2.0	5/06/2018	S			1																			
TOTAL						12	2	2	0	0	0	1	1	1											

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WOLLONGONG 92 Kenny Street, Wollongong NSW 2500
 Ph: 02 4225 8123 E: portkeno@alsglobal.com

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COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:							

SAMPLE DETAILS				CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>(refer to codes below)</i>	TOTAL CONTAINERS	S-26 (TRH (CG-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCBs)	Explosives (EP203)	VOC (EP074)	Phenoxycarboxylic acid Herbicides (EP202)	EA002- pH (1.5) EA010 (Electrical Conductivity (1.5))	NT-2S - (Major Anions (CL, SO4))	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	TP23_3.0	5/06/2018	S		1									
50	TP24_0.1	5/06/2018	S		1									
51	TP24_0.3	5/06/2018	S		1	X								
52	TP24_0.5	5/06/2018	S		1									
53	TP24_1.0	5/06/2018	S		1									
54	TP24_2.0	5/06/2018	S		1									
55	TP24_3.0	5/06/2018	S		1									
56	TP25_0.1	5/06/2018	S		1									
57	TP25_0.3	5/06/2018	S		1	X	X							
58	TP25_0.5	5/06/2018	S		1									
59	TP25_1.0	5/06/2018	S		1									
60	TP25_2.0	5/06/2018	S		1									
TOTAL					12	2	1	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic

V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;

Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory:
please tick →

ADAMSTON 21 Burns Road, Port Pirie SA 5066
Ph: 08 8359 0600 L. adams@alsglobal.com
BRISBANE 32 Sand Street, Stafford QLD 4055
Ph: 07 3243 7272 E. samples.brisbane@alsglobal.com
GLADSTONE 46 Gladstone Drive, Gladstone QLD 4690
Ph: 07 7471 5500 L. gladstone@alsglobal.com

MACKAY 78 Harbour Road, Mackay QLD 4740
Ph: 07 4944 0177 E. mackay@alsglobal.com
MELBOURNE 2-4 Westall Road, Springvale VIC 3171
Ph: 03 8549 9500 F. samples.melbourne@alsglobal.com
MURDOCH 27 Sydney Road, Murdoch NSW 1550
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Ph: 02 4955 9433 E. samples.newcastle@alsglobal.com
PINDARA 4/13 Geary Place, North Sydney NSW 2060
Ph: 02 4423 2063 L. pindara@alsglobal.com
PERTH 110 Third Way, Malaga WA 6060
Ph: 08 9069 7555 E. samples.perth@alsglobal.com

SYDNEY 217-269 Woodpark Road, Smithfield NSW 2164
Ph: 02 8794 8555 E. samples.sydney@alsglobal.com
TOMARVILLE 14-15 Osborne Court, Boks QLD 4816
Ph: 07 4799 0800 E. samples.tomarville@alsglobal.com
WOLLONGONG 92 Kooka Street, Wollongong NSW 2500
Ph: 02 4225 3125 E. wollongong@alsglobal.com

CLIENT: WSP	TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle) COC: 1 2 3 4 5 6 13 OP: 1 2 3 4 5 6 22
OFFICE: 127, 580 George St. Sydney NSW 2000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	
PROJECT: Hayball - Jordan Springs	ALS QUOTE NO.: SY/004/18	
ORDER NUMBER:		
PROJECT MANAGER: Nicholas Gilmour	CONTACT PH: 02 92725230	
SAMPLER: Claire Williamson	SAMPLER MOBILE: 0428283466	RECEIVED BY: umg
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 13/06/18
Email Reports to: Nicholas.Gilmour@wsp.com	DATE/TIME: 4/6/18 - 7/6/18	DATE/TIME: 10:45am
Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).					Additional Information									
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>(refer to codes below)</i>	TOTAL CONTAINERS	S- 26 (TRH (G6-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxycarboxylic acid Herbicides (EP202)	EA002- pH (1.5) EA010 (Electrical Conductivity (1.5))	NT-2S - (Major Anions (CL, SO4))	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	TP25_3.0	5/06/2018	S		1									
62	TP26_0.15	5/06/2018	S		1	X								
63	TP26_0.4	5/06/2018	S		1									
64	TP26_1.0	5/06/2018	S		1									
65	TP26_2.0	5/06/2018	S		1									
66	TP26_3.0	5/06/2018	S		1									
67	TP27_0.1	5/06/2018	S		1						X	X	X	
68	TP27_0.3	5/06/2018	S		1	X	X							
69	TP27_0.5	5/06/2018	S		1						X			
70	TP27_1.0	5/06/2018	S		1									
71	TP27_2.0	5/06/2018	S		1						X			
72	TP27_3.0	5/06/2018	S		1									
TOTAL					12	2	1	0	0	0	3	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Gd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory
please tick →

ADLAIDE 21 Burns Road Port Adelaide SA 5005
Ph: 08 8356 0890 E: adelaide@alsglobal.com
MELBOURNE 32 Shand Street St Albans VIC 3021
Ph: 07 3243 7222 E: samples.melbourne@alsglobal.com
GLADSTONE 46 Callenronden Drive Clinton QLD 4660
Ph: 07 7471 5600 E: gladstone@alsglobal.com

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Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-a Verdor Road Springvale VIC 3171
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SYDNEY 14-15 Desma Court Baulk NSW 2164
Ph: 02 8784 6555 E: samples.sydney@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: WSP	TURNAROUND REQUIREMENTS: Standard TAT (List due date):	FOR REPORT USE ONLY (tick)	
OFFICE: 427, 680 George St, Sydney NSW 1571	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):		
PROJECT: Hayball - Jordan Springs	ALS QUOTE NO.: SY004/18	CCC SEQUENCE NUMBER (Circle)	
ORDER NUMBER:		CCC: 1 2 3 4 5 6 14	
PROJECT MANAGER: Nicholas Gilmour	CONTACT PH: 02 92725230	OP: 1 2 3 4 5 6 22	
SAMPLER: Claire Williamson	SAMPLER MOBILE: 0428283466	RELINQUISHED BY: Claire Williamson	RECEIVED BY: Uma
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 13/06/18 10:45am	DATE/TIME:
Email Reports to: Nicholas.Gilmour@wsp.com	Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information								
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>(refer to codes below)</i>	TOTAL CONTAINERS	S-26 (TRH (C6-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002- pH (1:5) EA010 (Electrical Conductivity (1:5))	NT-25 - (Major Anions (CL, SO4))	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
73	TP28_0.1	5/06/2018	S		1									
74	TP28_0.3	5/06/2018	S		1									
75	TP28_0.5	5/06/2018	S		1	X	X							
76	TP28_1.0	5/06/2018	S		1									
77	TP28_2.0	5/06/2018	S		1									
78	TP28_3.0	5/06/2018	S		1									
79	TP29_0.1	5/06/2018	S		1	X					X			
80	TP29_0.3	5/06/2018	S		1						X			
81	TP29_0.5	5/06/2018	S		1									
82	TP29_1.0	5/06/2018	S		1						X	X	X	
83	TP29_2.0	5/06/2018	S		1									
84	TP29_3.0	5/06/2018	S		1						X			
TOTAL					12	2	1	0	0	0	4	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Preserved Plastic; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Document ID: 35867686
Version: 1, Version Date: 22/02/2019
(76) TS 13 30/5/18 (81) TS 13 30/5/18 (88) TP28-0.5 05/6/18
→ Received & Extra Sample

CERTIFICATE OF ANALYSIS

Work Order	: ES1817099	Page	: 1 of 38
Amendment	: 1		
Client	: WSP Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: Nicholas Gilmour	Contact	: Brenda Hong
Address	: ABN: 80 078 004 798 GPO BOX 5394 SYDNEY NSW, AUSTRALIA 2001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: JORDAN SPRINGS	Date Samples Received	: 13-Jun-2018 10:45
Order number	:	Date Analysis Commenced	: 14-Jun-2018
C-O-C number	: ----	Issue Date	: 30-Jan-2019 13:31
Sampler	: CLAIRE WILLIAMSON		
Site	: ----		
Quote number	: SY/004/18		
No. of samples received	: 87		
No. of samples analysed	: 40		



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. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical 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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini		Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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.

- ALS is not NATA accredited for the analysis of Exchangeable Aluminium and Exchange Acidity in soils when performed under ALS Method ED005.
- ALS is not NATA accredited for the analysis of Exchangeable Cations on Alkaline Soils when performed under ALS Method ED006.
- Amendment (30/01/2019): This report has been amended to alter the project name. All analysis results are as per the previous report.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEX 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.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) 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.
- 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⁺).



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP15_0.5	TP15_1.0	TP15_2.0	TP15_3.0	TP16_0.3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-001	ES1817099-002	ES1817099-003	ES1817099-004	ES1817099-006
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.5	4.6	5.2	5.2	----
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		454	531	687	701	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		----	----	16.6	----	11.5
ED005: Exchange Acidity									
Exchange Acidity	----	0.1	meq/100g		----	----	1.5	----	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	0.9	----	----
ED008: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		----	----	<0.1	----	----
Exchangeable Magnesium	----	0.1	meq/100g		----	----	2.3	----	----
Exchangeable Potassium	----	0.1	meq/100g		----	----	<0.1	----	----
Exchangeable Sodium	----	0.1	meq/100g		----	----	0.9	----	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	<0.1	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	3.3	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	2.7	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	68.2	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	2.2	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	26.8	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	<0.1	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	<0.1	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	N/A	----	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	420	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	930	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	----	----	----	9
Cadmium	7440-43-9	1	mg/kg		----	----	----	----	<1
Chromium	7440-47-3	2	mg/kg		----	----	----	----	14
Copper	7440-50-8	5	mg/kg		----	----	----	----	23
Lead	7439-92-1	5	mg/kg		----	----	----	----	16
Nickel	7440-02-0	2	mg/kg		----	----	----	----	11
Zinc	7440-66-6	5	mg/kg		----	----	----	----	49



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP15_0.5	TP15_1.0	TP15_2.0	TP15_3.0	TP16_0.3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-001	ES1817099-002	ES1817099-003	ES1817099-004	ES1817099-006
					Result	Result	Result	Result	Result
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	----	----	----	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		----	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	----	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	----	----	----	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	----	----	----	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg		----	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg		----	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg		----	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	----	----	----	<50
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
>C10 - C16 Fraction	----	50	mg/kg		----	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg		----	----	----	----	<100



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP15_0.5	TP15_1.0	TP15_2.0	TP15_3.0	TP16_0.3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-001	ES1817099-002	ES1817099-003	ES1817099-004	ES1817099-006
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		----	----	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	----	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	----	----	----	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg		----	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	----	0.5	mg/kg		----	----	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg		----	----	----	----	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	----	----	75.0
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	----	79.8
2,4,6-Tribromophenol	118-79-6	0.5	%		----	----	----	----	78.9
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	----	91.6
Anthracene-d10	1719-06-8	0.5	%		----	----	----	----	92.2
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	----	77.7
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	----	----	110
Toluene-D8	2037-26-5	0.2	%		----	----	----	----	124
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	----	----	126



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP17_0.1	TP17_0.6	TP18_0.15	TP18_0.3	TP18_0.5
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-011	ES1817099-012	ES1817099-016	ES1817099-017	ES1817099-018
					Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.2	7.3	6.6	6.0	7.9
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		163	615	416	407	407
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		9.7	----	----	----	----
ED007: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		4.2	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g		9.1	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g		0.4	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g		1.9	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		15.5	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g		<0.1	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		12.3	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		58.2	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		2.7	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		26.7	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		0.5	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		21.5	----	----	----	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		60	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		180	----	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		11	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		24	----	----	----	----
Copper	7440-50-8	5	mg/kg		22	----	----	----	----
Lead	7439-92-1	5	mg/kg		18	----	----	----	----
Nickel	7440-02-0	2	mg/kg		10	----	----	----	----
Zinc	7440-66-6	5	mg/kg		46	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP17_0.1	TP17_0.6	TP18_0.15	TP18_0.3	TP18_0.5
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817099-011	ES1817099-012	ES1817099-016	ES1817099-017	ES1817099-018
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
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	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP17_0.1	TP17_0.6	TP18_0.15	TP18_0.3	TP18_0.5
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-011	ES1817099-012	ES1817099-016	ES1817099-017	ES1817099-018
					Result	Result	Result	Result	Result
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		71.5	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		76.6	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		71.9	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		87.6	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		85.7	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		75.4	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		100	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		113	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		112	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-019	ES1817099-020	ES1817099-021	ES1817099-022	ES1817099-023
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		8.0	6.7	9.3	6.7	----
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		363	367	694	90	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		11.7	----	11.2	----	12.8
ED006: Exchangeable Cations on Alkaline Soils									
Exchangeable Calcium	----	0.2	meq/100g		----	----	3.2	----	----
Exchangeable Magnesium	----	0.2	meq/100g		----	----	6.8	----	----
Exchangeable Potassium	----	0.2	meq/100g		----	----	<0.2	----	----
Exchangeable Sodium	----	0.2	meq/100g		----	----	3.7	----	----
Cation Exchange Capacity	----	0.2	meq/100g		----	----	13.9	----	----
Exchangeable Calcium Percent	----	0.2	%		----	----	23.4	----	----
Exchangeable Magnesium Percent	----	0.2	%		----	----	48.7	----	----
Exchangeable Potassium Percent	----	0.2	%		----	----	1.0	----	----
Exchangeable Sodium Percent	----	0.2	%		----	----	26.9	----	----
Calcium/Magnesium Ratio	----	0.2	-		----	----	0.5	----	----
Magnesium/Potassium Ratio	----	0.2	-		----	----	N/A	----	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	100	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	760	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	----	----	----	8
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	<1
Chromium	7440-47-3	2	mg/kg		20	----	----	----	11
Copper	7440-50-8	5	mg/kg		27	----	----	----	15
Lead	7439-92-1	5	mg/kg		27	----	----	----	14
Nickel	7440-02-0	2	mg/kg		18	----	----	----	4
Zinc	7440-66-6	5	mg/kg		55	----	----	----	18
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)									



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817099-019	ES1817099-020	ES1817099-021	ES1817099-022	ES1817099-023
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	----	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	----	<0.05
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg	----	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	----	<0.05
4,4'-DDD	72-54-8	0.05	mg/kg	----	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	----	<0.05
4,4'-DDT	50-29-3	0.2	mg/kg	----	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	----	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	----	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	----	----	----	----	<0.05



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817099-019	ES1817099-020	ES1817099-021	ES1817099-022	ES1817099-023
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Fenthion	55-38-9	0.05	mg/kg	----	----	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	----	----	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	----	----	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	----	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	----
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	----	----
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	----	----
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	----	----
EP074D: Fumigants								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-019	ES1817099-020	ES1817099-021	ES1817099-022	ES1817099-023
					Result	Result	Result	Result	Result
EP074D: Fumigants - Continued									
2,2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	----	----	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	----	----	----	----
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	----	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	----	----	----	----
Chloromethane	74-87-3	5	mg/kg		<5	----	----	----	----
Vinyl chloride	75-01-4	5	mg/kg		<5	----	----	----	----
Bromomethane	74-83-9	5	mg/kg		<5	----	----	----	----
Chloroethane	75-00-3	5	mg/kg		<5	----	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	----	----	----	----
1,1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	----	----	----	----
Iodomethane	74-88-4	0.5	mg/kg		<0.5	----	----	----	----
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	----	----	----	----
1,1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	----	----	----	----
cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	----	----	----	----
1,1,1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	----	----	----	----
1,1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	----	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	----	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	----	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	----	----	----	----
1,1,2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	----	----	----	----
1,3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	----	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	----	----	----	----
1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	----	----	----	----
trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	----	----	----	----
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	----	----	----	----
1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	----	----	----	----
1,2,3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	----	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-019	ES1817099-020	ES1817099-021	ES1817099-022	ES1817099-023
					Result	Result	Result	Result	Result
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	----	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	----	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	----	----	----	----
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	----	----	----	----
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	----	----	----	----
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	----	----	----	----
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	----	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	----	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	----	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	----	----	----	----
Bromoform	75-25-2	0.5	mg/kg		<0.5	----	----	----	----
EP074H: Naphthalene									
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
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
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-019	ES1817099-020	ES1817099-021	ES1817099-022	ES1817099-023
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ 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
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
EP203A: Explosives									
HMX	2691-41-0	0.1	mg/kg		<0.1	----	----	----	----
RDX	----	0.1	mg/kg		<0.1	----	----	----	----
1,3,5-Trinitrobenzene	99-35-4	0.1	mg/kg		<0.1	----	----	----	----
1,3-Dinitrobenzene	99-65-0	0.1	mg/kg		<0.1	----	----	----	----
Tetryl	479-45-8	0.1	mg/kg		<0.1	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-019	ES1817099-020	ES1817099-021	ES1817099-022	ES1817099-023
					Result	Result	Result	Result	Result
EP203A: Explosives - Continued									
2,4,6-TNT	118-96-7	0.1	mg/kg		<0.1	----	----	----	----
4-Amino-2,6-DNT	19406-51-0	0.1	mg/kg		<0.1	----	----	----	----
2-Amino-4,6-DNT	35572-78-2	0.1	mg/kg		<0.1	----	----	----	----
4- & 2-AM-DNT(Isomeric Mixture)	----	0.1	mg/kg		<0.1	----	----	----	----
2,4-Dinitrotoluene	121-14-2	0.1	mg/kg		<0.1	----	----	----	----
2,6-Dinitrotoluene	606-20-2	0.1	mg/kg		<0.1	----	----	----	----
2,4- & 2,6-DNT(Isomeric Mixture)	51-28-5/606-20-2	0.1	mg/kg		<0.1	----	----	----	----
Nitrobenzene	98-95-3	0.1	mg/kg		<0.1	----	----	----	----
2-Nitrotoluene	88-72-2	0.1	mg/kg		<0.1	----	----	----	----
3-Nitrotoluene	99-08-1	0.1	mg/kg		<0.1	----	----	----	----
4-Nitrotoluene	99-99-0	0.1	mg/kg		<0.1	----	----	----	----
Nitroglycerine	55-63-0	1	mg/kg		<1	----	----	----	----
PETN	78-11-5	1	mg/kg		<1	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	105
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	----	97.8
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	----	102
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%		91.3	----	----	----	----
Toluene-D8	2037-26-5	0.5	%		94.0	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%		91.9	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		72.5	----	----	----	71.1
2-Chlorophenol-D4	93951-73-6	0.5	%		76.9	----	----	----	76.2
2,4,6-Tribromophenol	118-79-6	0.5	%		73.1	----	----	----	64.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		89.0	----	----	----	89.1
Anthracene-d10	1719-06-8	0.5	%		89.6	----	----	----	85.0
4-Terphenyl-d14	1718-51-0	0.5	%		76.4	----	----	----	76.2
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		90.6	----	----	----	98.3
Toluene-D8	2037-26-5	0.2	%		85.7	----	----	----	108



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP18_1.0	TP18_2.0	TP18_3.0	TP19_0.1	TP19_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-019	ES1817099-020	ES1817099-021	ES1817099-022	ES1817099-023
				Result	Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		95.0	----	----	----	110
EP203S: Explosives Surrogate									
o-Dinitrobenzene	528-29-0	0.1	%		86.0	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP20_0.3	TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-028	ES1817099-029	ES1817099-031	ES1817099-033	ES1817099-034
					Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.1	8.8	7.2	6.1	7.0
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		249	516	348	326	350
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		11.8	----	----	----	12.4
ED007: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		5.0	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g		7.5	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g		0.5	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g		2.7	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		15.7	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g		<0.1	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		17.0	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		48.0	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		3.1	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		32.0	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		0.7	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		15.6	----	----	----	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		140	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		280	----	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		10	----	----	----	8
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	<1
Chromium	7440-47-3	2	mg/kg		20	----	----	----	16
Copper	7440-50-8	5	mg/kg		18	----	----	----	28
Lead	7439-92-1	5	mg/kg		18	----	----	----	16
Nickel	7440-02-0	2	mg/kg		8	----	----	----	12
Zinc	7440-66-6	5	mg/kg		33	----	----	----	61
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	<0.1



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP20_0.3	TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817099-028	ES1817099-029	ES1817099-031	ES1817099-033	ES1817099-034
				Result	Result	Result	Result	Result
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
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	72-54-8/72-55-9/50-29-3	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



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP20_0.3	TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817099-028	ES1817099-029	ES1817099-031	ES1817099-033	ES1817099-034
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	<0.5
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP20_0.3	TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-028	ES1817099-029	ES1817099-031	ES1817099-033	ES1817099-034
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
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
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
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		109	----	----	----	115
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		85.2	----	----	----	93.9
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		89.1	----	----	----	100
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		70.2	----	----	----	70.8
2-Chlorophenol-D4	93951-73-6	0.5	%		74.6	----	----	----	75.4
2,4,6-Tribromophenol	118-79-6	0.5	%		63.4	----	----	----	64.5
EP075(SIM)T: PAH Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP20_0.3	TP20_0.5	TP20_2.0	TP21_0.1	TP21_0.4
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-028	ES1817099-029	ES1817099-031	ES1817099-033	ES1817099-034
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	0.5	%		87.7	----	----	----	86.4
Anthracene-d10	1719-06-8	0.5	%		86.3	----	----	----	86.2
4-Terphenyl-d14	1718-51-0	0.5	%		75.4	----	----	----	75.4
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		110	----	----	----	103
Toluene-D8	2037-26-5	0.2	%		103	----	----	----	89.9
4-Bromofluorobenzene	460-00-4	0.2	%		106	----	----	----	96.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP21_1.0	TP21_2.0	TP21_3.0	TP22_0.3	TP23_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-035	ES1817099-036	ES1817099-037	ES1817099-039	ES1817099-045
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.4	5.6	5.5	----	----
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		226	478	549	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		----	----	12.4	9.7	8.4
ED005: Exchange Acidity									
Exchange Acidity	----	0.1	meq/100g		----	----	1.2	----	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	0.8	----	----
ED008: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		----	----	<0.1	----	----
Exchangeable Magnesium	----	0.1	meq/100g		----	----	1.6	----	----
Exchangeable Potassium	----	0.1	meq/100g		----	----	<0.1	----	----
Exchangeable Sodium	----	0.1	meq/100g		----	----	0.8	----	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	<0.1	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	2.5	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	1.4	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	63.4	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	2.5	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	32.8	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	<0.1	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	<0.1	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	N/A	----	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	390	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	610	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	----	----	9	10
Cadmium	7440-43-9	1	mg/kg		----	----	----	<1	<1
Chromium	7440-47-3	2	mg/kg		----	----	----	14	16
Copper	7440-50-8	5	mg/kg		----	----	----	35	26
Lead	7439-92-1	5	mg/kg		----	----	----	23	18
Nickel	7440-02-0	2	mg/kg		----	----	----	19	11
Zinc	7440-66-6	5	mg/kg		----	----	----	76	62



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP21_1.0	TP21_2.0	TP21_3.0	TP22_0.3	TP23_0.3
Compound				ES1817099-035	ES1817099-036	ES1817099-037	ES1817099-039	ES1817099-045
CAS Number LOR Unit				Result	Result	Result	Result	Result
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	<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
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



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP21_1.0	TP21_2.0	TP21_3.0	TP22_0.3	TP23_0.3
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817099-035	ES1817099-036	ES1817099-037	ES1817099-039	ES1817099-045
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	<0.5
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP21_1.0	TP21_2.0	TP21_3.0	TP22_0.3	TP23_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-035	ES1817099-036	ES1817099-037	ES1817099-039	ES1817099-045
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ 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
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
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	106	116
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	87.4	94.2
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	95.1	97.0
EP075(SIM)S: Phenolic Compound Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP21_1.0	TP21_2.0	TP21_3.0	TP22_0.3	TP23_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-035	ES1817099-036	ES1817099-037	ES1817099-039	ES1817099-045
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
Phenol-d6	13127-88-3	0.5	%		----	----	----	68.2	68.2
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	73.2	72.6
2,4,6-Tribromophenol	118-79-6	0.5	%		----	----	----	60.1	60.4
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	84.4	84.2
Anthracene-d10	1719-06-8	0.5	%		----	----	----	84.4	84.0
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	72.8	72.7
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	----	107	101
Toluene-D8	2037-26-5	0.2	%		----	----	----	89.6	85.5
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	----	94.0	93.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1	TP27_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-051	ES1817099-057	ES1817099-062	ES1817099-067	ES1817099-068
					Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		----	----	----	6.2	----
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		----	----	----	478	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		8.2	9.5	9.6	12.0	7.0
ED008: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		----	----	----	0.4	----
Exchangeable Magnesium	----	0.1	meq/100g		----	----	----	1.8	----
Exchangeable Potassium	----	0.1	meq/100g		----	----	----	<0.1	----
Exchangeable Sodium	----	0.1	meq/100g		----	----	----	0.6	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	<0.1	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	2.8	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	13.0	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	63.8	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	1.6	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	21.6	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	<0.1	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	0.2	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	N/A	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	----	240	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	----	520	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	11	9	----	10
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	----	<1
Chromium	7440-47-3	2	mg/kg		17	17	21	----	20
Copper	7440-50-8	5	mg/kg		43	23	23	----	25
Lead	7439-92-1	5	mg/kg		14	19	20	----	23
Nickel	7440-02-0	2	mg/kg		27	11	10	----	14
Zinc	7440-66-6	5	mg/kg		78	44	48	----	57
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)									



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1	TP27_0.3
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817099-051	ES1817099-057	ES1817099-062	ES1817099-067	ES1817099-068
				Result	Result	Result	Result	Result
EP066: Polychlorinated Biphenyls (PCB) - Continued								
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
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1	TP27_0.3
Compound				ES1817099-051	ES1817099-057	ES1817099-062	ES1817099-067	ES1817099-068
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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
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
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1	TP27_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-051	ES1817099-057	ES1817099-062	ES1817099-067	ES1817099-068
					Result	Result	Result	Result	Result
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
^ 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	%		----	112	----	----	114
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	88.5	----	----	88.4
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	93.8	----	----	90.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		75.1	70.8	72.8	----	68.5
2-Chlorophenol-D4	93951-73-6	0.5	%		79.4	75.3	77.8	----	72.9
2,4,6-Tribromophenol	118-79-6	0.5	%		69.2	60.4	69.0	----	57.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP24_0.3	TP25_0.3	TP26_0.15	TP27_0.1	TP27_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-051	ES1817099-057	ES1817099-062	ES1817099-067	ES1817099-068
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		90.8	88.5	90.7	----	84.2
Anthracene-d10	1719-06-8	0.5	%		89.2	87.7	90.2	----	84.0
4-Terphenyl-d14	1718-51-0	0.5	%		78.2	75.6	76.4	----	72.3
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		112	114	110	----	108
Toluene-D8	2037-26-5	0.2	%		97.5	102	99.4	----	95.2
4-Bromofluorobenzene	460-00-4	0.2	%		102	106	102	----	102



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP27_0.5	TP27_2.0	TP28_0.5	TP29_0.1	TP29_0.3
05-Jun-2018 00:00				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817099-069	ES1817099-071	ES1817099-075	ES1817099-079	ES1817099-080
Result				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.2	5.6	----	6.3	7.3
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	424	503	----	155	663
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	----	12.4	8.0	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	6	8	----
Cadmium	7440-43-9	1	mg/kg	----	----	<1	<1	----
Chromium	7440-47-3	2	mg/kg	----	----	9	21	----
Copper	7440-50-8	5	mg/kg	----	----	15	22	----
Lead	7439-92-1	5	mg/kg	----	----	10	19	----
Nickel	7440-02-0	2	mg/kg	----	----	4	10	----
Zinc	7440-66-6	5	mg/kg	----	----	21	57	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	<0.1	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	----	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	<0.05	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	----	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	<0.05	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP27_0.5	TP27_2.0	TP28_0.5	TP29_0.1	TP29_0.3
Compound				ES1817099-069	ES1817099-071	ES1817099-075	ES1817099-079	ES1817099-080
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	<0.05	----	----
4.4'-DDD	72-54-8	0.05	mg/kg	----	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	<0.05	----	----
4.4'-DDT	50-29-3	0.2	mg/kg	----	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5	0.05	mg/kg	----	----	<0.05	----	----
	0-2							
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg	----	----	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg	----	----	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg	----	----	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg	----	----	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg	----	----	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg	----	----	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg	----	----	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg	----	----	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	<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	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	<0.5	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP27_0.5	TP27_2.0	TP28_0.5	TP29_0.1	TP29_0.3
Compound				ES1817099-069	ES1817099-071	ES1817099-075	ES1817099-079	ES1817099-080
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
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	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	<0.2	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP27_0.5	TP27_2.0	TP28_0.5	TP29_0.1	TP29_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-069	ES1817099-071	ES1817099-075	ES1817099-079	ES1817099-080
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	100.0	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	81.6	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	77.5	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	68.2	74.0	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	72.6	78.5	----
2,4,6-Tribromophenol	118-79-6	0.5	%		----	----	56.8	70.0	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	83.8	90.7	----
Anthracene-d10	1719-06-8	0.5	%		----	----	83.9	88.7	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	72.9	78.2	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	106	114	----
Toluene-D8	2037-26-5	0.2	%		----	----	94.1	106	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	98.1	108	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP29_1.0	TP29_3.0	TB_03	TS_03	TSC
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	31-May-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-082	ES1817099-084	ES1817099-085	ES1817099-086	ES1817099-087
					Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		8.1	5.2	----	----	----
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		505	435	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		9.7	----	----	----	----
ED006: Exchangeable Cations on Alkaline Soils									
Exchangeable Calcium	----	0.2	meq/100g		1.7	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g		3.5	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g		<0.2	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g		1.6	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g		7.1	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%		24.3	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%		49.9	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%		2.5	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%		23.3	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-		0.5	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-		N/A	----	----	----	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		300	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		460	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	----	<10	40	55
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	<10	48	64
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	----	<10	24	36
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	0.2	0.4
Toluene	108-88-3	0.5	mg/kg		----	----	<0.5	12.1	14.7
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	<0.5	1.5	1.7
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	<0.5	7.4	8.4
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	<0.5	2.9	3.3
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	24.1	28.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP29_1.0	TP29_3.0	TB_03	TS_03	TSC
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	31-May-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817099-082	ES1817099-084	ES1817099-085	ES1817099-086	ES1817099-087
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Total Xylenes	----	0.5	mg/kg		----	----	<0.5	10.3	11.7
Naphthalene	91-20-3	1	mg/kg		----	----	<1	<1	<1
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	107	93.4	84.3
Toluene-D8	2037-26-5	0.2	%		----	----	92.1	99.4	86.6
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	98.0	113	99.1



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
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
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
EP203S: Explosives Surrogate			
o-Dinitrobenzene	528-29-0	50	144

QUALITY CONTROL REPORT

Work Order : **ES1817099**

Page : 1 of 24

Amendment : **1**

Client : **WSP Australia Pty Ltd**

Contact : Nicholas Gilmour

Address : ABN: 80 078 004 798 GPO BOX 5394
SYDNEY NSW, AUSTRALIA 2001

Telephone : ----

Project : JORDAN SPRINGS

Order number :

C-O-C number : ----

Sampler : CLAIRE WILLIAMSON

Site : ----

Quote number : SY/004/18

No. of samples received : 87

No. of samples analysed : 40

Laboratory : Environmental Division Sydney

Contact : Brenda Hong

Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : +61 2 8784 8555

Date Samples Received : 13-Jun-2018

Date Analysis Commenced : 14-Jun-2018

Issue Date : 30-Jan-2019



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. 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
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini		Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA002: pH 1:5 (Soils) (QC Lot: 1727111)									
ES1817093-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.0	8.0	0.00	0% - 20%
ES1817100-012	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.5	6.5	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 1733047)									
ES1817093-077	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.5	6.5	0.00	0% - 20%
ES1817099-022	TP19_0.1	EA002: pH Value	----	0.1	pH Unit	6.7	6.7	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 1733049)									
ES1817099-080	TP29_0.3	EA002: pH Value	----	0.1	pH Unit	7.3	7.2	0.00	0% - 20%
ES1817100-033	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.4	6.4	0.00	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1727108)									
ES1817093-001	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	412	417	1.21	0% - 20%
ES1817100-012	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	262	265	1.14	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1733046)									
ES1817093-077	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	335	362	7.75	0% - 20%
ES1817099-022	TP19_0.1	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	90	92	2.32	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1733048)									
ES1817099-080	TP29_0.3	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	663	621	6.54	0% - 20%
ES1817100-033	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	229	228	0.481	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1729162)									
ES1817096-007	Anonymous	EA055: Moisture Content	----	0.1	%	12.8	13.4	5.02	0% - 50%
ES1817099-003	TP15_2.0	EA055: Moisture Content	----	0.1	%	16.6	16.8	1.30	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1729163)									
ES1817099-039	TP22_0.3	EA055: Moisture Content	----	0.1	%	9.7	8.8	9.70	No Limit
ES1817100-008	Anonymous	EA055: Moisture Content	----	0.1	%	13.5	10.3	26.2	0% - 50%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED005: Exchange Acidity (QC Lot: 1734483)									
ES1817099-003	TP15_2.0	ED005: Exchange Acidity	----	0.1	meq/100g	1.5	1.5	0.00	0% - 50%
		ED005: Exchangeable Aluminium	----	0.1	meq/100g	0.9	0.9	0.00	No Limit
ED006: Exchangeable Cations on Alkaline Soils (QC Lot: 1732658)									
ES1817093-001	Anonymous	ED006: Calcium/Magnesium Ratio	----	0.1	-	1.7	1.8	0.00	No Limit
		ED006: Exchangeable Calcium Percent	----	0.2	%	55.8	55.8	0.00	0% - 20%
		ED006: Exchangeable Magnesium Percent	----	0.2	%	32.3	31.8	1.62	0% - 20%
		ED006: Exchangeable Potassium Percent	----	0.2	%	3.6	3.9	7.15	0% - 50%
		ED006: Exchangeable Sodium Percent	----	0.2	%	8.2	8.5	3.72	0% - 20%
		ED006: Exchangeable Calcium	----	0.2	meq/100g	2.1	2.0	4.90	0% - 50%
		ED006: Exchangeable Magnesium	----	0.2	meq/100g	1.2	1.2	0.00	No Limit
		ED006: Exchangeable Potassium	----	0.2	meq/100g	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Sodium	----	0.2	meq/100g	0.3	0.3	0.00	No Limit
		ED006: Cation Exchange Capacity	----	0.2	meq/100g	3.8	3.6	4.79	0% - 50%
ED007: Exchangeable Cations (QC Lot: 1735066)									
ES1816996-030	Anonymous	ED007: Calcium/Magnesium Ratio	----	0.1	-	<0.1	<0.1	0.00	No Limit
		ED007: Magnesium/Potassium Ratio	----	0.1	-	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Calcium Percent	----	0.1	%	10.6	10.5	1.53	0% - 20%
		ED007: Exchangeable Magnesium Percent	----	0.1	%	65.0	66.6	2.34	0% - 20%
		ED007: Exchangeable Potassium Percent	----	0.1	%	11.4	11.3	1.24	0% - 20%
		ED007: Exchangeable Sodium Percent	----	0.1	%	12.9	11.7	10.0	0% - 20%
		ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	0.2	0.1	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	0.2	0.2	0.00	No Limit
		ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
ED008: Exchangeable Cations (QC Lot: 1734476)									
ES1817093-067	Anonymous	ED008: Calcium/Magnesium Ratio	----	0.1	-	0.4	0.4	0.00	0% - 20%
		ED008: Magnesium/Potassium Ratio	----	0.1	-	34.2	34.6	1.13	0% - 20%
		ED008: Exchangeable Sodium Percent	----	0.1	%	11.0	11.0	0.00	0% - 20%
		ED008: Exchangeable Calcium	----	0.1	meq/100g	3.7	3.6	0.00	0% - 20%
		ED008: Exchangeable Magnesium	----	0.1	meq/100g	8.2	8.0	1.76	0% - 20%
		ED008: Exchangeable Potassium	----	0.1	meq/100g	0.2	0.2	0.00	0% - 20%
		ED008: Exchangeable Sodium	----	0.1	meq/100g	1.5	1.5	0.00	0% - 20%
		ED008: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	0.00	0% - 20%
		ED008: Cation Exchange Capacity	----	0.1	meq/100g	13.6	13.3	2.00	0% - 20%
ED040S: Soluble Major Anions (QC Lot: 1727110)									
ES1817093-001	Anonymous	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	180	180	0.00	0% - 50%
ES1817100-012	Anonymous	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	40	50	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED045G: Chloride by Discrete Analyser (QC Lot: 1727109)									
ES1817093-001	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	200	200	0.00	0% - 20%
ES1817100-012	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	520	520	0.00	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1732527)									
ES1816938-017	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	17	6.25	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	8	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	8	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	15	15	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	18	16	16.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	51	41	21.8	0% - 50%
ES1817099-057	TP25_0.3	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	17	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	10	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	11	10	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	23	24	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	19	20	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	44	47	5.77	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1732528)									
ES1816938-017	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1817099-057	TP25_0.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1727777)									
ES1817099-023	TP19_0.3	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1817100-014	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1727776)									
ES1817099-023	TP19_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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1727776) - continued									
ES1817099-023	TP19_0.3	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
ES1817100-014	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: 1727776)									
ES1817099-023	TP19_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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1727776) - continued									
ES1817099-023	TP19_0.3	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
ES1817100-014	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
		EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1726466)							
ES1817093-001	Anonymous	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1726466) - continued									
ES1817093-001	Anonymous	EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074B: Oxygenated Compounds (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074D: Fumigants (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1726466) - continued									
ES1817093-001	Anonymous	EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.00	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP074G: Trihalomethanes (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074H: Naphthalene (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1727775)									
ES1817099-023	TP19_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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1727775) - continued									
ES1817099-023	TP19_0.3	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
ES1817100-014	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		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: 1728004)									
ES1817099-019	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	<0.5	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1728004) - continued									
ES1817099-019	TP18_1.0	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
ES1817024-001	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1726465)									
ES1817093-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1727043)									
ES1817024-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1817093-067	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1727049)									
ES1817099-028	TP20_0.3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1817099-079	TP29_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1727774)									
ES1817099-023	TP19_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
ES1817100-014	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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1728003)									
ES1817099-019	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
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1817024-001	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 Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1726465)									
ES1817093-001	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: 1727043)									
ES1817024-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1817093-067	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: 1727049)									
ES1817099-028	TP20_0.3	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1817099-079	TP29_0.1	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: 1727774)									
ES1817099-023	TP19_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
ES1817100-014	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: 1728003)									
ES1817099-019	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
ES1817024-001	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: BTEXN (QC Lot: 1726465)									
ES1817093-001	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		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: 1727043)									
ES1817024-001	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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)		
EP080: BTEXN (QC Lot: 1727043) - continued											
ES1817024-001	Anonymous	EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
		106-42-3									
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
ES1817093-067	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit		
		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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
		106-42-3									
		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: 1727049)											
ES1817099-028	TP20_0.3	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
		106-42-3									
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
ES1817099-079	TP29_0.1	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit		
		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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
		106-42-3									
ES1817099-079	TP29_0.1	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		
		EP203A: Explosives (QC Lot: 1729529)									
		ES1817093-001	Anonymous	EP203: HMX	2691-41-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
				EP203: RDX	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
				EP203: 1.3.5-Trinitrobenzene	99-35-4	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP203: 1.3-Dinitrobenzene	99-65-0			0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EP203: Tetryl	479-45-8			0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EP203: 2.4.6-TNT	118-96-7			0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EP203: 4-Amino.2.6-DNT	19406-51-0			0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EP203: 2-Amino-4.6-DNT	35572-78-2			0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EP203: 4-& 2-AM-DNT(Isomeric Mixture)	----			0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EP203: 2.4-Dinitrotoluene	121-14-2			0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EP203: 2.6-Dinitrotoluene	606-20-2			0.1	mg/kg	<0.1	<0.1	0.00	No Limit		

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 Work Order : ES1817099 Amendment 1
 Client : WSP Australia Pty Ltd
 Project : JORDAN SPRINGS



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP203A: Explosives (QC Lot: 1729529) - continued									
ES1817093-001	Anonymous	EP203: 2,4-& 2,6-DNT(Isomeric Mixture)	51-28-5/606-20	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
			-2						
		EP203: Nitrobenzene	98-95-3	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2-Nitrotoluene	88-72-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 3-Nitrotoluene	99-08-1	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 4-Nitrotoluene	99-99-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: Nitroglycerine	55-63-0	1	mg/kg	<1	<1	0.00	No Limit
		EP203: PETN	78-11-5	1	mg/kg	<1	<1	0.00	No Limit



Method Blank (MB) and Laboratory Control Spike (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 Spike (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**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EA010: Conductivity (1:5) (QCLot: 1727108)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	95.1	92	108
EA010: Conductivity (1:5) (QCLot: 1733046)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	95.7	92	108
EA010: Conductivity (1:5) (QCLot: 1733048)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	96.1	92	108
ED005: Exchange Acidity (QCLot: 1734483)								
ED005: Exchange Acidity	----	0.1	meq/100g	<1.0	----	----	----	----
ED005: Exchangeable Aluminium	----	0.1	meq/100g	<1.0	----	----	----	----
ED006: Exchangeable Cations on Alkaline Soils (QCLot: 1732658)								
ED006: Exchangeable Calcium	----	0.2	meq/100g	<0.2	2.5 meq/100g	96.4	80	110
ED006: Exchangeable Magnesium	----	0.2	meq/100g	<0.2	4.17 meq/100g	98.8	80	110
ED006: Exchangeable Potassium	----	0.2	meq/100g	<0.2	1.28 meq/100g	102	80	110
ED006: Exchangeable Sodium	----	0.2	meq/100g	<0.2	2.17 meq/100g	94.0	80	110
ED006: Cation Exchange Capacity	----	0.2	meq/100g	<0.2	----	----	----	----
ED006: Exchangeable Calcium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Magnesium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Potassium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Sodium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED006: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED007: Exchangeable Cations (QCLot: 1735066)								
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	97.9	76	120
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	100	75	115
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	110	80	120
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	103	80	120
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
ED007: Exchangeable Calcium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Magnesium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Potassium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Sodium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED007: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Exchangeable Cations (QCLot: 1734476)								



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
ED008: Exchangeable Cations (QCLot: 1734476) - continued								
ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	97.3	82	128
ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	99.9	82	120
ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	107	70	140
ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	103	78	136
ED008: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
ED008: Exchangeable Sodium Percent	----	0.1	%	<0.1	----	----	----	----
ED008: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED040S: Soluble Major Anions (QCLot: 1727110)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	93.8	80	120
ED045G: Chloride by Discrete Analyser (QCLot: 1727109)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	100	75	125
				<10	5000 mg/kg	100	79	117
EG005T: Total Metals by ICP-AES (QCLot: 1732527)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	114	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	89.0	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	86.7	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	91.2	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	90.2	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	93.8	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	107	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732528)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	80.9	70	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1727777)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	104	62	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 1727776)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	104	69	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	104	65	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	104	67	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	104	68	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	65	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	67	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	69	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	104	62	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	63	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	66	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	103	64	116



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 1727776) - continued								
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	102	66	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	67	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	67	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	69	115
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	103	69	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	105	56	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	62	124
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	92.0	66	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	64	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	91.3	54	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1727776)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	59	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.4	62	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	90.5	54	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.2	67	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	70	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	102	72	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	92.8	68	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.4	68	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	69	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	76	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	94.4	64	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.7	70	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	69	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.6	66	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	78.0	68	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	100	62	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	68	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	65	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	60.8	41	123
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466)								
EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	71	121
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	108	65	131
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	104	72	114
EP074: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	105	70	116
	106-42-3							
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	98.8	67	113
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	75	115
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	105	65	117



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466) - continued								
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	106	66	122
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	103	68	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	105	69	119
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	103	69	117
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	105	69	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	102	66	118
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	108	59	125
EP074B: Oxygenated Compounds (QCLot: 1726466)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	101	30	156
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	94.8	58	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	94.9	62	132
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	95.2	54	136
EP074C: Sulfonated Compounds (QCLot: 1726466)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	106	54	126
EP074D: Fumigants (QCLot: 1726466)								
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	110	60	126
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	106	68	124
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	97.3	51	119
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	96.9	52	114
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	101	63	115
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	106	30	148
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	94.1	41	141
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	94.9	43	147
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	91.4	47	141
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	93.8	49	143
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	97.5	49	135
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	92.8	54	126
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	92.4	43	129
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	92.0	64	120
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	108	67	125
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	104	69	121
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	106	65	117
EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	110	65	123
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	107	59	125
EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	102	65	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	108	70	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	99.2	68	118



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466) - continued								
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	99.2	64	126
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	104	68	122
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	107	67	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.1	62	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	94.9	54	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	99.1	55	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	96.0	65	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	93.6	61	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	94.4	20	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	92.2	53	129
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	114	50	128
EP074F: Halogenated Aromatic Compounds (QCLot: 1726466)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	106	68	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	103	70	114
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	105	68	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	104	67	123
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	102	70	116
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	105	67	117
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	103	70	114
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	108	48	122
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	107	52	122
EP074G: Trihalomethanes (QCLot: 1726466)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	105	66	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	96.9	61	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	94.1	63	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	94.9	60	126
EP074H: Naphthalene (QCLot: 1726466)								
EP074: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	67	129
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1727775)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	104	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	105	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	102	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	105	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	108	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	108	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	112	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	112	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	97.1	69	123



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1727775) - continued								
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	103	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	98.9	68	116
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	111	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	106	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	103	61	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	100	62	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	100	63	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1728004)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	104	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	105	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	103	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	106	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	111	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	109	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	115	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	115	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	96.8	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	104	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	95.1	68	116
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	113	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	108	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	110	61	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	108	62	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	106	63	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1726465)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	99.1	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727043)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	95.1	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727049)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	94.2	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727774)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	104	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	105	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	104	71	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1728003)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	99.0	75	129



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)	
						Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1728003) - continued									
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	107	77	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	106	71	129	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1726465)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	105	68	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727043)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	100	68	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727049)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	100	68	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727774)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	104	77	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	110	74	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	92.7	63	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1728003)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	102	77	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	110	74	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	85.9	63	131	
EP080: BTEXN (QCLot: 1726465)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.8	62	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	89.5	67	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	83.5	65	117	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	95.0	66	118	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	89.6	68	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	110	63	119	
EP080: BTEXN (QCLot: 1727043)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.7	62	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	96.1	67	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	96.4	65	117	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	98.0	66	118	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.1	68	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	63	119	
EP080: BTEXN (QCLot: 1727049)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	99.2	62	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	95.0	67	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	99.4	65	117	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	97.3	66	118	
	106-42-3								



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP080: BTEXN (QCLot: 1727049) - continued								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	101	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	63	119
EP203A: Explosives (QCLot: 1729529)								
EP203: HMX	2691-41-0	0.1	mg/kg	<0.1	1 mg/kg	117	54	122
EP203: RDX	----	0.1	mg/kg	<0.1	----	----	----	----
EP203: 1,3,5-Trinitrobenzene	99-35-4	0.1	mg/kg	<0.1	----	----	----	----
EP203: 1,3-Dinitrobenzene	99-65-0	0.1	mg/kg	<0.1	----	----	----	----
EP203: Tetryl	479-45-8	0.1	mg/kg	<0.1	----	----	----	----
EP203: 2,4,6-TNT	118-96-7	0.1	mg/kg	<0.1	1 mg/kg	89.6	61	122.1
EP203: 4-Amino-2,6-DNT	19406-51-0	0.1	mg/kg	<0.1	1 mg/kg	93.8	53	127
EP203: 2-Amino-4,6-DNT	35572-78-2	0.1	mg/kg	<0.1	----	----	----	----
EP203: 2,4-Dinitrotoluene	121-14-2	0.1	mg/kg	<0.1	1 mg/kg	89.9	56	126
EP203: 2,6-Dinitrotoluene	606-20-2	0.1	mg/kg	<0.1	----	----	----	----
EP203: Nitrobenzene	98-95-3	0.1	mg/kg	<0.1	1 mg/kg	91.3	60	132
EP203: 2-Nitrotoluene	88-72-2	0.1	mg/kg	<0.1	----	----	----	----
EP203: 3-Nitrotoluene	99-08-1	0.1	mg/kg	<0.1	----	----	----	----
EP203: 4-Nitrotoluene	99-99-0	0.1	mg/kg	<0.1	----	----	----	----
EP203: Nitroglycerine	55-63-0	1	mg/kg	<1	----	----	----	----
EP203: PETN	78-11-5	1	mg/kg	<1	1 mg/kg	86.4	71	147

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				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED045G: Chloride by Discrete Analyser (QCLot: 1727109)							
ES1817093-001	Anonymous	ED045G: Chloride	16887-00-6	1250 mg/kg	122	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1732527)							
ES1816938-017	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	91.5	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.1	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	89.9	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	95.9	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.0	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	94.4	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	116	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732528)							



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732528) - continued							
ES1816938-017	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	95.8	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1727777)							
ES1817099-023	TP19_0.3	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	113	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1727776)							
ES1817099-023	TP19_0.3	EP068: gamma-BHC	58-89-9	0.5 mg/kg	92.9	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	87.0	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	89.0	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	89.5	70	130
		EP068: Endrin	72-20-8	2 mg/kg	91.6	70	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	96.0	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1727776)							
ES1817099-023	TP19_0.3	EP068: Diazinon	333-41-5	0.5 mg/kg	80.2	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	82.8	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	82.2	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	84.2	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	71.3	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466)							
ES1817093-001	Anonymous	EP074: Benzene	71-43-2	2.5 mg/kg	97.4	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	104	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466)							
ES1817093-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	96.1	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	90.2	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1726466)							
ES1817093-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	107	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1727775)							
ES1817099-023	TP19_0.3	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.2	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	112	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1728004)							
ES1817024-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	96.8	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	117	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1726465)							
ES1817093-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	84.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727043)							
ES1817024-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	75.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727049)							



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727049) - continued							
ES1817099-028	TP20_0.3	EP080: C6 - C9 Fraction	----	32.5 mg/kg	93.9	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727774)							
ES1817099-023	TP19_0.3	EP071: C10 - C14 Fraction	----	523 mg/kg	91.9	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	118	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	123	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1728003)							
ES1817024-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	98.2	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	95.7	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	122	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1726465)							
ES1817093-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.7	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727043)							
ES1817024-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	75.0	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727049)							
ES1817099-028	TP20_0.3	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	95.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727774)							
ES1817099-023	TP19_0.3	EP071: >C10 - C16 Fraction	----	860 mg/kg	98.7	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	123	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	118	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1728003)							
ES1817024-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	98.4	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	113	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	113	52	132
EP080: BTEXN (QCLot: 1726465)							
ES1817093-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	81.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	83.9	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.6	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	82.2	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	84.5	70	130
	EP080: Naphthalene	91-20-3	2.5 mg/kg	80.8	70	130	
EP080: BTEXN (QCLot: 1727043)							
ES1817024-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	80.9	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	76.7	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	79.2	70	130



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 1727043) - continued							
ES1817024-001	Anonymous	EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	80.4	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	83.4	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	93.4	70	130
EP080: BTEXN (QCLot: 1727049)							
ES1817099-028	TP20_0.3	EP080: Benzene	71-43-2	2.5 mg/kg	88.3	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	86.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.8	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.9	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	91.1	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	89.1	70	130
EP203A: Explosives (QCLot: 1729529)							
ES1817093-001	Anonymous	EP203: HMX	2691-41-0	1 mg/kg	127	58	141
		EP203: 2.4.6-TNT	118-96-7	1 mg/kg	126	58	139
		EP203: 4-Amino.2.6-DNT	19406-51-0	1 mg/kg	119	56	140
		EP203: 2.4-Dinitrotoluene	121-14-2	1 mg/kg	119	59	139
		EP203: Nitrobenzene	98-95-3	1 mg/kg	122	60	132
		EP203: PETN	78-11-5	1 mg/kg	110	59	136

QA/QC Compliance Assessment to assist with Quality Review

Work Order : ES1817099

Page : 1 of 13

Amendment : 1

Client : WSP Australia Pty Ltd

Contact : Nicholas Gilmour

Project : JORDAN SPRINGS

Site : ----

Sampler : CLAIRE WILLIAMSON

Order number :

Laboratory : Environmental Division Sydney

Telephone : +61 2 8784 8555

Date Samples Received : 13-Jun-2018

Issue Date : 30-Jan-2019

No. of samples received : 87

No. of samples analysed : 40

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		Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
TP18_3.0,	TP21_3.0,	14-Jun-2018	12-Jun-2018	2	----	----	----
TP27_0.1,	TP29_1.0						
Soil Glass Jar - Unpreserved							
TP18_0.15,	TP18_0.3,	18-Jun-2018	12-Jun-2018	6	----	----	----
TP18_0.5,	TP18_1.0,						
TP18_2.0,	TP21_0.1,						
TP21_0.4,	TP21_1.0,						
TP21_2.0,	TP27_0.5,						
TP27_2.0,	TP29_0.1,						
TP29_0.3,	TP29_3.0						
Soil Glass Jar - Unpreserved							
TP15_2.0,	TP17_0.1,	14-Jun-2018	13-Jun-2018	1	----	----	----
TP20_0.3							
Soil Glass Jar - Unpreserved							
TP15_0.5,	TP15_1.0,	18-Jun-2018	13-Jun-2018	5	----	----	----
TP15_3.0,	TP17_0.6,						
TP19_0.1,	TP20_0.5,						
TP20_2.0							
EA010: Conductivity							
Soil Glass Jar - Unpreserved							
TP18_3.0,	TP21_3.0,	14-Jun-2018	12-Jun-2018	2	----	----	----
TP27_0.1,	TP29_1.0						
Soil Glass Jar - Unpreserved							
TP18_0.15,	TP18_0.3,	18-Jun-2018	12-Jun-2018	6	----	----	----
TP18_0.5,	TP18_1.0,						
TP18_2.0,	TP21_0.1,						
TP21_0.4,	TP21_1.0,						
TP21_2.0,	TP27_0.5,						
TP27_2.0,	TP29_0.1,						
TP29_0.3,	TP29_3.0						
Soil Glass Jar - Unpreserved							
TP15_2.0,	TP17_0.1,	14-Jun-2018	13-Jun-2018	1	----	----	----
TP20_0.3							
Soil Glass Jar - Unpreserved							
TP15_0.5,	TP15_1.0,	18-Jun-2018	13-Jun-2018	5	----	----	----
TP15_3.0,	TP17_0.6,						
TP19_0.1,	TP20_0.5,						
TP20_2.0							



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
EP074A: Monocyclic Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved TP18_1.0	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074B: Oxygenated Compounds						
Soil Glass Jar - Unpreserved TP18_1.0	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074C: Sulfonated Compounds						
Soil Glass Jar - Unpreserved TP18_1.0	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074D: Fumigants						
Soil Glass Jar - Unpreserved TP18_1.0	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074E: Halogenated Aliphatic Compounds						
Soil Glass Jar - Unpreserved TP18_1.0	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074F: Halogenated Aromatic Compounds						
Soil Glass Jar - Unpreserved TP18_1.0	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074G: Trihalomethanes						
Soil Glass Jar - Unpreserved TP18_1.0	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074H: Naphthalene						
Soil Glass Jar - Unpreserved TP18_1.0	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2

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



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)								
Soil Glass Jar - Unpreserved (EA002)								
TP18_3.0, TP27_0.1,	TP21_3.0, TP29_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	14-Jun-2018	✓
Soil Glass Jar - Unpreserved (EA002)								
TP18_0.15, TP18_0.5, TP18_2.0, TP21_0.4, TP21_2.0, TP27_2.0, TP29_0.3,	TP18_0.3, TP18_1.0, TP21_0.1, TP21_1.0, TP27_0.5, TP29_0.1, TP29_3.0	05-Jun-2018	18-Jun-2018	12-Jun-2018	✖	18-Jun-2018	18-Jun-2018	✓
Soil Glass Jar - Unpreserved (EA002)								
TP15_2.0, TP20_0.3	TP17_0.1,	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	14-Jun-2018	✓
Soil Glass Jar - Unpreserved (EA002)								
TP15_0.5, TP15_3.0, TP19_0.1, TP20_2.0	TP15_1.0, TP17_0.6, TP20_0.5,	06-Jun-2018	18-Jun-2018	13-Jun-2018	✖	18-Jun-2018	18-Jun-2018	✓
EA010: Conductivity								
Soil Glass Jar - Unpreserved (EA010)								
TP18_3.0, TP27_0.1,	TP21_3.0, TP29_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jul-2018	✓
Soil Glass Jar - Unpreserved (EA010)								
TP18_0.15, TP18_0.5, TP18_2.0, TP21_0.4, TP21_2.0, TP27_2.0, TP29_0.3,	TP18_0.3, TP18_1.0, TP21_0.1, TP21_1.0, TP27_0.5, TP29_0.1, TP29_3.0	05-Jun-2018	18-Jun-2018	12-Jun-2018	✖	18-Jun-2018	16-Jul-2018	✓
Soil Glass Jar - Unpreserved (EA010)								
TP15_2.0, TP20_0.3	TP17_0.1,	06-Jun-2018	14-Jun-2018	13-Jun-2018	✖	14-Jun-2018	12-Jul-2018	✓
Soil Glass Jar - Unpreserved (EA010)								
TP15_0.5, TP15_3.0, TP19_0.1, TP20_2.0	TP15_1.0, TP17_0.6, TP20_0.5,	06-Jun-2018	18-Jun-2018	13-Jun-2018	✖	18-Jun-2018	16-Jul-2018	✓



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)		05-Jun-2018	----	----	----	15-Jun-2018	19-Jun-2018	✓
TP18_1.0, TP21_0.4, TP22_0.3, TP24_0.3, TP26_0.15, TP27_0.3, TP29_0.1,	TP18_3.0, TP21_3.0, TP23_0.3, TP25_0.3, TP27_0.1, TP28_0.5, TP29_1.0							
Soil Glass Jar - Unpreserved (EA055)		06-Jun-2018	----	----	----	15-Jun-2018	20-Jun-2018	✓
TP15_2.0, TP17_0.1, TP20_0.3	TP16_0.3, TP19_0.3,							
ED005: Exchange Acidity								
Soil Glass Jar - Unpreserved (ED005)		05-Jun-2018	18-Jun-2018	03-Jul-2018	✓	18-Jun-2018	03-Jul-2018	✓
TP21_3.0								
Soil Glass Jar - Unpreserved (ED005)		06-Jun-2018	18-Jun-2018	04-Jul-2018	✓	18-Jun-2018	04-Jul-2018	✓
TP15_2.0								
ED006: Exchangeable Cations on Alkaline Soils								
Soil Glass Jar - Unpreserved (ED006)		05-Jun-2018	18-Jun-2018	03-Jul-2018	✓	18-Jun-2018	03-Jul-2018	✓
TP18_3.0,	TP29_1.0							
ED007: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED007)		06-Jun-2018	18-Jun-2018	04-Jul-2018	✓	18-Jun-2018	04-Jul-2018	✓
TP17_0.1,	TP20_0.3							
ED008: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED008)		05-Jun-2018	18-Jun-2018	03-Jul-2018	✓	18-Jun-2018	03-Jul-2018	✓
TP21_3.0,	TP27_0.1							
Soil Glass Jar - Unpreserved (ED008)		06-Jun-2018	18-Jun-2018	04-Jul-2018	✓	18-Jun-2018	04-Jul-2018	✓
TP15_2.0								
ED040S : Soluble Sulfate by ICPAES								
Soil Glass Jar - Unpreserved (ED040S)		05-Jun-2018	14-Jun-2018	03-Jul-2018	✓	14-Jun-2018	12-Jul-2018	✓
TP18_3.0, TP27_0.1,	TP21_3.0, TP29_1.0							
Soil Glass Jar - Unpreserved (ED040S)		06-Jun-2018	14-Jun-2018	04-Jul-2018	✓	14-Jun-2018	12-Jul-2018	✓
TP15_2.0, TP20_0.3	TP17_0.1,							
ED045G: Chloride by Discrete Analyser								
Soil Glass Jar - Unpreserved (ED045G)		05-Jun-2018	14-Jun-2018	03-Jul-2018	✓	14-Jun-2018	12-Jul-2018	✓
TP18_3.0, TP27_0.1,	TP21_3.0, TP29_1.0							
Soil Glass Jar - Unpreserved (ED045G)		06-Jun-2018	14-Jun-2018	04-Jul-2018	✓	14-Jun-2018	12-Jul-2018	✓
TP15_2.0, TP20_0.3	TP17_0.1,							



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) TP18_1.0, TP22_0.3, TP24_0.3, TP26_0.15, TP28_0.5, TP21_0.4, TP23_0.3, TP25_0.3, TP27_0.3, TP29_0.1	05-Jun-2018	16-Jun-2018	02-Dec-2018	✔	18-Jun-2018	02-Dec-2018	✔	
Soil Glass Jar - Unpreserved (EG005T) TP16_0.3, TP19_0.3, TP17_0.1, TP20_0.3	06-Jun-2018	16-Jun-2018	03-Dec-2018	✔	18-Jun-2018	03-Dec-2018	✔	
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) TP18_1.0, TP22_0.3, TP24_0.3, TP26_0.15, TP28_0.5, TP21_0.4, TP23_0.3, TP25_0.3, TP27_0.3, TP29_0.1	05-Jun-2018	16-Jun-2018	03-Jul-2018	✔	18-Jun-2018	03-Jul-2018	✔	
Soil Glass Jar - Unpreserved (EG035T) TP16_0.3, TP19_0.3, TP17_0.1, TP20_0.3	06-Jun-2018	16-Jun-2018	04-Jul-2018	✔	18-Jun-2018	04-Jul-2018	✔	
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) TP21_0.4, TP23_0.3, TP27_0.3, TP22_0.3, TP25_0.3, TP28_0.5	05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔	
Soil Glass Jar - Unpreserved (EP066) TP19_0.3, TP20_0.3	06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔	
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) TP21_0.4, TP23_0.3, TP27_0.3, TP22_0.3, TP25_0.3, TP28_0.5	05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔	
Soil Glass Jar - Unpreserved (EP068) TP19_0.3, TP20_0.3	06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔	
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) TP21_0.4, TP23_0.3, TP27_0.3, TP22_0.3, TP25_0.3, TP28_0.5	05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔	
Soil Glass Jar - Unpreserved (EP068) TP19_0.3, TP20_0.3	06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔	



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074) TP18_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074) TP18_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074) TP18_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074) TP18_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074) TP18_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074) TP18_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074) TP18_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074H: Naphthalene								
Soil Glass Jar - Unpreserved (EP074) TP18_1.0	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) TP18_1.0, TP22_0.3, TP24_0.3, TP26_0.15, TP28_0.5,	TP21_0.4, TP23_0.3, TP25_0.3, TP27_0.3, TP29_0.1	05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP075(SIM)) TP16_0.3, TP19_0.3,	TP17_0.1, TP20_0.3	06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) TB_03		01-Jun-2018	14-Jun-2018	15-Jun-2018	✓	14-Jun-2018	15-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP18_1.0, TP21_0.4, TP22_0.3, TP23_0.3, TP24_0.3, TP25_0.3, TP26_0.15, TP27_0.3, TP28_0.5, TP29_0.1		05-Jun-2018	14-Jun-2018	19-Jun-2018	✓	14-Jun-2018	19-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP071) TP18_1.0, TP21_0.4, TP22_0.3, TP23_0.3, TP24_0.3, TP25_0.3, TP26_0.15, TP27_0.3, TP28_0.5, TP29_0.1		05-Jun-2018	15-Jun-2018	19-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP16_0.3, TP17_0.1, TP19_0.3, TP20_0.3		06-Jun-2018	14-Jun-2018	20-Jun-2018	✓	14-Jun-2018	20-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP071) TP16_0.3, TP17_0.1, TP19_0.3, TP20_0.3		06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP080) TS_03, TSC		31-May-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			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) TB_03		01-Jun-2018	14-Jun-2018	15-Jun-2018	✓	14-Jun-2018	15-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP18_1.0, TP21_0.4, TP22_0.3, TP23_0.3, TP24_0.3, TP25_0.3, TP26_0.15, TP27_0.3, TP28_0.5, TP29_0.1		05-Jun-2018	14-Jun-2018	19-Jun-2018	✓	14-Jun-2018	19-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP071) TP18_1.0, TP21_0.4, TP22_0.3, TP23_0.3, TP24_0.3, TP25_0.3, TP26_0.15, TP27_0.3, TP28_0.5, TP29_0.1		05-Jun-2018	15-Jun-2018	19-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP16_0.3, TP17_0.1, TP19_0.3, TP20_0.3		06-Jun-2018	14-Jun-2018	20-Jun-2018	✓	14-Jun-2018	20-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP071) TP16_0.3, TP17_0.1, TP19_0.3, TP20_0.3		06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP080) TS_03, TSC		31-May-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) TB_03		01-Jun-2018	14-Jun-2018	15-Jun-2018	✓	14-Jun-2018	15-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP18_1.0, TP21_0.4, TP22_0.3, TP23_0.3, TP24_0.3, TP25_0.3, TP26_0.15, TP27_0.3, TP28_0.5, TP29_0.1		05-Jun-2018	14-Jun-2018	19-Jun-2018	✓	14-Jun-2018	19-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TP16_0.3, TP17_0.1, TP19_0.3, TP20_0.3		06-Jun-2018	14-Jun-2018	20-Jun-2018	✓	14-Jun-2018	20-Jun-2018	✓
Soil Glass Jar - Unpreserved (EP080) TS_03, TSC		31-May-2018	14-Jun-2018	14-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓
EP203A: Explosives								
Soil Glass Jar - Unpreserved (EP203) TP18_1.0		05-Jun-2018	15-Jun-2018	19-Jun-2018	✓	15-Jun-2018	25-Jul-2018	✓



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)							
Chloride Soluble By Discrete Analyser	ED045G	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	6	53	11.32	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchange Acidity by 1M Potassium Chloride	ED005	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	4	37	10.81	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	40	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	6	53	11.32	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	40	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	5	47	10.64	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chloride Soluble By Discrete Analyser	ED045G	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	3	53	5.66	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	47	6.38	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride Soluble By Discrete Analyser	ED045G	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard



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	
Method Blanks (MB) - Continued							
Electrical Conductivity (1:5)	EA010	3	53	5.66	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchange Acidity by 1M Potassium Chloride	ED005	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	47	6.38	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	47	6.38	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	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 (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 (2013) 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 (2013) 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 (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Exchange Acidity by 1M Potassium Chloride	ED005	SOIL	In house: referenced to Rayment and Lyons, (2011), method 15G1. This method is unsuitable for near neutral and alkaline soils. NATA accreditation does not cover performance of this service.
Exchangeable Cations on Alkaline Soils	ED006	SOIL	In house: Referenced to Soil Survey Test Method C5. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with alcoholic ammonium chloride at pH 8.5. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil.
Exchangeable Cations	ED007	SOIL	In house: Referenced to Rayment & Lyons (2011) 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 (2013) Schedule B(3) (Method 301)
Exchangeable Cations with pre-treatment	ED008	SOIL	In house: Referenced to Rayment & Higginson (2011) Method 15A2. Soluble salts are removed from the sample prior to analysis. 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 (2013) Schedule B(3) (Method 301)
Major Anions - Soluble	ED040S	SOIL	In house: Soluble Anions are determined off a 1:5 soil / water extract by ICPAES.
Chloride Soluble By Discrete Analyser	ED045G	SOIL	In house: Referenced to APHA 4500-Cl- E. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the librated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm. Analysis is performed on a 1:5 soil / water leachate.
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 (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (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 SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D 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 (2013) Schedule B(3) (Method 504)



Analytical Methods	Method	Matrix	Method Descriptions
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D 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 (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260B Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. 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 (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.
Explosives	EP203	SOIL	In house: Referenced to USEPA 8330 UV-DAD, LCMS (APCI in negative mode). Residues of explosives are extracted from air-dried soil samples with acetonitrile. An aliquot of the organic phase is taken and diluted with water for LC/MS determination.

Preparation Methods	Method	Matrix	Method Descriptions
Exchangeable Cations Preparation Method (Alkaline Soils)	ED006PR	SOIL	In house: Referenced to Rayment and Lyons 2011 method 15C1.
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Higginson (1992) 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 (2013) Schedule B(3) (Method 202)
Tumbler Extraction for Explosives.	EP203-PR	SOIL	In house: Referenced to USEPA8330. Sample extractions are performed using end over end tumbling in place of sonic bath extraction.
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.



CHAIN OF CUSTODY

ALS Laboratory:
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portmbla@alsglobal.com

CLIENT: WSP		TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	
OFFICE: L27, 68b George St, Sydney NSW 2000			
PROJECT: Hayball - Jordan Springs	ALS QUOTE NO.: SY/004/18	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 15 OP: 1 2 3 4 5 6 22	
ORDER NUMBER:			
PROJECT MANAGER: Nicholas Gilmour		CONTACT PH: 02 92725230	
SAMPLER: Claire Williamson	SAMPLER MOBILE: 0428283466	RELINQUISHED BY: Claire Williamson	RECEIVED BY: Selvy J
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 4/6/18 - 7/6/18	DATE/TIME: 13/6/18 10:45 AM
Email Reports to: Nicholas.Gilmour@wsp.com			
Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information									
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>codes below</i>	(refer to)	TOTAL CONTAINERS	S- 26 (TRH (CS-C40) / BTEXN / PAH / B metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002- pH (115) EA010 (Electrical Conductivity (115))	NT-25 - (Major Anions (CL, SO4)	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	TP30_0.1	5/06/2018	S			1									
2	TP30_0.3	5/06/2018	S			1	X	X							
3	TP30_0.5	5/06/2018	S			1									
4	TP30_1.0	5/06/2018	S			1									
5	TP30_2.0	5/06/2018	S			1									
6	TP30_3.0	5/06/2018	S			1									
7	TP31_0.1	5/06/2018	S			1									
8	TP31_0.3	5/06/2018	S			1	X	X				X			
9	TP31_0.5	5/06/2018	S			1						X			
10	TP31_1.0	5/06/2018	S			1									
11	TP31_2.0	5/06/2018	S			1						X			
12	TP31_3.0	5/06/2018	S			1						X	X	X	
TOTAL						12	2	2	0	0	0	4	1	1	

Environmental Division
Sydney
Work Order Reference
ES1817100

Prepared By / Date: SP11 / 10/09/18
Relinquished By / Date: 7099
Control / Courier: QC Samples from
Attach by PO / Internal Set: 100



Telephone : + 61-2-6784 8656

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORG = Nitric Preserved ORG; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Sydney
Work Order Reference
ES1817100
Relinquished By / Date: 7/6/18
Courier: 7099
Attach By PO / Internal Secret:
Telephone: +61-2-6784 8555

CHAIN OF CUSTODY ALS Laboratory: please tick →		ADELAIDE 21 Gurnee Road Port Adelaide SA 5005 Ph: 08 8369 0880 E: adelaide@alsglobal.com ADELAIDE 32 Shand Street Stirling QLD 4053 Ph: 07 3243 7200 E: samples.adelaide@alsglobal.com ADELAIDE 46 Callamondah Drive Orinda VIC 3086 Ph: 07 7471 6600 E: g-adelaide@alsglobal.com		BENDIGO 78 Highbury Road Moonyah VIC 3409 Ph: 07 4644 0177 E: hickory@alsglobal.com BENDIGO 2-1 Maclellan Road Springvale VIC 3171 Ph: 03 8340 8600 E: samples.melbourne@alsglobal.com BENDIGO 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee@alsglobal.com		BENDIGO 115 S. Rose Gum Road Warburton NSW 2304 Ph: 02 4556 9433 E: samples.newcastle@alsglobal.com BENDIGO 4/53 Gentry Place North Nowra NSW 2541 Ph: 02 425 2093 E: nowra@alsglobal.com BENDIGO 10 Hops Way Maitland NSW 2320 Ph: 06 9263 7655 E: samples.pernambuco@alsglobal.com		BENDIGO 277-269 Woodpark Road Smithfield NSW 2146 Ph: 02 8784 6535 E: samples.sydney@alsglobal.com BENDIGO 16-18 Deane Court Bonville QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com BENDIGO 69 Penny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com							
		CLIENT: WSP OFFICE: 407, 6th Floor, Sydney NSW 2000 PROJECT: Hayball - Jordan Springs ORDER NUMBER: PROJECT MANAGER: Nicholas Gilmour SAMPLER: Claire Williamson COC emailed to ALS? (YES / NO) Email Reports to: Nicholas.Gilmour@wsp.com Email Invoice to: (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com				TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):		FOR LABORATORY USE ONLY (Circle) COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 16 OF: 1 2 3 4 5 6 22							
CONTACT PH: 02 92725230 SAMPLER MOBILE: 0428283466 EDD FORMAT (or default): RELINQUISHED BY: Claire Williamson DATE/TIME: 4/6/18 - 7/6/18		RECEIVED BY: DATE/TIME:		RECEIVED BY: DATE/TIME:		RECEIVED BY: DATE/TIME:									
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:															
ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information							
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to)	TOTAL CONTAINERS	S-26 (TRH (CS-C40) / BTXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxycetic acid Herbicides (EP202)	EA002- pH (1:5) EA010 (Electrical Conductivity (1:5))	NT-2S - (Major Anions (CL, SO4))	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysts etc.
13	TP32_0.1	5/06/2018	S			1									
14	TP32_0.3	5/06/2018	S			1	X	X							
15	TP32_0.5	5/06/2018	S			1									
16	TP32_1.0	5/06/2018	S			1						X			
17	TP32_2.0	5/06/2018	S			1						X	X	X	
18	TP32_3.0	5/06/2018	S			1						X			
19	TP33_0.15	5/06/2018	S			1									
20	TP33_0.3	5/06/2018	S			1	X	X				X	X	X	
21	TP33_0.5	5/06/2018	S			1						X			
22	TP33_1.0	5/06/2018	S			1						X			
23	TP33_2.0	5/06/2018	S			1									
24	TP33_3.0	5/06/2018	S			1									
TOTAL						12	2	2	0	0	0	6	2	2	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.



ALS Laboratory:
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2033 E. newry@alekshab.com

Ph: 07 4728 0820 E: towers@ec-environmental.com.au

[illegible]

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

GENERAL INFORMATION				CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>(refer to codes below)</i>	TOTAL CONTAINERS	S-26 (TRH (CG-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002- pH (115) EA010 (Electrical Conductivity (1:5))	NT-2S - IMajor Anions (CL, SO4)	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	TP34_0.1	5/06/2018	S		1	X	X							
26	TP34_0.3	5/06/2018	S		1									
27	TP34_0.5	5/06/2018	S		1									
28	TP34_1.0	5/06/2018	S		1									
29	TP34_2.0	5/06/2018	S		1									
30	TP34_3.0	5/06/2018	S		1									
31	TP35_0.1	5/06/2018	S		1						X			
32	TP35_0.4	5/06/2018	S		1	X	X			X	X	X	X	
33	TP35_1.0	5/06/2018	S		1						X			
34	TP35_2.0	5/06/2018	S		1					X	X			
35	TP35_3.0	5/06/2018	S		1									
36	TP36_0.1	5/06/2018	S		1	X								
TOTAL					12	3	2	0	0	2	4	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; DRC = Nitric Preserved DRC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = Vial Acid HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

 CHAIN OF CUSTODY ALS Laboratory: please tick →		ADLAIDE 21 Burke Road, Port Adelaide SA 5008 Ph: 08 2359 0696 E: adelaide@alsglobal.com BRISBANE 32 Shand Street, St Albans QLD 4050 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com GLADSTONE 46 Callimach Drive, Gladstone QLD 4750 Ph: 07 7471 5600 E: gladstone@alsglobal.com		MACKAY 78 Harbour Road, Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com MELBOURNE 2-4 Westall Road, Springvale VIC 3171 Ph: 03 8549 9200 E: samples.melbourne@alsglobal.com MUDGEE 27 Sydney Road, Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mud@alsglobal.com		NEWCASTLE Rose G. & Rose W. Chambers NSW 2304 Ph: 02 4666 9433 E: samples.newcastle@alsglobal.com PERTH 4/13 Gasky Place, North Perth WA 6006 Ph: 08 9209 7656 E: samples.perth@alsglobal.com		SYDNEY 277-289 Woodpark Road, Smithfield NSW 2164 Ph: 02 8764 6666 E: samples.sydney@alsglobal.com TOWNSVILLE 14-15 Cosma Court, Roma QLD 4618 Ph: 07 4766 0800 E: townsville.romamun@alsglobal.com WOLLONGONG 54 Kenny Street, Wollongong NSW 2500 Ph: 02 4225 8125 E: perth@alsglobal.com							
CLIENT: WSP OFFICE: 127, 660 George St, Sydney NSW 1538		TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)		☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):		FOR LABORATORY USE ONLY (Circle) Sample ID: _____ Date: _____ Time: _____ Analyst: _____ Supervisor: _____ Comments: _____									
PROJECT: Hayball - Jordan Springs		ALS QUOTE NO.: SY/004/18		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 18 DP: 1 2 3 4 5 6 22											
ORDER NUMBER:		PROJECT MANAGER: Nicholas Gilmour CONTACT PH: 02 92725230		RELINQUISHED BY: Claire Williamson DATE/TIME: 4/6/18 - 7/6/18											
SAMPLER: Claire Williamson COC emailed to ALS? (YES / NO) Email Reports to: Nicholas.Gilmour@wsp.com Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com		SAMPLER MOBILE: 0428283466 EDD FORMAT (or default):		RECEIVED BY: DATE/TIME:		RECEIVED BY: DATE/TIME:									
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:															
CONTAINER INFORMATION					ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).					Additional Information					
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to)	TOTAL CONTAINERS	S-26 (TRH (C6-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002- pH (1:5) EA010 (Electrical Conductivity (1:5))	NT-2S - (Major Anions (CL, SO4))	ED008 - (CEC all parameters)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	TP36_0.3	5/06/2018	S			1									
38	TP36_0.5	5/06/2018	S			1									
39	TP36_1.0	5/06/2018	S			1									
40	TP36_2.0	5/06/2018	S			1									
41	TP36_3.0	5/06/2018	S			1									
42	TP37_0.1	5/06/2018	S			1									
43	TP37_0.3	5/06/2018	S			1	X					X			
44	TP37_0.5	5/06/2018	S			1						X	X	X	
45	TP37_1.0	5/06/2018	S			1									
46	TP37_2.0	5/06/2018	S			1									
47	TP37_3.0	5/06/2018	S			1						X			
48	TP38_0.1	5/06/2018	S			1									
TOTAL						12	1	0	0	0	0	3	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

 CHAIN OF CUSTODY ALS Laboratory: please tick →		MELBOURNE 21 Burnside Road, Moorabie SA 5005 Ph: 08 8359 0890 E: adelaide@alsglobal.com BRISBANE 32 Shand Street, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com GLADSTONE 46 Callamondah Drive, Clinton QLD 4830 Ph: 07 7471 5000 E: gladstone@alsglobal.com		MACKAY 73 Harbour Road, Mackay QLD 4740 Ph: 07 4949 0177 E: mackay@alsglobal.com MELBOURNE 2-4 Westall Road, Springvale VIC 3171 Ph: 03 8840 9800 E: samples.melbourne@alsglobal.com MUDGEE 27 Sydney Road, Mudgee NSW 2850 Ph: 02 6372 8735 E: mudgee@alsglobal.com		NEWCASTLE 6 Rose Gum Road, Warahook NSW 2304 Ph: 02 4966 0433 E: samples.newcastle@alsglobal.com NOWRA 4/13 Gaary Place, North Nowra NSW 2541 Ph: 024423 2663 E: nowra@alsglobal.com PERTH 10 Hed Way, Malaga WA 6000 Ph: 08 9209 7055 E: samples.perth@alsglobal.com		SYDNEY 277-286 Woodpark Road, Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com TOWNSVILLE 14-15 Deemo Court, Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com WOLLONGONG 89 Kenny Street, Wollongong NSW 2500 Ph: 02 4225 3125 E: perth@alsglobal.com							
CLIENT: WSP OFFICE: 127, 680 George St Sydney NSW 2000 PROJECT: Hayball - Jordan Springs ORDER NUMBER: PROJECT MANAGER: Nicholas Gilmour SAMPLER: Claire Williamson COC emailed to ALS? (YES / NO) Email Reports to: Nicholas.Gilmour@wsp.com Email Invoice to: (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com		TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):		RELINQUISHED BY: Claire Williamson DATE/TIME: 4/6/18 - 7/6/18		RECEIVED BY: DATE/TIME:		RECEIVED BY: DATE/TIME:							
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).													
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below)	(refer to)	TOTAL CONTAINERS	S-26 (TRH (C6-C40) / BTXN / PAH / 8 metals)	S13 - (OC / DP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	EA002 - pH (1:5) EA010 (Electrical Conductivity (1:5))	NT-2S - (Major Anions (CL, SO4))	ED008 - (CEC all parameters)	Additional Information Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	TP38_0.3	5/06/2018	S			1	X				X				
50	TP38_0.5	5/06/2018	S			1									
51	TP38_0.9	5/06/2018	S			1									
52	TP38_2.0	5/06/2018	S			1					X				
53	TP38_3.0	5/06/2018	S			1									
54	TP39_0.1	5/06/2018	S			1						X	X	X	
55	TP39_0.3	5/06/2018	S			1	X				X	X			
56	TP39_0.6	5/06/2018	S			1						X			
57	TP39_1.0	5/06/2018	S			1					X				
58	TP39_1.5	5/06/2018	S			1						X			
59	TP39_2.5	5/06/2018	S			1									
60	TP39_3.0	5/06/2018	S			1									
TOTAL						12	2	0	0	0	4	4	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Gd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY ALS Laboratory: please tick →		ADELAIDE 21 Burke Road, Poonah SA 5013 Ph: 08 8356 0860 E: adelaide@alsglobal.com		MACKAY 78 Harbour Road, Mackay Q.D. 4740 Ph: 07 4914 0177 E: mackay@alsglobal.com		DUNEDIN 5 Rose Cum Road, Warrbrook NSW 2304 Ph: 02 4908 9403 E: dunedin@alsglobal.com		SYDNEY 277-288 Woodpark Road, Smithfield NSW 2164 Ph: 02 8784 8555 E: sydney@alsglobal.com	
		HIRSHGATE 22 Shand Street, Stafford QLD 4053 Ph: 07 5243 7222 F: hirshtgate@alsglobal.com		MELBOURNE 24 Vernal Road, Springvale VIC 3171 Ph: 03 9559 9600 E: melbourne@alsglobal.com		DUNDRA 415 Geary Place, North Waverley NSW 2241 Ph: 02 9423 2063 E: dundra@alsglobal.com		TOWNSVILLE 14-16 Dwyer Court, Bolia QLD 4818 Ph: 07 4766 0800 F: townsville@alsglobal.com	
GLOUCESTER 46 Coleridge Road, Carson QLD 4680 Ph: 07 7471 5600 E: gloucester@alsglobal.com		MINDOR 27 Sydney Road, Mudgee NSW 2850 Ph: 02 6372 8735 E: mudgee@alsglobal.com		PERTH 10 Hop Way, Malaga WA 6060 Ph: 08 9209 7655 E: perth@alsglobal.com		WOLLONGONG 69 Kenny Street, Wollongong NSW 2500 Ph: 02 1235 3125 E: wollongong@alsglobal.com			

CLIENT: WSP		TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)		ANALYST: [Signature] DATE: [Signature] TIME: [Signature]	
OFFICE: L27 680 George St, Sydney NSW 2000		☐ Non Standard or urgent TAT (List due date):			
PROJECT: Hayball - Jordan Springs		ALS QUOTE NO.: SY004/18		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 20 OF: 1 2 3 4 5 6 22	
ORDER NUMBER:		CONTACT PH: 02 92725230		RELINQUISHED BY: Claire Williamson	
SAMPLER: Claire Williamson		SAMPLER MOBILE: 0428283466		RECEIVED BY:	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):		DATE/TIME:	
Email Reports to: Nicholas.Gilmour@wsp.com		DATE/TIME: 4/6/18 - 7/6/18		DATE/TIME:	
Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com				DATE/TIME:	
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:					

SAMPLE DETAILS		CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).										Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	(refer to) TOTAL CONTAINERS	S-26 (TRH C6-C40 / BTENX / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxycetic acid Herbicides (EP202)	EA002- pH (1:5) EA010 (Electrical Conductivity (1:5))	TRH C6-C10, BTEX	TRH BTEX	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	TP40_0.1	5/06/2018	S		1									
62	TP40_0.3	5/06/2018	S		1	X	X							
63	TP40_0.5	5/06/2018	S		1									
64	TP40_1.0	5/06/2018	S		1									
65	TP40_2.0	5/06/2018	S		1									
66	TP40_3.0	5/06/2018	S		1									
67	RB01	5/06/2018	W		3								X	
68	RB02	5/06/2018	W		3								X	
69	RB03	6/06/2018	W		3								X	
70	RB04	7/06/2018	W		3								X	
71	TB	5/06/2018	S		1							X		
72	TS	5/06/2018	S		1							X		
TOTAL						1	1	0	0	0	0	2	4	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory:
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QADELICK 78 Harbour Road Muckay QLD 4740
 Ph. 07 4944 0171 E. mecky@qadelick.com
QBRISBANE 32 Strand Street Entailoid QLD 4053
 Ph: 07 3243 7222 E. samples.brisbane@qadelabel.com
QMELBORNE 24 Visual Road Springvale VIC 3171
 Ph. 03 3649 9500 E. samples.melbourne@qadelabel.com
QJLADSTONE 46 Callendarford Ring Road Clarend QLD 4680
 Ph. 07 2471 5800 E. qjladstone@qadelabel.com
QMLIDGE 27 Sydney Road Mudgee NSW 2866
 Ph: 02 6372 6755 E. info.mudgee@qadelabel.com

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NOWRA 4113 Geary Place North Nowra NSW 2541
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PERTH 10 Hod Way Walega WA 8000
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LISYDNEY 277-282 Woodpark Road Smithfield NSW 2164
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 JTCYNSVILLE 14-16 Damsa Court Botle Hill QLD 4818
 Ph: 07 4768 0800 E: tourenville.schierenman@aiglobal.com
 CNYOLONGONG 29 Kenny Street Wollongong NSW 2500
 Ph: 02 4226 3125 E: norkemph@aiglobal.com

CLIENT: WSP		TURNAROUND REQUIREMENTS : [REDACTED] Standard TAT (List due date):		FOR LABORATORY USE ONLY (2 of 2) Sample Name: [REDACTED] Sample ID: [REDACTED] Sample Type: [REDACTED] Sample Location: [REDACTED] Sample Date: [REDACTED] Sample Time: [REDACTED] Sample Weight: [REDACTED] Sample Volume: [REDACTED] Sample Temperature: [REDACTED] Sample Container: [REDACTED] Sample Label: [REDACTED] Sample Notes: [REDACTED] Sample Status: [REDACTED] Sample Comments: [REDACTED] Sample Received By: [REDACTED] Sample Received Date: [REDACTED] Sample Received Time: [REDACTED] Sample Received Location: [REDACTED] Sample Received Notes: [REDACTED] Sample Received Status: [REDACTED] Sample Received Comments: [REDACTED] Sample Received By (Signature): [REDACTED] Sample Received Date (Signature): [REDACTED] Sample Received Time (Signature): [REDACTED] Sample Received Location (Signature): [REDACTED] Sample Received Notes (Signature): [REDACTED] Sample Received Status (Signature): [REDACTED] Sample Received Comments (Signature): [REDACTED]	
OFFICE: L27, 680 George St, Sydney NSW 2000		(Standard TAT may be longer for some tests e.g.- Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):			
PROJECT: Hayball - Jordan Springs		ALS QUOTE NO.: SY/00418			
ORDER NUMBER:		COC SEQUENCE NUMBER (Circle)			
PROJECT MANAGER: Nicholas Gilmour		CONTACT PH: 02 92725230		COC: 1 2 3 4 5 6 21	
SAMPLER: Claire Williamson		SAMPLER MOBILE: 0428283466		OF: 1 2 3 4 5 6 22	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):		RECEIVED BY:	
Email Reports to : Nicholas.Gilmour@wsp.com		DATE/TIME:		DATE/TIME:	
Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com		4/6/18 - 7/6/18		DATE/TIME:	
RELINQUISHED BY:		RELINQUISHED BY:		RELINQUISHED BY:	
Claire Williamson		Claire Williamson		Claire Williamson	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

GENERAL INFORMATION				CONTAMINANT INFORMATION		ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).										Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>codes below</i>	(refer to)	TOTAL CONTAINERS	S- 26 (TRH (C6-C40) / BTEXN / PAH / 8 metals)	S13 - (OC / OP Pesticides / PCB)	Explosives (EP203)	VOC (EP074)	Phenoxyacetic acid Herbicides (EP202)	TRH C6-C10, BTEX				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
73	TB_02	5/06/2018	S			1						X				
74	TS_02	5/06/2018	S			1						X				
75	TB_03	6/06/2018	S			1						X				
76	TS_03	6/06/2018	S			1						X				
77	TB_04	7/06/2018	S			1						X				
78	TS_04	7/06/2018	S			1						X				
79	QA01	5/06/2018	S			1										
80	QA01A	5/06/2018	S			1										PLEASE FORWARD TO SGS FOR SECONDARY ANALYSIS
80	QA02	5/06/2018	S			1	X	X								
82	QA02A	5/06/2018	S			1										PLEASE FORWARD TO SGS FOR SECONDARY ANALYSIS
83	QA03	5/06/2018	S			1	X		X	X						
84	QA03A	5/06/2018	S			1										PLEASE FORWARD TO SGS FOR SECONDARY ANALYSIS
TOTAL						12	2	1	1	1	0	0	0	0	0	

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V = VOA Aial HCl Preserved; VQ = VOA Aial Sodium Bisulphate Preserved; VSQ = VOA Aial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

CHAIN OF CUSTODY

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Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: WSP		TURNAROUND REQUIREMENTS : ☒ Standard TAT (List due date):											
OFFICE: L27, 680 George St. Sydney NSW 2009		(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):											
PROJECT: Hayball - Jordan Springs		ALS QUOTE NO.: SY/004/18											
ORDER NUMBER:		COC SEQUENCE NUMBER (Circle)											
PROJECT MANAGER: Nicholas Gilmour		CONTACT PH: 02 92725230		COC: 1 2 3 4 5 6 21		OF: 1 2 3 4 5 6 22							
SAMPLER: Claire Williamson		SAMPLER MOBILE: 0428283466		RELINQUISHED BY: Claire Williamson		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:			
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):		DATE/TIME: 4/6/18 - 7/6/18		DATE/TIME:		DATE/TIME:		DATE/TIME:			
Email Reports to : Nicholas.Gilmour@wsp.com													
Email Invoice to (will default to PM if no other addresses are listed): Nicholas.Gilmour@wsp.com													
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:													
ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)													
Additional Information													
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	S-26 (TRH / CS-C40) / BTEXN / PAH / s metals	S13 - (OC / OP Pesticides / PCBs)	Explosives (EP203)	VOC (EP074)	Phenoxycetic acid Herbicides (EP202)		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
82	QA04	5/06/2018	S		1	X	X						
	QA04A	5/06/2018	S		1							PLEASE FORWARD TO SGS FOR SECONDARY ANALYSIS	
83	QA05	6/06/2018	S		1	X	X						
	QA05A	6/06/2018	S		1							PLEASE FORWARD TO SGS FOR SECONDARY ANALYSIS	
84	QA06	6/06/2018	S		1								
	QA06A	6/06/2018	S		1							PLEASE FORWARD TO SGS FOR SECONDARY ANALYSIS	
85	QA07	7/06/2018	S		1	X							
	QA07A	7/06/2018	S		1							PLEASE FORWARD TO SGS FOR SECONDARY ANALYSIS	
86	TSC												
87	TSC ₂												
TOTAL						3	2	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

CERTIFICATE OF ANALYSIS

Work Order	: ES1817100	Page	: 1 of 43
Amendment	: 1		
Client	: WSP Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: Nicholas Gilmour	Contact	: Brenda Hong
Address	: ABN: 80 078 004 798 GPO BOX 5394 SYDNEY NSW, AUSTRALIA 2001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: JORDAN SPRINGS	Date Samples Received	: 13-Jun-2018 10:45
Order number	: ----	Date Analysis Commenced	: 14-Jun-2018
C-O-C number	: ----	Issue Date	: 30-Jan-2019 13:53
Sampler	: CLAIRE WILLIAMSON		
Site	: ----		
Quote number	: SY/004/18		
No. of samples received	: 83		
No. of samples analysed	: 44		



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. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical 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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini		Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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.

- ALS is not NATA accredited for the analysis of Exchangeable Aluminium and Exchange Acidity in soils when performed under ALS Method ED005.
- ALS is not NATA accredited for the analysis of Exchangeable Cations on Alkaline Soils when performed under ALS Method ED006.
- Amendment (30/01/2019): This report has been amended to alter the project name. All analysis results are as per the previous report.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEX 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.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) 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.
- 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⁺).



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP30_0.3	TP31_0.3	TP31_0.5	TP31_2.0	TP31_3.0
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-002	ES1817100-008	ES1817100-009	ES1817100-011	ES1817100-012
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit	----	6.2	6.6	5.8	6.5	
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm	----	419	304	443	262	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	9.5	13.5	----	----	15.4	
ED007: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	2.4	
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	7.4	
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	0.4	
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	3.2	
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	13.3	
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	<0.1	
Exchangeable Sodium Percent	----	0.1	%	----	----	----	----	24.2	
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	----	55.2	
Exchangeable Potassium Percent	----	0.1	%	----	----	----	----	2.7	
Exchangeable Calcium Percent	----	0.1	%	----	----	----	----	17.9	
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	----	0.3	
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	----	20.3	
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg	----	----	----	----	40	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg	----	----	----	----	520	
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	8	9	----	----	----	
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----	
Chromium	7440-47-3	2	mg/kg	22	23	----	----	----	
Copper	7440-50-8	5	mg/kg	30	23	----	----	----	
Lead	7439-92-1	5	mg/kg	21	21	----	----	----	
Nickel	7440-02-0	2	mg/kg	12	10	----	----	----	
Zinc	7440-66-6	5	mg/kg	53	37	----	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	----	----	



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP30_0.3	TP31_0.3	TP31_0.5	TP31_2.0	TP31_3.0
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-002	ES1817100-008	ES1817100-009	ES1817100-011	ES1817100-012
				Result	Result	Result	Result	Result
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	----	----	----
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	72-54-8/72-55-9/50-29-3	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	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP30_0.3	TP31_0.3	TP31_0.5	TP31_2.0	TP31_3.0
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-002	ES1817100-008	ES1817100-009	ES1817100-011	ES1817100-012
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	----
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	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP30_0.3	TP31_0.3	TP31_0.5	TP31_2.0	TP31_3.0
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-002	ES1817100-008	ES1817100-009	ES1817100-011	ES1817100-012
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	----	----	----
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	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		115	110	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		86.8	86.8	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		87.1	86.7	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		71.2	71.0	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		75.6	75.8	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		60.3	59.6	----	----	----
EP075(SIM)T: PAH Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP30_0.3	TP31_0.3	TP31_0.5	TP31_2.0	TP31_3.0
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-002	ES1817100-008	ES1817100-009	ES1817100-011	ES1817100-012
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	0.5	%		88.1	88.8	----	----	----
Anthracene-d10	1719-06-8	0.5	%		88.0	88.3	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		76.1	75.9	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		112	110	----	----	----
Toluene-D8	2037-26-5	0.2	%		101	102	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		106	103	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP32_0.3	TP32_1.0	TP32_2.0	TP32_3.0	TP33_0.3
05-Jun-2018 00:00				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-014	ES1817100-016	ES1817100-017	ES1817100-018	ES1817100-020
Result				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	5.8	6.3	5.1	6.4
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	364	414	680	274
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	9.0	----	7.9	----	15.3
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	4.4
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	8.1
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	0.4
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	2.7
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	15.6
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	<0.1
Exchangeable Sodium Percent	----	0.1	%	----	----	----	----	17.1
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	----	52.3
Exchangeable Potassium Percent	----	0.1	%	----	----	----	----	2.6
Exchangeable Calcium Percent	----	0.1	%	----	----	----	----	28.0
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	----	0.5
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	----	19.8
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	0.4	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	2.2	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	<0.1	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	0.8	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	<0.1	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	3.5	----	----
Exchangeable Calcium Percent	----	0.1	%	----	----	11.8	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	64.7	----	----
Exchangeable Potassium Percent	----	0.1	%	----	----	1.7	----	----
Exchangeable Sodium Percent	----	0.1	%	----	----	21.7	----	----
Exchangeable Aluminium Percent	----	0.1	%	----	----	<0.1	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	0.2	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	N/A	----	----
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	----	----	60	----	110



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP32_0.3	TP32_1.0	TP32_2.0	TP32_3.0	TP33_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-014	ES1817100-016	ES1817100-017	ES1817100-018	ES1817100-020
					Result	Result	Result	Result	Result
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	740	----	340
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	----	----	----	9
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	<1
Chromium	7440-47-3	2	mg/kg		17	----	----	----	28
Copper	7440-50-8	5	mg/kg		26	----	----	----	20
Lead	7439-92-1	5	mg/kg		18	----	----	----	22
Nickel	7440-02-0	2	mg/kg		12	----	----	----	9
Zinc	7440-66-6	5	mg/kg		48	----	----	----	35
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<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)				Client sample ID	TP32_0.3	TP32_1.0	TP32_2.0	TP32_3.0	TP33_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-014	ES1817100-016	ES1817100-017	ES1817100-018	ES1817100-020
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	<0.2
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	72-54-8/72-55-9/5 0-2	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
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	<0.5
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP32_0.3	TP32_1.0	TP32_2.0	TP32_3.0	TP33_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-014	ES1817100-016	ES1817100-017	ES1817100-018	ES1817100-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(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
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP32_0.3	TP32_1.0	TP32_2.0	TP32_3.0	TP33_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-014	ES1817100-016	ES1817100-017	ES1817100-018	ES1817100-020
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ 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
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		99.0	----	----	----	96.0
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		78.1	----	----	----	76.4
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		83.5	----	----	----	74.2
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		68.4	----	----	----	71.9
2-Chlorophenol-D4	93951-73-6	0.5	%		72.7	----	----	----	76.6
2,4,6-Tribromophenol	118-79-6	0.5	%		57.7	----	----	----	60.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		84.5	----	----	----	89.6
Anthracene-d10	1719-06-8	0.5	%		83.1	----	----	----	89.2
4-Terphenyl-d14	1718-51-0	0.5	%		72.3	----	----	----	77.0
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		109	----	----	----	109
Toluene-D8	2037-26-5	0.2	%		95.6	----	----	----	96.6
4-Bromofluorobenzene	460-00-4	0.2	%		101	----	----	----	100



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP33_0.5	TP33_1.0	TP34_0.1	TP35_0.1	TP35_0.4
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	13-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-021	ES1817100-022	ES1817100-025	ES1817100-031	ES1817100-032
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		8.1	8.7	----	6.2	5.8
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		517	494	----	270	343
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		----	----	10.7	----	14.6
ED005: Exchange Acidity									
Exchange Acidity	----	0.1	meq/100g		----	----	----	----	0.3
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	0.2
ED008: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		----	----	----	----	3.5
Exchangeable Magnesium	----	0.1	meq/100g		----	----	----	----	6.9
Exchangeable Potassium	----	0.1	meq/100g		----	----	----	----	0.2
Exchangeable Sodium	----	0.1	meq/100g		----	----	----	----	1.0
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	<0.1
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	11.6
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	30.2
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	59.8
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	1.6
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	8.4
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	<0.1
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	0.5
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	37.7
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	----	----	110
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	----	----	440
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	----	9	----	8
Cadmium	7440-43-9	1	mg/kg		----	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg		----	----	26	----	39
Copper	7440-50-8	5	mg/kg		----	----	24	----	9
Lead	7439-92-1	5	mg/kg		----	----	21	----	17
Nickel	7440-02-0	2	mg/kg		----	----	10	----	5
Zinc	7440-66-6	5	mg/kg		----	----	41	----	11



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP33_0.5	TP33_1.0	TP34_0.1	TP35_0.1	TP35_0.4
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	13-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-021	ES1817100-022	ES1817100-025	ES1817100-031	ES1817100-032
					Result	Result	Result	Result	Result
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	----	<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
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



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP33_0.5	TP33_1.0	TP34_0.1	TP35_0.1	TP35_0.4
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	13-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-021	ES1817100-022	ES1817100-025	ES1817100-031	ES1817100-032
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	<0.5
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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP33_0.5	TP33_1.0	TP34_0.1	TP35_0.1	TP35_0.4
Compound				ES1817100-021	ES1817100-022	ES1817100-025	ES1817100-031	ES1817100-032
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ 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
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
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	----	----	----	----	<0.02
2,4-DB	94-82-6	0.02	mg/kg	----	----	----	----	<0.02
Dicamba	1918-00-9	0.02	mg/kg	----	----	----	----	<0.02
Mecoprop	93-65-2	0.02	mg/kg	----	----	----	----	<0.02
MCPA	94-74-6	0.02	mg/kg	----	----	----	----	<0.02
2,4-DP	120-36-5	0.02	mg/kg	----	----	----	----	<0.02



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP33_0.5	TP33_1.0	TP34_0.1	TP35_0.1	TP35_0.4
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	13-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-021	ES1817100-022	ES1817100-025	ES1817100-031	ES1817100-032
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
2,4-D	94-75-7	0.02	mg/kg		----	----	----	----	<0.02
Triclopyr	55335-06-3	0.02	mg/kg		----	----	----	----	<0.02
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg		----	----	----	----	<0.02
2,4,5-T	93-76-5	0.02	mg/kg		----	----	----	----	<0.02
MCPB	94-81-5	0.02	mg/kg		----	----	----	----	<0.02
Picloram	1918-02-1	0.02	mg/kg		----	----	----	----	<0.02
Clopyralid	1702-17-6	0.02	mg/kg		----	----	----	----	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg		----	----	----	----	<0.02
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	93.0	----	106
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	74.8	----	73.2
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	75.7	----	68.0
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	72.2	----	69.4
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	76.8	----	73.8
2,4,6-Tribromophenol	118-79-6	0.5	%		----	----	61.7	----	58.0
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	89.8	----	86.5
Anthracene-d10	1719-06-8	0.5	%		----	----	86.2	----	86.5
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	76.4	----	74.3
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	110	----	109
Toluene-D8	2037-26-5	0.2	%		----	----	95.7	----	96.2
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	102	----	100
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		----	----	----	----	75.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP35_1.0	TP35_2.0	TP36_0.1	TP37_0.3	TP37_0.5
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-033	ES1817100-034	ES1817100-036	ES1817100-043	ES1817100-044
					Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.4	8.5	----	6.9	7.4
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		229	391	----	365	268
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		----	9.1	----	----	----
Moisture Content	----	1.0	%		----	----	7.2	7.5	5.6
ED006: Exchangeable Cations on Alkaline Soils									
Exchangeable Calcium	----	0.2	meq/100g		----	----	----	----	1.6
Exchangeable Magnesium	----	0.2	meq/100g		----	----	----	----	4.6
Exchangeable Potassium	----	0.2	meq/100g		----	----	----	----	0.2
Exchangeable Sodium	----	0.2	meq/100g		----	----	----	----	1.3
Cation Exchange Capacity	----	0.2	meq/100g		----	----	----	----	7.7
Exchangeable Calcium Percent	----	0.2	%		----	----	----	----	20.5
Exchangeable Magnesium Percent	----	0.2	%		----	----	----	----	59.9
Exchangeable Potassium Percent	----	0.2	%		----	----	----	----	2.7
Exchangeable Sodium Percent	----	0.2	%		----	----	----	----	16.8
Calcium/Magnesium Ratio	----	0.2	-		----	----	----	----	0.3
Magnesium/Potassium Ratio	----	0.2	-		----	----	----	----	22.1
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	----	----	160
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	----	----	240
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	----	9	5	----
Cadmium	7440-43-9	1	mg/kg		----	----	<1	<1	----
Chromium	7440-47-3	2	mg/kg		----	----	24	13	----
Copper	7440-50-8	5	mg/kg		----	----	21	24	----
Lead	7439-92-1	5	mg/kg		----	----	21	15	----
Nickel	7440-02-0	2	mg/kg		----	----	10	8	----
Zinc	7440-66-6	5	mg/kg		----	----	44	34	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	----	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	<0.5	<0.5	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP35_1.0	TP35_2.0	TP36_0.1	TP37_0.3	TP37_0.5
Compound				ES1817100-033	ES1817100-034	ES1817100-036	ES1817100-043	ES1817100-044
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	<0.5	----
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)				Client sample ID				
Client sampling date / time				TP35_1.0	TP35_2.0	TP36_0.1	TP37_0.3	TP37_0.5
Compound				ES1817100-033	ES1817100-034	ES1817100-036	ES1817100-043	ES1817100-044
CAS Number LOR Unit				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	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	----	<0.02	----	----	----
2,4-DB	94-82-6	0.02	mg/kg	----	<0.02	----	----	----
Dicamba	1918-00-9	0.02	mg/kg	----	<0.02	----	----	----
Mecoprop	93-65-2	0.02	mg/kg	----	<0.02	----	----	----
MCPA	94-74-6	0.02	mg/kg	----	<0.02	----	----	----
2,4-DP	120-36-5	0.02	mg/kg	----	<0.02	----	----	----
2,4-D	94-75-7	0.02	mg/kg	----	<0.02	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg	----	<0.02	----	----	----
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg	----	<0.02	----	----	----
2,4,5-T	93-76-5	0.02	mg/kg	----	<0.02	----	----	----
MCPB	94-81-5	0.02	mg/kg	----	<0.02	----	----	----
Picloram	1918-02-1	0.02	mg/kg	----	<0.02	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg	----	<0.02	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg	----	<0.02	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	71.4	72.8	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	76.4	76.7	----
2,4,6-Tribromophenol	118-79-6	0.5	%	----	----	66.4	66.6	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	88.1	89.0	----
Anthracene-d10	1719-06-8	0.5	%	----	----	88.4	88.9	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	75.7	76.1	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	112	99.4	----
Toluene-D8	2037-26-5	0.2	%	----	----	100	108	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP35_1.0	TP35_2.0	TP36_0.1	TP37_0.3	TP37_0.5
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-033	ES1817100-034	ES1817100-036	ES1817100-043	ES1817100-044
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	102	107	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		----	68.6	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP37_3.0	TP38_0.3	TP38_2.0	TP39_0.1	TP39_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-047	ES1817100-049	ES1817100-052	ES1817100-054	ES1817100-055
				Result	Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		6.3	----	----	7.2	7.0
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		157	----	----	468	344
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		----	----	10.8	----	----
Moisture Content	----	1.0	%		----	11.2	----	8.0	10.1
ED008: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g		----	----	----	6.3	----
Exchangeable Magnesium	----	0.1	meq/100g		----	----	----	5.2	----
Exchangeable Potassium	----	0.1	meq/100g		----	----	----	0.3	----
Exchangeable Sodium	----	0.1	meq/100g		----	----	----	0.5	----
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	<0.1	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	12.4	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	50.9	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	42.2	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	2.6	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	4.3	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	<0.1	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	1.2	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	16.0	----
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg		----	----	----	200	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg		----	----	----	550	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	7	----	----	7
Cadmium	7440-43-9	1	mg/kg		----	<1	----	----	<1
Chromium	7440-47-3	2	mg/kg		----	30	----	----	21
Copper	7440-50-8	5	mg/kg		----	18	----	----	20
Lead	7439-92-1	5	mg/kg		----	19	----	----	22
Nickel	7440-02-0	2	mg/kg		----	6	----	----	8
Zinc	7440-66-6	5	mg/kg		----	26	----	----	27
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	<0.1	----	----	<0.1



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP37_3.0	TP38_0.3	TP38_2.0	TP39_0.1	TP39_0.3
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-047	ES1817100-049	ES1817100-052	ES1817100-054	ES1817100-055
				Result	Result	Result	Result	Result
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
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
Benzo(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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP37_3.0	TP38_0.3	TP38_2.0	TP39_0.1	TP39_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-047	ES1817100-049	ES1817100-052	ES1817100-054	ES1817100-055
					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
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
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
2,4-DB	94-82-6	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
Dicamba	1918-00-9	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
Mecoprop	93-65-2	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
MCPA	94-74-6	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
2,4-DP	120-36-5	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
2,4-D	94-75-7	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
Triclopyr	55335-06-3	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
2,4,5-T	93-76-5	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
MCPB	94-81-5	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
Picloram	1918-02-1	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
Clopyralid	1702-17-6	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg		----	<0.02	<0.02	----	<0.02
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	74.4	----	----	74.0
2-Chlorophenol-D4	93951-73-6	0.5	%		----	78.8	----	----	78.2
2,4,6-Tribromophenol	118-79-6	0.5	%		----	63.6	----	----	62.7
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	90.3	----	----	90.9
Anthracene-d10	1719-06-8	0.5	%		----	88.2	----	----	91.2
4-Terphenyl-d14	1718-51-0	0.5	%		----	78.3	----	----	78.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP37_3.0	TP38_0.3	TP38_2.0	TP39_0.1	TP39_0.3
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-047	ES1817100-049	ES1817100-052	ES1817100-054	ES1817100-055
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	87.8	----	----	93.6
Toluene-D8	2037-26-5	0.2	%		----	88.8	----	----	101
4-Bromofluorobenzene	460-00-4	0.2	%		----	97.3	----	----	103
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		----	71.2	79.7	----	62.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3	TB
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	01-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-056	ES1817100-057	ES1817100-058	ES1817100-062	ES1817100-071
					Result	Result	Result	Result	Result
EA002 : pH (Soils)									
pH Value	----	0.1	pH Unit		7.9	----	6.9	----	----
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	1	µS/cm		458	----	417	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		----	12.1	----	----	----
Moisture Content	----	1.0	%		----	----	----	14.9	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	----	----	7	----
Cadmium	7440-43-9	1	mg/kg		----	----	----	<1	----
Chromium	7440-47-3	2	mg/kg		----	----	----	18	----
Copper	7440-50-8	5	mg/kg		----	----	----	23	----
Lead	7439-92-1	5	mg/kg		----	----	----	13	----
Nickel	7440-02-0	2	mg/kg		----	----	----	8	----
Zinc	7440-66-6	5	mg/kg		----	----	----	41	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	----	----	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg		----	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg		----	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg		----	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		----	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		----	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	<0.05	----
4,4'-DDE	72-55-9	0.05	mg/kg		----	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg		----	----	----	<0.05	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3	TB
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	01-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-056	ES1817100-057	ES1817100-058	ES1817100-062	ES1817100-071
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	----	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	----	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	----	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	<0.5	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3	TB
Compound				ES1817100-056	ES1817100-057	ES1817100-058	ES1817100-062	ES1817100-071
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	----	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	0.6	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	1.2	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	----	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	----	----	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	<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	----
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	<100	----
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	<50	----
EP080: BTEXN								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3	TB
Compound				ES1817100-056	ES1817100-057	ES1817100-058	ES1817100-062	ES1817100-071
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
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
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	----	<0.02	----	----	----
2,4-DB	94-82-6	0.02	mg/kg	----	<0.02	----	----	----
Dicamba	1918-00-9	0.02	mg/kg	----	<0.02	----	----	----
Mecoprop	93-65-2	0.02	mg/kg	----	<0.02	----	----	----
MCPA	94-74-6	0.02	mg/kg	----	<0.02	----	----	----
2,4-DP	120-36-5	0.02	mg/kg	----	<0.02	----	----	----
2,4-D	94-75-7	0.02	mg/kg	----	<0.02	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg	----	<0.02	----	----	----
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg	----	<0.02	----	----	----
2,4,5-T	93-76-5	0.02	mg/kg	----	<0.02	----	----	----
MCPB	94-81-5	0.02	mg/kg	----	<0.02	----	----	----
Picloram	1918-02-1	0.02	mg/kg	----	<0.02	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg	----	<0.02	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg	----	<0.02	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	124	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	90.7	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	----	----	86.9	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	----	69.8	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	74.5	----
2,4,6-Tribromophenol	118-79-6	0.5	%	----	----	----	58.4	----
EP075(SIM)T: PAH Surrogates								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TP39_0.6	TP39_1.0	TP39_1.5	TP40_0.3	TB
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	01-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-056	ES1817100-057	ES1817100-058	ES1817100-062	ES1817100-071
				Result	Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	----	86.5	----
Anthracene-d10	1719-06-8	0.5	%	----	----	----	----	86.8	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	----	74.6	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	----	96.1	95.9
Toluene-D8	2037-26-5	0.2	%	----	----	----	----	103	106
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	----	105	108
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	----	75.1	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TS	TB_02	TS_02	QA02	QA03
				31-May-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-072	ES1817100-073	ES1817100-074	ES1817100-080	ES1817100-081
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	----	----	7.6	12.9
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	6	6
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	16	13
Copper	7440-50-8	5	mg/kg	----	----	----	18	30
Lead	7439-92-1	5	mg/kg	----	----	----	15	32
Nickel	7440-02-0	2	mg/kg	----	----	----	7	14
Zinc	7440-66-6	5	mg/kg	----	----	----	28	47
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	----
4,4'-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TS	TB_02	TS_02	QA02	QA03
Client sampling date / time				31-May-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-072	ES1817100-073	ES1817100-074	ES1817100-080	ES1817100-081
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4,4'-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	----	----	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	----	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	----	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	----	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	<0.05	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	----	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	----	<0.5
Styrene	100-42-5	0.5	mg/kg	----	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	----	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TS	TB_02	TS_02	QA02	QA03
Client sampling date / time				31-May-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-072	ES1817100-073	ES1817100-074	ES1817100-080	ES1817100-081
				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	----	<0.5
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	----	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	----	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	----	<0.5
EP074D: Fumigants								
2,2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	----	<0.5
1,2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	----	<0.5
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	----	<0.5
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	----	<0.5
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	----	----	----	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	----	<5
Chloromethane	74-87-3	5	mg/kg	----	----	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	----	<5
Bromomethane	74-83-9	5	mg/kg	----	----	----	----	<5
Chloroethane	75-00-3	5	mg/kg	----	----	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	----	<5
1,1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	----	<0.5
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	----	<0.5
1,1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	----	<0.5
cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	----	<0.5
1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	----	<0.5
1,1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	----	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TS	TB_02	TS_02	QA02	QA03
Client sampling date / time				31-May-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-072	ES1817100-073	ES1817100-074	ES1817100-080	ES1817100-081
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1,2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	----	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	----	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	----	<0.5
1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	----	<0.5
1,3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	----	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	----	<0.5
1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	----	<0.5
trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	----	<0.5
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	----	<0.5
1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	----	<0.5
1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	----	<0.5
1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	----	<0.5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	----	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	----	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	----	<0.5
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	----	<0.5
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	----	<0.5
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	----	<0.5
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	----	<0.5
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	----	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	----	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	----	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	----	<0.5
Bromoform	75-25-2	0.5	mg/kg	----	----	----	----	<0.5
EP074H: Naphthalene								
Naphthalene	91-20-3	1	mg/kg	----	----	----	----	<1
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)

Client sample ID

				TS	TB_02	TS_02	QA02	QA03
Client sampling date / time				31-May-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-072	ES1817100-073	ES1817100-074	ES1817100-080	ES1817100-081
				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	21	<10	18	<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	33	<10	29	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	17	<10	15	<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
EP080: BTEXN								



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TS	TB_02	TS_02	QA02	QA03
Client sampling date / time				31-May-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-072	ES1817100-073	ES1817100-074	ES1817100-080	ES1817100-081
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
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	7.8	<0.5	6.1	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	1.0	<0.5	0.9	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	5.4	<0.5	4.8	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	2.2	<0.5	2.1	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	16.4	<0.2	13.9	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	7.6	<0.5	6.9	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP203A: Explosives								
HMX	2691-41-0	0.1	mg/kg	----	----	----	----	<0.1
RDX	----	0.1	mg/kg	----	----	----	----	<0.1
1,3,5-Trinitrobenzene	99-35-4	0.1	mg/kg	----	----	----	----	<0.1
1,3-Dinitrobenzene	99-65-0	0.1	mg/kg	----	----	----	----	<0.1
Tetryl	479-45-8	0.1	mg/kg	----	----	----	----	<0.1
2,4,6-TNT	118-96-7	0.1	mg/kg	----	----	----	----	<0.1
4-Amino-2,6-DNT	19406-51-0	0.1	mg/kg	----	----	----	----	<0.1
2-Amino-4,6-DNT	35572-78-2	0.1	mg/kg	----	----	----	----	<0.1
4- & 2-AM-DNT(Isomeric Mixture)	----	0.1	mg/kg	----	----	----	----	<0.1
2,4-Dinitrotoluene	121-14-2	0.1	mg/kg	----	----	----	----	<0.1
2,6-Dinitrotoluene	606-20-2	0.1	mg/kg	----	----	----	----	<0.1
2,4- & 2,6-DNT(Isomeric Mixture)	51-28-5/606-20-2	0.1	mg/kg	----	----	----	----	<0.1
Nitrobenzene	98-95-3	0.1	mg/kg	----	----	----	----	<0.1
2-Nitrotoluene	88-72-2	0.1	mg/kg	----	----	----	----	<0.1
3-Nitrotoluene	99-08-1	0.1	mg/kg	----	----	----	----	<0.1
4-Nitrotoluene	99-99-0	0.1	mg/kg	----	----	----	----	<0.1
Nitroglycerine	55-63-0	1	mg/kg	----	----	----	----	<1
PETN	78-11-5	1	mg/kg	----	----	----	----	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	105	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	83.5	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	----	----	84.5	----
EP074S: VOC Surrogates								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TS	TB_02	TS_02	QA02	QA03
Client sampling date / time					31-May-2018 00:00	01-Jun-2018 00:00	31-May-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-072	ES1817100-073	ES1817100-074	ES1817100-080	ES1817100-081
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
1,2-Dichloroethane-D4	17060-07-0	0.5	%		----	----	----	----	90.9
Toluene-D8	2037-26-5	0.5	%		----	----	----	----	107
4-Bromofluorobenzene	460-00-4	0.5	%		----	----	----	----	96.2
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	----	70.3	68.1
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	74.8	72.0
2,4,6-Tribromophenol	118-79-6	0.5	%		----	----	----	58.8	61.0
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	87.0	83.9
Anthracene-d10	1719-06-8	0.5	%		----	----	----	86.4	83.0
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	74.8	72.4
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		90.9	91.9	85.6	93.3	94.7
Toluene-D8	2037-26-5	0.2	%		107	105	97.3	96.0	97.2
4-Bromofluorobenzene	460-00-4	0.2	%		104	113	93.5	98.9	100.0
EP203S: Explosives Surrogate									
o-Dinitrobenzene	528-29-0	0.1	%		----	----	----	----	67.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QA04	QA05	QA07	TSC	TSC2
Client sampling date / time					05-Jun-2018 00:00	06-Jun-2018 00:00	07-Jun-2018 00:00	31-May-2018 00:00	31-May-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-082	ES1817100-083	ES1817100-085	ES1817100-087	ES1817100-088
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		9.2	14.4	7.4	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	6	8	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg		22	14	19	----	----
Copper	7440-50-8	5	mg/kg		36	13	18	----	----
Lead	7439-92-1	5	mg/kg		32	13	18	----	----
Nickel	7440-02-0	2	mg/kg		12	5	8	----	----
Zinc	7440-66-6	5	mg/kg		49	20	33	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<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)

Client sample ID

				QA04	QA05	QA07	TSC	TSC2
Client sampling date / time				05-Jun-2018 00:00	06-Jun-2018 00:00	07-Jun-2018 00:00	31-May-2018 00:00	31-May-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-082	ES1817100-083	ES1817100-085	ES1817100-087	ES1817100-088
				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	72-54-8/72-55-9/5 0-2	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	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	0.8	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	0.8	<0.5	<0.5	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				QA04	QA05	QA07	TSC	TSC2
Client sampling date / time				05-Jun-2018 00:00	06-Jun-2018 00:00	07-Jun-2018 00:00	31-May-2018 00:00	31-May-2018 00:00
Compound	CAS Number	LOR	Unit	ES1817100-082	ES1817100-083	ES1817100-085	ES1817100-087	ES1817100-088
				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	----	----
Chrysene	218-01-9	0.5	mg/kg	<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	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<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	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.6	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	16	21
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	26	32
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	13	17
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<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	5.9	7.4
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	0.8	1.0
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	4.4	4.9
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	1.8	2.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QA04	QA05	QA07	TSC	TSC2
Client sampling date / time					05-Jun-2018 00:00	06-Jun-2018 00:00	07-Jun-2018 00:00	31-May-2018 00:00	31-May-2018 00:00
Compound	CAS Number	LOR	Unit		ES1817100-082	ES1817100-083	ES1817100-085	ES1817100-087	ES1817100-088
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	12.9	15.3
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	6.2	6.9
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		100.0	107	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		96.4	96.0	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		95.3	93.1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		70.3	69.4	69.9	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		76.6	73.8	73.6	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		64.6	57.9	59.1	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		88.9	85.7	85.7	----	----
Anthracene-d10	1719-06-8	0.5	%		90.3	85.8	82.2	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		79.6	74.0	73.6	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		95.2	99.1	96.3	87.0	77.4
Toluene-D8	2037-26-5	0.2	%		108	105	110	98.3	89.5
4-Bromofluorobenzene	460-00-4	0.2	%		107	107	109	98.2	84.7



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RB01	RB02	RB03	RB04	----
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	----
Compound	CAS Number	LOR	Unit		ES1817100-067	ES1817100-068	ES1817100-069	ES1817100-070	-----
					Result	Result	Result	Result	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	<100	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	<100	<100	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	<100	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	----
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	----
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		107	110	112	110	----
Toluene-D8	2037-26-5	2	%		109	110	107	109	----
4-Bromofluorobenzene	460-00-4	2	%		113	113	110	112	----



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
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
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
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2,4-Dichlorophenyl Acetic Acid	19719-28-9	45	139
EP203S: Explosives Surrogate			
o-Dinitrobenzene	528-29-0	50	144

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

QUALITY CONTROL REPORT

Work Order : **ES1817100**

Page : 1 of 27

Amendment : **1**

Client : **WSP Australia Pty Ltd**

Contact : Nicholas Gilmour

Address : ABN: 80 078 004 798 GPO BOX 5394
SYDNEY NSW, AUSTRALIA 2001

Telephone : ----

Project : JORDAN SPRINGS

Order number : ----

C-O-C number : ----

Sampler : CLAIRE WILLIAMSON

Site : ----

Quote number : SY/004/18

No. of samples received : 83

No. of samples analysed : 44

Laboratory : Environmental Division Sydney

Contact : Brenda Hong

Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : +61 2 8784 8555

Date Samples Received : 13-Jun-2018

Date Analysis Commenced : 14-Jun-2018

Issue Date : 30-Jan-2019



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. 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
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini		Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA002: pH 1:5 (Soils) (QC Lot: 1727111)									
ES1817093-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.0	8.0	0.00	0% - 20%
ES1817100-012	TP31_3.0	EA002: pH Value	----	0.1	pH Unit	6.5	6.5	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 1733049)									
ES1817099-080	Anonymous	EA002: pH Value	----	0.1	pH Unit	7.3	7.2	0.00	0% - 20%
ES1817100-033	TP35_1.0	EA002: pH Value	----	0.1	pH Unit	6.4	6.4	0.00	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1727108)									
ES1817093-001	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	412	417	1.21	0% - 20%
ES1817100-012	TP31_3.0	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	262	265	1.14	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 1733048)									
ES1817099-080	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	663	621	6.54	0% - 20%
ES1817100-033	TP35_1.0	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	229	228	0.481	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1729163)									
ES1817099-039	Anonymous	EA055: Moisture Content	----	0.1	%	9.7	8.8	9.70	No Limit
ES1817100-008	TP31_0.3	EA055: Moisture Content	----	0.1	%	13.5	10.3	26.2	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1729164)									
ES1817100-043	TP37_0.3	EA055: Moisture Content	----	0.1	%	7.5	7.7	2.26	No Limit
ES1817100-083	QA05	EA055: Moisture Content	----	0.1	%	14.4	14.3	0.956	0% - 50%
ED005: Exchange Acidity (QC Lot: 1734483)									
ES1817099-003	Anonymous	ED005: Exchange Acidity	----	0.1	meq/100g	1.5	1.5	0.00	0% - 50%
		ED005: Exchangeable Aluminium	----	0.1	meq/100g	0.9	0.9	0.00	No Limit
ED006: Exchangeable Cations on Alkaline Soils (QC Lot: 1732658)									
ES1817093-001	Anonymous	ED006: Calcium/Magnesium Ratio	----	0.1	-	1.7	1.8	0.00	No Limit
		ED006: Exchangeable Calcium Percent	----	0.2	%	55.8	55.8	0.00	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED006: Exchangeable Cations on Alkaline Soils (QC Lot: 1732658) - continued									
ES1817093-001	Anonymous	ED006: Exchangeable Magnesium Percent	----	0.2	%	32.3	31.8	1.62	0% - 20%
		ED006: Exchangeable Potassium Percent	----	0.2	%	3.6	3.9	7.15	0% - 50%
		ED006: Exchangeable Sodium Percent	----	0.2	%	8.2	8.5	3.72	0% - 20%
		ED006: Exchangeable Calcium	----	0.2	meq/100g	2.1	2.0	4.90	0% - 50%
		ED006: Exchangeable Magnesium	----	0.2	meq/100g	1.2	1.2	0.00	No Limit
		ED006: Exchangeable Potassium	----	0.2	meq/100g	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Sodium	----	0.2	meq/100g	0.3	0.3	0.00	No Limit
		ED006: Cation Exchange Capacity	----	0.2	meq/100g	3.8	3.6	4.79	0% - 50%
ED007: Exchangeable Cations (QC Lot: 1735066)									
ES1816996-030	Anonymous	ED007: Calcium/Magnesium Ratio	----	0.1	-	<0.1	<0.1	0.00	No Limit
		ED007: Magnesium/Potassium Ratio	----	0.1	-	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Calcium Percent	----	0.1	%	10.6	10.5	1.53	0% - 20%
		ED007: Exchangeable Magnesium Percent	----	0.1	%	65.0	66.6	2.34	0% - 20%
		ED007: Exchangeable Potassium Percent	----	0.1	%	11.4	11.3	1.24	0% - 20%
		ED007: Exchangeable Sodium Percent	----	0.1	%	12.9	11.7	10.0	0% - 20%
		ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	0.2	0.1	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	0.2	0.2	0.00	No Limit
		ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED008: Exchangeable Cations (QC Lot: 1734476)							
ES1817093-067	Anonymous	ED008: Calcium/Magnesium Ratio	----	0.1	-	0.4	0.4	0.00	0% - 20%
		ED008: Magnesium/Potassium Ratio	----	0.1	-	34.2	34.6	1.13	0% - 20%
		ED008: Exchangeable Sodium Percent	----	0.1	%	11.0	11.0	0.00	0% - 20%
		ED008: Exchangeable Calcium	----	0.1	meq/100g	3.7	3.6	0.00	0% - 20%
		ED008: Exchangeable Magnesium	----	0.1	meq/100g	8.2	8.0	1.76	0% - 20%
		ED008: Exchangeable Potassium	----	0.1	meq/100g	0.2	0.2	0.00	0% - 20%
		ED008: Exchangeable Sodium	----	0.1	meq/100g	1.5	1.5	0.00	0% - 20%
		ED008: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	0.00	0% - 20%
		ED008: Cation Exchange Capacity	----	0.1	meq/100g	13.6	13.3	2.00	0% - 20%
ED040S: Soluble Major Anions (QC Lot: 1727110)									
ES1817093-001	Anonymous	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	180	180	0.00	0% - 50%
ES1817100-012	TP31_3.0	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	40	50	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 1727109)									
ES1817093-001	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	200	200	0.00	0% - 20%
ES1817100-012	TP31_3.0	ED045G: Chloride	16887-00-6	10	mg/kg	520	520	0.00	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1732510)									
ES1817093-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 1732510) - continued									
ES1817093-001	Anonymous	EG005T: Chromium	7440-47-3	2	mg/kg	19	13	37.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	8	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	21	35	49.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	15	14.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	32	30	7.53	No Limit
ES1817093-061	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	21	14.3	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	8	8	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	9	11.2	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	19	19	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	18	9.14	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1732512)									
ES1817100-032	TP35_0.4	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	39	24	46.5	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	5	6	25.2	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	13.5	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	9	13	33.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	16	7.49	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	11	22	68.0	No Limit
ES1817100-085	QA07	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	21	10.7	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	8	8	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	8	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	18	18	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	18	18	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1732511)									
ES1817093-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1817093-061	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: 1732513)									
ES1817100-032	TP35_0.4	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1817100-085	QA07	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1727777)									
ES1817099-023	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1817100-014	TP32_0.3	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1727776)									
ES1817099-023	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1727776) - continued									
ES1817099-023	Anonymous	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
ES1817100-014	TP32_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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1727776) - continued									
ES1817100-014	TP32_0.3	EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1727776)									
ES1817099-023	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
ES1817100-014	TP32_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
		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	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP074B: Oxygenated Compounds (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074D: Fumigants (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1726466) - continued									
ES1817093-001	Anonymous	EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.00	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074G: Trihalomethanes (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074H: Naphthalene (QC Lot: 1726466)									
ES1817093-001	Anonymous	EP074: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1727775)									
ES1817099-023	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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1727775) - continued									
ES1817099-023	Anonymous	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		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
ES1817100-014	TP32_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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		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: 1728004)							
ES1817099-019	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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1728004) - continued											
ES1817099-019	Anonymous	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
			205-82-3								
		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		
		ES1817024-001	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			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
	205-82-3										
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		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1726465)											
ES1817093-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1727049)									
ES1817099-028	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1817099-079	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1727056)									
ES1817100-043	TP37_0.3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1817100-083	QA05	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1727774)									
ES1817099-023	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
ES1817100-014	TP32_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: 1728003)									
ES1817099-019	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
ES1817024-001	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 Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1726465)									
ES1817093-001	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: 1727049)									
ES1817099-028	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1817099-079	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: 1727056)									
ES1817100-043	TP37_0.3	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1817100-083	QA05	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: 1727774)									
ES1817099-023	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
ES1817100-014	TP32_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: 1728003)									
ES1817099-019	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
ES1817024-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1728003) - continued									
ES1817024-001	Anonymous	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: BTEXN (QC Lot: 1726465)									
ES1817093-001	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		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: 1727049)									
ES1817099-028	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		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
ES1817099-079	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		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: 1727056)									
ES1817100-043	TP37_0.3	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		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
ES1817100-083	QA05	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	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		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



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 1729527)									
EB1814182-001	Anonymous	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4,5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
ES1817294-001	Anonymous	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: 2,4,5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.00	No Limit
EP203A: Explosives (QC Lot: 1729529)									
ES1817093-001	Anonymous	EP203: HMX	2691-41-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: RDX	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 1,3,5-Trinitrobenzene	99-35-4	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 1,3-Dinitrobenzene	99-65-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: Tetryl	479-45-8	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2,4,6-TNT	118-96-7	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 4-Amino-2,6-DNT	19406-51-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2-Amino-4,6-DNT	35572-78-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 4-& 2-AM-DNT(Isomeric Mixture)	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2,4-Dinitrotoluene	121-14-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2,6-Dinitrotoluene	606-20-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP203A: Explosives (QC Lot: 1729529) - continued									
ES1817093-001	Anonymous	EP203: 2,4-& 2,6-DNT(Isomeric Mixture)	51-28-5/606-20-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: Nitrobenzene	98-95-3	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 2-Nitrotoluene	88-72-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 3-Nitrotoluene	99-08-1	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: 4-Nitrotoluene	99-99-0	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EP203: Nitroglycerine	55-63-0	1	mg/kg	<1	<1	0.00	No Limit
		EP203: PETN	78-11-5	1	mg/kg	<1	<1	0.00	No Limit
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1733486)									
ES1817477-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1733486)									
ES1817477-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
EP080: BTEXN (QC Lot: 1733486)									
ES1817477-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit



Method Blank (MB) and Laboratory Control Spike (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 Spike (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**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EA010: Conductivity (1:5) (QCLot: 1727108)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	95.1	92	108
EA010: Conductivity (1:5) (QCLot: 1733048)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	96.1	92	108
ED005: Exchange Acidity (QCLot: 1734483)								
ED005: Exchange Acidity	----	0.1	meq/100g	<1.0	----	----	----	----
ED005: Exchangeable Aluminium	----	0.1	meq/100g	<1.0	----	----	----	----
ED006: Exchangeable Cations on Alkaline Soils (QCLot: 1732658)								
ED006: Exchangeable Calcium	----	0.2	meq/100g	<0.2	2.5 meq/100g	96.4	80	110
ED006: Exchangeable Magnesium	----	0.2	meq/100g	<0.2	4.17 meq/100g	98.8	80	110
ED006: Exchangeable Potassium	----	0.2	meq/100g	<0.2	1.28 meq/100g	102	80	110
ED006: Exchangeable Sodium	----	0.2	meq/100g	<0.2	2.17 meq/100g	94.0	80	110
ED006: Cation Exchange Capacity	----	0.2	meq/100g	<0.2	----	----	----	----
ED006: Exchangeable Calcium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Magnesium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Potassium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Sodium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED006: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED007: Exchangeable Cations (QCLot: 1735066)								
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	97.9	76	120
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	100	75	115
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	110	80	120
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	103	80	120
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
ED007: Exchangeable Calcium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Magnesium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Potassium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Exchangeable Sodium Percent	----	0.1	%	<0.1	----	----	----	----
ED007: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED007: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Exchangeable Cations (QCLot: 1734476)								
ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	97.3	82	128
ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	99.9	82	120



Sub-Matrix: **SOIL**

Method Blank (MB) Report				Laboratory Control Spike (LCS) Report				
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)		
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
ED008: Exchangeable Cations (QCLot: 1734476) - continued								
ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	107	70	140
ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	103	78	136
ED008: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
ED008: Exchangeable Sodium Percent	----	0.1	%	<0.1	----	----	----	----
ED008: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED040S: Soluble Major Anions (QCLot: 1727110)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	93.8	80	120
ED045G: Chloride by Discrete Analyser (QCLot: 1727109)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	100	75	125
				<10	5000 mg/kg	100	79	117
EG005T: Total Metals by ICP-AES (QCLot: 1732510)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	97.2	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	97.9	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	89.2	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	98.6	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	96.6	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	99.6	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	107	80	122
EG005T: Total Metals by ICP-AES (QCLot: 1732512)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	95.1	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	91.0	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	83.3	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	91.5	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	91.7	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	93.3	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	100	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732511)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	76.8	70	105
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732513)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	82.1	70	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1727777)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	104	62	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 1727776)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	104	69	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	104	65	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	104	67	119



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068A: Organochlorine Pesticides (OC) (QCLot: 1727776) - continued								
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	104	68	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	65	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	67	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	69	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	104	62	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	63	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	66	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	103	64	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	102	66	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	67	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	67	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	69	115
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	103	69	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	105	56	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	62	124
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	92.0	66	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	64	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	91.3	54	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1727776)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	59	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.4	62	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	90.5	54	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.2	67	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	70	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	102	72	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	92.8	68	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.4	68	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	69	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	76	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	94.4	64	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.7	70	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	69	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.6	66	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	78.0	68	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	100	62	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	68	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	65	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	60.8	41	123
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466)								



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466) - continued								
EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	71	121
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	108	65	131
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	104	72	114
EP074: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	105	70	116
	106-42-3							
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	98.8	67	113
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	75	115
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	105	65	117
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	106	66	122
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	103	68	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	105	69	119
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	103	69	117
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	105	69	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	102	66	118
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	108	59	125
EP074B: Oxygenated Compounds (QCLot: 1726466)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	101	30	156
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	94.8	58	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	94.9	62	132
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	95.2	54	136
EP074C: Sulfonated Compounds (QCLot: 1726466)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	106	54	126
EP074D: Fumigants (QCLot: 1726466)								
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	110	60	126
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	106	68	124
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	97.3	51	119
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	96.9	52	114
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	101	63	115
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	106	30	148
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	94.1	41	141
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	94.9	43	147
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	91.4	47	141
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	93.8	49	143
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	97.5	49	135
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	92.8	54	126
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	92.4	43	129
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	92.0	64	120



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466) - continued								
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	108	67	125
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	104	69	121
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	106	65	117
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	110	65	123
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	107	59	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	102	65	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	108	70	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	99.2	68	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	99.2	64	126
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	104	68	122
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	107	67	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.1	62	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	94.9	54	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	99.1	55	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	96.0	65	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	93.6	61	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	94.4	20	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	92.2	53	129
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	114	50	128
EP074F: Halogenated Aromatic Compounds (QCLot: 1726466)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	106	68	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	103	70	114
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	105	68	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	104	67	123
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	102	70	116
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	105	67	117
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	103	70	114
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	108	48	122
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	107	52	122
EP074G: Trihalomethanes (QCLot: 1726466)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	105	66	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	96.9	61	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	94.1	63	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	94.9	60	126
EP074H: Naphthalene (QCLot: 1726466)								
EP074: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	67	129
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1727775)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	104	77	125



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1727775) - continued								
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	105	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	102	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	105	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	108	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	108	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	112	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	112	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	97.1	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	103	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	98.9	68	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	111	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	106	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	103	61	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	100	62	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	100	63	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1728004)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	104	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	105	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	103	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	106	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	111	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	109	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	115	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	115	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	96.8	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	104	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	95.1	68	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	113	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	108	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	110	61	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	108	62	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	106	63	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1726465)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	99.1	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727049)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	94.2	68	128



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727056)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.8	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727774)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	104	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	105	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	104	71	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1728003)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	99.0	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	107	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	106	71	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1726465)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	105	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727049)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	100	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727056)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	100	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727774)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	104	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	110	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	92.7	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1728003)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	102	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	110	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	85.9	63	131
EP080: BTEXN (QCLot: 1726465)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.8	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	89.5	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	83.5	65	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	95.0	66	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	89.6	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	110	63	119
EP080: BTEXN (QCLot: 1727049)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	99.2	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	95.0	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	99.4	65	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	97.3	66	118



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike	Spike Recovery (%)	Recovery Limits (%)	
					Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 1727049) - continued								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	101	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	63	119
EP080: BTEXN (QCLot: 1727056)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	100	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	103	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	101	65	117
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	102	66	118
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	95.3	63	119
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 1729527)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	71.7	54	128
EP202: 2,4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	73.7	46	130
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	74.9	52	135
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	74.4	60	130
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	71.6	57	131
EP202: 2,4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	72.7	50	141
EP202: 2,4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	78.8	69	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	72.6	51	141
EP202: 2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	70.2	41	126
EP202: 2,4,5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	79.0	57	139
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	81.2	39	137
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	76.4	49	129
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	64.1	49	106
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	72.0	53	128
EP203A: Explosives (QCLot: 1729529)								
EP203: HMX	2691-41-0	0.1	mg/kg	<0.1	1 mg/kg	117	54	122
EP203: RDX	----	0.1	mg/kg	<0.1	----	----	----	----
EP203: 1,3,5-Trinitrobenzene	99-35-4	0.1	mg/kg	<0.1	----	----	----	----
EP203: 1,3-Dinitrobenzene	99-65-0	0.1	mg/kg	<0.1	----	----	----	----
EP203: Tetryl	479-45-8	0.1	mg/kg	<0.1	----	----	----	----
EP203: 2,4,6-TNT	118-96-7	0.1	mg/kg	<0.1	1 mg/kg	89.6	61	1221
EP203: 4-Amino-2,6-DNT	19406-51-0	0.1	mg/kg	<0.1	1 mg/kg	93.8	53	127
EP203: 2-Amino-4,6-DNT	35572-78-2	0.1	mg/kg	<0.1	----	----	----	----
EP203: 2,4-Dinitrotoluene	121-14-2	0.1	mg/kg	<0.1	1 mg/kg	89.9	56	126
EP203: 2,6-Dinitrotoluene	606-20-2	0.1	mg/kg	<0.1	----	----	----	----
EP203: Nitrobenzene	98-95-3	0.1	mg/kg	<0.1	1 mg/kg	91.3	60	132
EP203: 2-Nitrotoluene	88-72-2	0.1	mg/kg	<0.1	----	----	----	----



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP203A: Explosives (QCLot: 1729529) - continued								
EP203: 3-Nitrotoluene	99-08-1	0.1	mg/kg	<0.1	----	----	----	----
EP203: 4-Nitrotoluene	99-99-0	0.1	mg/kg	<0.1	----	----	----	----
EP203: Nitroglycerine	55-63-0	1	mg/kg	<1	----	----	----	----
EP203: PETN	78-11-5	1	mg/kg	<1	1 mg/kg	86.4	71	147

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 1730351)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	97.4	76	116
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	99.0	83	109
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	100	75	113
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 1733486)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	108	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLOT: 1730351)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	2500 µg/L	106	76	114
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	86.0	81	111
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1500 µg/L	102	77	119
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLOT: 1733486)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	111	75	127
EP080: BTEXN (QCLOT: 1733486)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	90.3	70	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	92.4	69	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	97.4	70	120
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	10 µg/L	93.2	69	121
	106-42-3							
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	97.6	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	94.9	70	120

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				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number			Low	High
ED045G: Chloride by Discrete Analyser (QCLot: 1727109)							
ES1817093-001	Anonymous	ED045G: Chloride	16887-00-6	1250 mg/kg	122	70	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1732510)							
ES1817093-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	92.7	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.6	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	84.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	96.9	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.5	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	93.8	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	100	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1732512)							
ES1817100-032	TP35_0.4	EG005T: Arsenic	7440-38-2	50 mg/kg	89.3	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.1	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	73.7	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	101	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	96.2	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.4	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	104	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732511)							
ES1817093-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	87.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1732513)							
ES1817100-032	TP35_0.4	EG035T: Mercury	7439-97-6	5 mg/kg	96.4	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1727777)							
ES1817099-023	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	113	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1727776)							
ES1817099-023	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	92.9	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	87.0	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	89.0	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	89.5	70	130
		EP068: Endrin	72-20-8	2 mg/kg	91.6	70	130
		EP068: 4,4`-DDT	50-29-3	2 mg/kg	96.0	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1727776)							
ES1817099-023	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	80.2	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	82.8	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	82.2	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	84.2	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	71.3	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1726466)							
ES1817093-001	Anonymous	EP074: Benzene	71-43-2	2.5 mg/kg	97.4	70	130
		EP074: Toluene	108-88-3	2.5 mg/kg	104	70	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1726466)							
ES1817093-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	96.1	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	90.2	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 1726466)							
ES1817093-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	107	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1727775)							
ES1817099-023	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.2	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	112	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1728004)							
ES1817024-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	96.8	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	117	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1726465)							
ES1817093-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	84.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727049)							
ES1817099-028	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	93.9	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727056)							
ES1817100-043	TP37_0.3	EP080: C6 - C9 Fraction	----	32.5 mg/kg	70.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1727774)							
ES1817099-023	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	91.9	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	118	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	123	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1728003)							
ES1817024-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	98.2	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	95.7	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	122	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1726465)							
ES1817093-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.7	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727049)							
ES1817099-028	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	95.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727056)							
ES1817100-043	TP37_0.3	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.5	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1727774)							
ES1817099-023	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	98.7	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	123	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	118	52	132



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1728003)							
ES1817024-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	98.4	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	113	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	113	52	132
EP080: BTEXN (QCLot: 1726465)							
ES1817093-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	81.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	83.9	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.6	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	82.2	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	84.5	70	130
	EP080: Naphthalene	91-20-3	2.5 mg/kg	80.8	70	130	
EP080: BTEXN (QCLot: 1727049)							
ES1817099-028	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	88.3	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	86.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.8	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.9	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	91.1	70	130
	EP080: Naphthalene	91-20-3	2.5 mg/kg	89.1	70	130	
EP080: BTEXN (QCLot: 1727056)							
ES1817100-043	TP37_0.3	EP080: Benzene	71-43-2	2.5 mg/kg	73.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	75.1	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	77.1	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	75.6	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	79.0	70	130
	EP080: Naphthalene	91-20-3	2.5 mg/kg	80.1	70	130	
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 1729527)							
EB1814182-001	Anonymous	EP202: Mecoprop	93-65-2	0.1 mg/kg	71.1	60	140
		EP202: MCPA	94-74-6	0.1 mg/kg	90.2	57	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	73.8	68	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	88.1	51	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	76.0	57	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	94.6	49	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	69.1	49	149
EP203A: Explosives (QCLot: 1729529)							
ES1817093-001	Anonymous	EP203: HMX	2691-41-0	1 mg/kg	127	58	141
		EP203: 2.4.6-TNT	118-96-7	1 mg/kg	126	58	139



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP203A: Explosives (QCLot: 1729529) - continued							
ES1817093-001	Anonymous	EP203: 4-Amino.2.6-DNT	19406-51-0	1 mg/kg	119	56	140
		EP203: 2.4-Dinitrotoluene	121-14-2	1 mg/kg	119	59	139
		EP203: Nitrobenzene	98-95-3	1 mg/kg	122	60	132
		EP203: PETN	78-11-5	1 mg/kg	110	59	136

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1733486)							
ES1817477-002	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	93.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1733486)							
ES1817477-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	70	130
EP080: BTEXN (QCLot: 1733486)							
ES1817477-002	Anonymous	EP080: Benzene	71-43-2	25 µg/L	94.0	70	130
		EP080: Toluene	108-88-3	25 µg/L	97.2	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	104	70	130
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	104	70	130
		106-42-3					
		EP080: ortho-Xylene	95-47-6	25 µg/L	103	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	98.4	70	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES1817100	Page	: 1 of 18
Amendment	: 1		
Client	: WSP Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: Nicholas Gilmour	Telephone	: +61 2 8784 8555
Project	: JORDAN SPRINGS	Date Samples Received	: 13-Jun-2018
Site	: ----	Issue Date	: 30-Jan-2019
Sampler	: CLAIRE WILLIAMSON	No. of samples received	: 83
Order number	: ----	No. of samples analysed	: 44

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

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method		Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved							
TP31_3.0,	TP32_2.0,	14-Jun-2018	12-Jun-2018	2	----	----	----
TP33_0.3,	TP37_0.5,						
TP39_0.1							
Soil Glass Jar - Unpreserved							
TP31_0.3,	TP31_0.5,	18-Jun-2018	12-Jun-2018	6	----	----	----
TP31_2.0,	TP32_1.0,						
TP32_3.0,	TP33_0.5,						
TP33_1.0,	TP35_0.1,						
TP35_1.0,	TP35_2.0,						
TP37_0.3,	TP37_3.0,						
TP39_0.3,	TP39_0.6,						
TP39_1.5							
EA010: Conductivity							
Soil Glass Jar - Unpreserved							
TP31_3.0,	TP32_2.0,	14-Jun-2018	12-Jun-2018	2	----	----	----
TP33_0.3,	TP37_0.5,						
TP39_0.1							
Soil Glass Jar - Unpreserved							
TP31_0.3,	TP31_0.5,	18-Jun-2018	12-Jun-2018	6	----	----	----
TP31_2.0,	TP32_1.0,						
TP32_3.0,	TP33_0.5,						
TP33_1.0,	TP35_0.1,						
TP35_1.0,	TP35_2.0,						
TP37_0.3,	TP37_3.0,						
TP39_0.3,	TP39_0.6,						
TP39_1.5							
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved							
QA03		14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved							
QA03		14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved							
QA03		14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074D: Fumigants							



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
EP074D: Fumigants - Analysis Holding Time Compliance						
Soil Glass Jar - Unpreserved QA03	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074E: Halogenated Aliphatic Compounds						
Soil Glass Jar - Unpreserved QA03	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074F: Halogenated Aromatic Compounds						
Soil Glass Jar - Unpreserved QA03	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074G: Trihalomethanes						
Soil Glass Jar - Unpreserved QA03	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2
EP074H: Naphthalene						
Soil Glass Jar - Unpreserved QA03	14-Jun-2018	12-Jun-2018	2	14-Jun-2018	12-Jun-2018	2

Matrix: **WATER**

Method Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved RB01, RB03, RB02, RB04	15-Jun-2018	12-Jun-2018	3	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Amber Glass Bottle - Unpreserved RB01, RB03, RB02, RB04	15-Jun-2018	12-Jun-2018	3	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
TRH - Semivolatile Fraction	0	11	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TRH - Semivolatile Fraction	0	11	0.00	5.00	NEPM 2013 B3 & ALS QC Standard



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	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA002 : pH (Soils)								
Soil Glass Jar - Unpreserved (EA002) TP31_3.0, TP33_0.3, TP39_0.1	TP32_2.0, TP37_0.5,	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	14-Jun-2018	✓
Soil Glass Jar - Unpreserved (EA002) TP31_0.3, TP31_2.0, TP32_3.0, TP33_1.0, TP35_1.0, TP37_0.3, TP39_0.3, TP39_1.5	TP31_0.5, TP32_1.0, TP33_0.5, TP35_0.1, TP35_2.0, TP37_3.0, TP39_0.6,	05-Jun-2018	18-Jun-2018	12-Jun-2018	✖	18-Jun-2018	18-Jun-2018	✓
Soil Glass Jar - Unpreserved (EA002) TP35_0.4		13-Jun-2018	14-Jun-2018	20-Jun-2018	✓	14-Jun-2018	14-Jun-2018	✓
EA010: Conductivity								
Soil Glass Jar - Unpreserved (EA010) TP31_3.0, TP33_0.3, TP39_0.1	TP32_2.0, TP37_0.5,	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jul-2018	✓
Soil Glass Jar - Unpreserved (EA010) TP31_0.3, TP31_2.0, TP32_3.0, TP33_1.0, TP35_1.0, TP37_0.3, TP39_0.3, TP39_1.5	TP31_0.5, TP32_1.0, TP33_0.5, TP35_0.1, TP35_2.0, TP37_3.0, TP39_0.6,	05-Jun-2018	18-Jun-2018	12-Jun-2018	✖	18-Jun-2018	16-Jul-2018	✓
Soil Glass Jar - Unpreserved (EA010) TP35_0.4		13-Jun-2018	14-Jun-2018	20-Jun-2018	✓	14-Jun-2018	12-Jul-2018	✓



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)		05-Jun-2018	----	----	----	15-Jun-2018	19-Jun-2018	✓
TP30_0.3,	TP31_0.3,							
TP31_3.0,	TP32_0.3,							
TP32_2.0,	TP33_0.3,							
TP34_0.1,	TP35_2.0,							
TP36_0.1,	TP37_0.3,							
TP37_0.5,	TP38_0.3,							
TP38_2.0,	TP39_0.1,							
TP39_0.3,	TP39_1.0,							
TP40_0.3,	QA02,							
QA03,	QA04							
Soil Glass Jar - Unpreserved (EA055)		06-Jun-2018	----	----	----	15-Jun-2018	20-Jun-2018	✓
QA05								
Soil Glass Jar - Unpreserved (EA055)		07-Jun-2018	----	----	----	15-Jun-2018	21-Jun-2018	✓
QA07								
Soil Glass Jar - Unpreserved (EA055)		13-Jun-2018	----	----	----	15-Jun-2018	27-Jun-2018	✓
TP35_0.4								
ED005: Exchange Acidity								
Soil Glass Jar - Unpreserved (ED005)		13-Jun-2018	18-Jun-2018	11-Jul-2018	✓	18-Jun-2018	11-Jul-2018	✓
TP35_0.4								
ED006: Exchangeable Cations on Alkaline Soils								
Soil Glass Jar - Unpreserved (ED006)		05-Jun-2018	18-Jun-2018	03-Jul-2018	✓	18-Jun-2018	03-Jul-2018	✓
TP37_0.5								
ED007: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED007)		05-Jun-2018	18-Jun-2018	03-Jul-2018	✓	18-Jun-2018	03-Jul-2018	✓
TP31_3.0,	TP33_0.3							
ED008: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED008)		05-Jun-2018	18-Jun-2018	03-Jul-2018	✓	18-Jun-2018	03-Jul-2018	✓
TP32_2.0,	TP39_0.1							
Soil Glass Jar - Unpreserved (ED008)		13-Jun-2018	18-Jun-2018	11-Jul-2018	✓	18-Jun-2018	11-Jul-2018	✓
TP35_0.4								
ED040S : Soluble Sulfate by ICPAES								
Soil Glass Jar - Unpreserved (ED040S)		05-Jun-2018	14-Jun-2018	03-Jul-2018	✓	14-Jun-2018	12-Jul-2018	✓
TP31_3.0,	TP32_2.0,							
TP33_0.3,	TP37_0.5,							
TP39_0.1								
Soil Glass Jar - Unpreserved (ED040S)		13-Jun-2018	14-Jun-2018	11-Jul-2018	✓	14-Jun-2018	12-Jul-2018	✓
TP35_0.4								



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED045G: Chloride by Discrete Analyser								
Soil Glass Jar - Unpreserved (ED045G) TP31_3.0, TP33_0.3, TP39_0.1	TP32_2.0, TP37_0.5,	05-Jun-2018	14-Jun-2018	03-Jul-2018	✓	14-Jun-2018	12-Jul-2018	✓
Soil Glass Jar - Unpreserved (ED045G) TP35_0.4		13-Jun-2018	14-Jun-2018	11-Jul-2018	✓	14-Jun-2018	12-Jul-2018	✓
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) TP30_0.3, TP32_0.3, TP34_0.1, TP37_0.3, TP39_0.3, QA02, QA04	TP31_0.3, TP33_0.3, TP36_0.1, TP38_0.3, TP40_0.3, QA03,	05-Jun-2018	16-Jun-2018	02-Dec-2018	✓	18-Jun-2018	02-Dec-2018	✓
Soil Glass Jar - Unpreserved (EG005T) QA05		06-Jun-2018	16-Jun-2018	03-Dec-2018	✓	18-Jun-2018	03-Dec-2018	✓
Soil Glass Jar - Unpreserved (EG005T) QA07		07-Jun-2018	16-Jun-2018	04-Dec-2018	✓	18-Jun-2018	04-Dec-2018	✓
Soil Glass Jar - Unpreserved (EG005T) TP35_0.4		13-Jun-2018	16-Jun-2018	10-Dec-2018	✓	18-Jun-2018	10-Dec-2018	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) TP30_0.3, TP32_0.3, TP34_0.1, TP37_0.3, TP39_0.3, QA02, QA04	TP31_0.3, TP33_0.3, TP36_0.1, TP38_0.3, TP40_0.3, QA03,	05-Jun-2018	16-Jun-2018	03-Jul-2018	✓	18-Jun-2018	03-Jul-2018	✓
Soil Glass Jar - Unpreserved (EG035T) QA05		06-Jun-2018	16-Jun-2018	04-Jul-2018	✓	18-Jun-2018	04-Jul-2018	✓
Soil Glass Jar - Unpreserved (EG035T) QA07		07-Jun-2018	16-Jun-2018	05-Jul-2018	✓	18-Jun-2018	05-Jul-2018	✓
Soil Glass Jar - Unpreserved (EG035T) TP35_0.4		13-Jun-2018	16-Jun-2018	11-Jul-2018	✓	18-Jun-2018	11-Jul-2018	✓



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) TP30_0.3, TP32_0.3, TP34_0.1, QA02,	TP31_0.3, TP33_0.3, TP40_0.3, QA04	05-Jun-2018	15-Jun-2018	19-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP066) QA05		06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP066) TP35_0.4		13-Jun-2018	15-Jun-2018	27-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) TP30_0.3, TP32_0.3, TP34_0.1, QA02,	TP31_0.3, TP33_0.3, TP40_0.3, QA04	05-Jun-2018	15-Jun-2018	19-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP068) QA05		06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP068) TP35_0.4		13-Jun-2018	15-Jun-2018	27-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) TP30_0.3, TP32_0.3, TP34_0.1, QA02,	TP31_0.3, TP33_0.3, TP40_0.3, QA04	05-Jun-2018	15-Jun-2018	19-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP068) QA05		06-Jun-2018	15-Jun-2018	20-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
Soil Glass Jar - Unpreserved (EP068) TP35_0.4		13-Jun-2018	15-Jun-2018	27-Jun-2018	✓	16-Jun-2018	25-Jul-2018	✓
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074) QA03		05-Jun-2018	14-Jun-2018	12-Jun-2018	✗	14-Jun-2018	12-Jun-2018	✗
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074) QA03		05-Jun-2018	14-Jun-2018	12-Jun-2018	✗	14-Jun-2018	12-Jun-2018	✗
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074) QA03		05-Jun-2018	14-Jun-2018	12-Jun-2018	✗	14-Jun-2018	12-Jun-2018	✗
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074) QA03		05-Jun-2018	14-Jun-2018	12-Jun-2018	✗	14-Jun-2018	12-Jun-2018	✗



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074) QA03	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074) QA03	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074) QA03	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP074H: Naphthalene								
Soil Glass Jar - Unpreserved (EP074) QA03	05-Jun-2018	14-Jun-2018	12-Jun-2018	✖	14-Jun-2018	12-Jun-2018	✖	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) TP30_0.3, TP32_0.3, TP34_0.1, TP37_0.3, TP39_0.3, QA02, QA04	TP31_0.3, TP33_0.3, TP36_0.1, TP38_0.3, TP40_0.3, QA03,	05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP075(SIM)) QA05		06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP075(SIM)) QA07		07-Jun-2018	15-Jun-2018	21-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP075(SIM)) TP35_0.4		13-Jun-2018	15-Jun-2018	27-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Petroleum Hydrocarbons									
Soil Glass Jar - Unpreserved (EP080) TB,		TB_02	01-Jun-2018	14-Jun-2018	15-Jun-2018	✔	14-Jun-2018	15-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP080) TP30_0.3, TP32_0.3, TP34_0.1, TP37_0.3, TP39_0.3, QA02, QA04		TP31_0.3, TP33_0.3, TP36_0.1, TP38_0.3, TP40_0.3, QA03,	05-Jun-2018	14-Jun-2018	19-Jun-2018	✔	14-Jun-2018	19-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP071) TP30_0.3, TP32_0.3, TP34_0.1, TP37_0.3, TP39_0.3, QA02, QA04		TP31_0.3, TP33_0.3, TP36_0.1, TP38_0.3, TP40_0.3, QA03,	05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP080) QA05			06-Jun-2018	14-Jun-2018	20-Jun-2018	✔	14-Jun-2018	20-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP071) QA05			06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP080) QA07			07-Jun-2018	14-Jun-2018	21-Jun-2018	✔	14-Jun-2018	21-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP071) QA07			07-Jun-2018	15-Jun-2018	21-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP080) TP35_0.4			13-Jun-2018	14-Jun-2018	27-Jun-2018	✔	14-Jun-2018	27-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP071) TP35_0.4			13-Jun-2018	15-Jun-2018	27-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP080) TS, TSC,		TS_02, TSC2	31-May-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			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)								
TB,	TB_02	01-Jun-2018	14-Jun-2018	15-Jun-2018	✔	14-Jun-2018	15-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP080)								
TP30_0.3,	TP31_0.3,	05-Jun-2018	14-Jun-2018	19-Jun-2018	✔	14-Jun-2018	19-Jun-2018	✔
TP32_0.3,	TP33_0.3,							
TP34_0.1,	TP36_0.1,							
TP37_0.3,	TP38_0.3,							
TP39_0.3,	TP40_0.3,							
QA02,	QA03,							
QA04								
Soil Glass Jar - Unpreserved (EP071)								
TP30_0.3,	TP31_0.3,	05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
TP32_0.3,	TP33_0.3,							
TP34_0.1,	TP36_0.1,							
TP37_0.3,	TP38_0.3,							
TP39_0.3,	TP40_0.3,							
QA02,	QA03,							
QA04								
Soil Glass Jar - Unpreserved (EP080)								
QA05		06-Jun-2018	14-Jun-2018	20-Jun-2018	✔	14-Jun-2018	20-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP071)								
QA05		06-Jun-2018	15-Jun-2018	20-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP080)								
QA07		07-Jun-2018	14-Jun-2018	21-Jun-2018	✔	14-Jun-2018	21-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP071)								
QA07		07-Jun-2018	15-Jun-2018	21-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP080)								
TP35_0.4		13-Jun-2018	14-Jun-2018	27-Jun-2018	✔	14-Jun-2018	27-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP071)								
TP35_0.4		13-Jun-2018	15-Jun-2018	27-Jun-2018	✔	16-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP080)								
TS,	TS_02,	31-May-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔
TSC,	TSC2							



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) TB,	TB_02	01-Jun-2018	14-Jun-2018	15-Jun-2018	✔	14-Jun-2018	15-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP080) TP30_0.3, TP32_0.3, TP34_0.1, TP37_0.3, TP39_0.3, QA02, QA04	TP31_0.3, TP33_0.3, TP36_0.1, TP38_0.3, TP40_0.3, QA03,	05-Jun-2018	14-Jun-2018	19-Jun-2018	✔	14-Jun-2018	19-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP080) QA05		06-Jun-2018	14-Jun-2018	20-Jun-2018	✔	14-Jun-2018	20-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP080) QA07		07-Jun-2018	14-Jun-2018	21-Jun-2018	✔	14-Jun-2018	21-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP080) TP35_0.4		13-Jun-2018	14-Jun-2018	27-Jun-2018	✔	14-Jun-2018	27-Jun-2018	✔
Soil Glass Jar - Unpreserved (EP080) TS, TSC,	TS_02, TSC2	31-May-2018	14-Jun-2018	14-Jun-2018	✔	14-Jun-2018	14-Jun-2018	✔
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
Soil Glass Jar - Unpreserved (EP202) TP35_2.0, TP38_2.0, TP39_1.0	TP38_0.3, TP39_0.3,	05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	15-Jun-2018	25-Jul-2018	✔
Soil Glass Jar - Unpreserved (EP202) TP35_0.4		13-Jun-2018	15-Jun-2018	27-Jun-2018	✔	15-Jun-2018	25-Jul-2018	✔
EP203A: Explosives								
Soil Glass Jar - Unpreserved (EP203) QA03		05-Jun-2018	15-Jun-2018	19-Jun-2018	✔	15-Jun-2018	25-Jul-2018	✔

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Petroleum Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP071)								
RB01, RB03,	RB02, RB04	05-Jun-2018	15-Jun-2018	12-Jun-2018	✖	18-Jun-2018	25-Jul-2018	✔
Amber VOC Vial - Sulfuric Acid (EP080)								
RB01, RB03,	RB02, RB04	05-Jun-2018	18-Jun-2018	19-Jun-2018	✔	18-Jun-2018	19-Jun-2018	✔



Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Amber Glass Bottle - Unpreserved (EP071)		05-Jun-2018	15-Jun-2018	12-Jun-2018	✖	18-Jun-2018	25-Jul-2018	✔
RB01, RB03,	RB02, RB04							
Amber VOC Vial - Sulfuric Acid (EP080)		05-Jun-2018	18-Jun-2018	19-Jun-2018	✔	18-Jun-2018	19-Jun-2018	✔
RB01, RB03,	RB02, RB04							
EP080: BTEXN								
Amber VOC Vial - Sulfuric Acid (EP080)		05-Jun-2018	18-Jun-2018	19-Jun-2018	✔	18-Jun-2018	19-Jun-2018	✔
RB01, RB03,	RB02, RB04							



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)							
Chloride Soluble By Discrete Analyser	ED045G	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	4	33	12.12	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchange Acidity by 1M Potassium Chloride	ED005	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	4	35	11.43	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	40	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	4	33	12.12	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	4	31	12.90	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	31	12.90	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	40	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	5	42	11.90	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chloride Soluble By Discrete Analyser	ED045G	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	2	33	6.06	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	31	6.45	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	31	6.45	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	42	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard



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	
Method Blanks (MB)							
Chloride Soluble By Discrete Analyser	ED045G	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	2	33	6.06	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchange Acidity by 1M Potassium Chloride	ED005	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations with pre-treatment	ED008	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	31	6.45	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	31	6.45	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	42	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Explosives	EP203	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	31	6.45	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	31	6.45	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	42	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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)							
TRH - Semivolatile Fraction	EP071	0	11	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TRH - Semivolatile Fraction	EP071	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							



Matrix: **WATER**

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	
Method Blanks (MB) - Continued							
TRH - Semivolatile Fraction	EP071	1	11	9.09	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TRH - Semivolatile Fraction	EP071	0	11	0.00	5.00	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	11.11	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 (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 (2013) 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 (2013) 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 (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Exchange Acidity by 1M Potassium Chloride	ED005	SOIL	In house: referenced to Rayment and Lyons, (2011), method 15G1. This method is unsuitable for near neutral and alkaline soils. NATA accreditation does not cover performance of this service.
Exchangeable Cations on Alkaline Soils	ED006	SOIL	In house: Referenced to Soil Survey Test Method C5. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with alcoholic ammonium chloride at pH 8.5. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil.
Exchangeable Cations	ED007	SOIL	In house: Referenced to Rayment & Lyons (2011) 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 (2013) Schedule B(3) (Method 301)
Exchangeable Cations with pre-treatment	ED008	SOIL	In house: Referenced to Rayment & Higginson (2011) Method 15A2. Soluble salts are removed from the sample prior to analysis. 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 (2013) Schedule B(3) (Method 301)
Major Anions - Soluble	ED040S	SOIL	In house: Soluble Anions are determined off a 1:5 soil / water extract by ICPAES.
Chloride Soluble By Discrete Analyser	ED045G	SOIL	In house: Referenced to APHA 4500-Cl- E. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm. Analysis is performed on a 1:5 soil / water leachate.
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 (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (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 SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D 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 (2013) Schedule B(3) (Method 504)



Analytical Methods	Method	Matrix	Method Descriptions
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D 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 (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260B Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. 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 (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	SOIL	In house: LCMS (Electrospray in negative mode). Residues of acid herbicides are extracted from soil samples under the alkaline condition. An aliquot of the alkaline aqueous phase is taken and acidified before a SPE cleanup. After eluting off from the SPE cartridge, residues of acid herbicides are dissolved in HPLC mobile phase prior to instrument analysis.
Explosives	EP203	SOIL	In house: Referenced to USEPA 8330 UV-DAD, LCMS (APCI in negative mode). Residues of explosives are extracted from air-dried soil samples with acetonitrile. An aliquot of the organic phase is taken and diluted with water for LC/MS determination.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Preparation Methods	Method	Matrix	Method Descriptions
Exchangeable Cations Preparation Method (Alkaline Soils)	ED006PR	SOIL	In house: Referenced to Rayment and Lyons 2011 method 15C1.
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Higginson (1992) 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 (2013) Schedule B(3) (Method 202)



Preparation Methods	Method	Matrix	Method Descriptions
Extraction for Phenoxy Acid Herbicides in Soils.	EP202-PR	SOIL	In-House: Alkaline extract followed by SPE clean up of acidified portion of the sample extract.
Tumbler Extraction for Explosives.	EP203-PR	SOIL	In house: Referenced to USEPA8330. Sample extractions are performed using end over end tumbling in place of sonic bath extraction.
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.
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging.



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Certificate of Analysis

ABN 80 078 004 798

NCSI Certified Quality System ISO 9001

LOCATION: 14-28 Cullen Avenue, Jordan Springs, NSW

CERTIFICATE NO: SYD-ps110032-97283-RevA

CLIENT: Richard Crookes Construction

DATE/S SAMPLED: 4/06/2018 to 7/06/2018

CLIENT ADDRESS: Level 3, 4 Broadcast Way, Artarmon NSW 2064

DATE RECEIVED: 14/06/2018

TELEPHONE: 0437 969 849

DATE ANALYSED: 19/06/2018

EMAIL: hemmettt@richardcrookes.com.au

ORDER NUMBER: N/A

CONTACT: Tom Hemmett

SAMPLED BY: Claire Williamson

TEST METHOD: Qualitative identification of Asbestos fibre in bulk and soil samples at WSP Corporate Laboratories, by polarised light microscopy, including dispersion staining techniques using AS4964 (2004) and supplementary in house laboratory procedure (LP3 - Identification of Asbestos Fibres). This document is issued in accordance with NATA's requirements under NATA accreditation No. 17199, accredited for compliance with ISO/IEC: 17025 - Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standard.

This Certificate Replaces Certificate No. SYD-ps110032-97283: Change of client details

Lab No	Sample ID	Location	Sample Description	Sample Dimensions	Identification Type
001	TP01_0.1	On site bore hole	Soil	49 gm	OF, NAD
002	TP02_0.3	On site bore hole	Soil	66 gm	OF, NAD
003	TP03_0.5	On site bore hole	Soil	62 gm	OF, NAD
004	TP04_0.1	On site bore hole	Soil	49 gm	OF, NAD
005	TP05_0.3	On site bore hole	Soil	58 gm	OF, NAD
006	TP06_0.5	On site bore hole	Soil	59 gm	OF, NAD
007	TP07_0.15	On site bore hole	Soil	46 gm	OF, NAD
008	TP08_0.3	On site bore hole	Soil	60 gm	OF, NAD
009	TP09_0.5	On site bore hole	Soil	35 gm	OF, NAD
010	TP10_0.4	On site bore hole	Soil	61 gm	OF, NAD
011	TP11_0.1	On site bore hole	Soil	39 gm	OF, NAD
012	TP12_0.3	On site bore hole	Soil	57 gm	OF, NAD

LEGEND:

NAD - No Asbestos Detected
CH - Chrysotile Asbestos Detected
A - Amosite Asbestos Detected
C - Crocidolite Asbestos Detected
UMF - Unknown Mineral Fibres Detected
SMF - Synthetic Mineral Fibres Detected
OF - Organic Fibres Detected



Hand picked refers to small discrete amounts of asbestos distributed unevenly in a large body of non asbestos material.

Notes:

If no asbestos is detected in vinyl tiles, mastics, sealants, epoxy resins and ore samples then confirmation by another independent analytical technique is advised due to the nature of the samples.

The results contained within this report relate only to the sample(s) submitted for testing. The laboratory accepts no responsibility for location, sampling date, sample ID, sampler, and client details provided by the sampler. WSP accepts no responsibility for the initial collection, packaging or transportation of samples submitted by external persons. NATA does not accredit the sampling process, therefore sampling is not covered by the scope of accreditation. This document may not be reproduced except in full.

Approved Identifier

Name: Sneha Shakya

Approved Signatory

Name: Shannon Bradford

AUTHORISATION DATE

Wednesday, 30 January 2019



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Certificate of Analysis

ABN 80 078 004 798

NCSI Certified Quality System ISO 9001

LOCATION: 14-28 Cullen Avenue, Jordan Springs, NSW

CERTIFICATE NO: SYD-ps110032-97283-RevA

Lab No	Sample ID	Location	Sample Description	Sample Dimensions	Identification Type
013	TP13_0.4	On site bore hole	Soil	43 gm	OF, NAD
014	TP14_0.5	On site bore hole	Soil	47 gm	OF, NAD
015	TP15_0.1	On site bore hole	Soil	43 gm	OF, NAD
016	TP16_0.3	On site bore hole	Soil	50 gm	OF, NAD
017	TP17_0.6	On site bore hole	Soil	48 gm	OF, NAD
018	TP18_0.15	On site bore hole	Soil	70 gm	OF, NAD
019	TP19_0.3	On site bore hole	Soil	42 gm	OF, NAD
020	TP20_0.3	On site bore hole	Soil	42 gm	OF, NAD
021	TP21_0.1	On site bore hole	Soil	63 gm	OF, NAD
022	TP22_0.3	On site bore hole	Soil	69 gm	OF, NAD
023	TP23_0.5	On site bore hole	Soil	48 gm	OF, NAD
024	TP24_0.1	On site bore hole	Soil	42 gm	OF, NAD
025	TP25_0.3	On site bore hole	Soil	65 gm	OF, NAD
026	TP26_0.1	On site bore hole	Soil	48 gm	OF, NAD
027	TP27_0.5	On site bore hole	Soil	53 gm	OF, NAD
028	TP28_0.1	On site bore hole	Soil	59 gm	OF, NAD
029	TP29_0.3	On site bore hole	Soil	67 gm	OF, NAD
030	TP30_0.5	On site bore hole	Soil	51 gm	OF, NAD
031	TP31_0.1	On site bore hole	Soil	59 gm	OF, NAD
032	TP32_0.3	On site bore hole	Soil	68 gm	OF, NAD
033	TP33_0.5	On site bore hole	Soil	37 gm	OF, NAD
034	TP34_0.1	On site bore hole	Soil	55 gm	OF, NAD

LEGEND:

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C - Crocidolite Asbestos Detected
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Name: Sneha Shakya

Approved Signatory

Name: Shannon Bradford

AUTHORISATION DATE

Wednesday, 30 January 2019



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Certificate of Analysis

ABN 80 078 004 798

NCSI Certified Quality System ISO 9001

LOCATION: 14-28 Cullen Avenue, Jordan Springs, NSW

CERTIFICATE NO: SYD-ps110032-97283-RevA

Lab No	Sample ID	Location	Sample Description	Sample Dimensions	Identification Type
035	TP35_0.4	On site bore hole	Soil	57 gm	OF, NAD
036	TP36_0.5	On site bore hole	Soil	48 gm	OF, NAD
037	TP37_0.1	On site bore hole	Soil	74 gm	OF, NAD
038	TP38_0.3	On site bore hole	Soil	61 gm	OF, NAD
039	TP39_0.6	On site bore hole	Soil	66 gm	OF, NAD
040	TP40_0.1	On site bore hole	Soil	58 gm	OF, NAD

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AUTHORISATION DATE

Wednesday, 30 January 2019

ABOUT US

WSP is one of the world's leading engineering professional services consulting firms. We are dedicated to our local communities and propelled by international brainpower. We are technical experts and strategic advisors including engineers, technicians, scientists, planners, surveyors, environmental specialists, as well as other design, program and construction management professionals. We design lasting Property & Buildings, Transportation & Infrastructure, Resources (including Mining and Industry), Water, Power and Environmental solutions, as well as provide project delivery and strategic consulting services. With 36,000 talented people in more than 500 offices across 40 countries, we engineer projects that will help societies grow for lifetimes to come.

